THE ATHENS INSTITUTE FOR EDUCATION AND RESEARCH

Abstract Book

26th Annual International Conference on Education
20-23 May 2024, Athens, Greece

Edited by
Nick Linardopoulos & Olga Gkounta

2024

Abstracts
26th Annual International Conference on Education

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9 Chalkokondili Street
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(In Alphabetical Order by Author's Family Name)

Preface

This book includes the abstracts of all the papers presented at the *26th Annual International Conference on Education* (20-23 May 2024), organized by the Athens Institute for Education and Research (ATINER).

A full conference program can be found before the relevant abstracts. In accordance with ATINER's Publication Policy, the papers presented during this conference will be considered for inclusion in one of ATINER's many publications only after a blind peer review process.

The purpose of this abstract book is to provide members of ATINER and other academics around the world with a resource through which they can discover colleagues and additional research relevant to their own work. This purpose is in congruence with the overall mission of the association. ATINER was established in 1995 as an independent academic organization with the mission to become a forum where academics and researchers from all over the world can meet to exchange ideas on their research and consider the future developments of their fields of study.

To facilitate the communication, a new references section includes all the abstract books published as part of this conference (Table 1). I invite the readers to access these abstract books –these are available for free– and compare how the themes of the conference have evolved over the years. According to ATINER's mission, the presenters in these conferences are coming from many different countries, presenting various topics.

Table 1. *Publication of Books of Abtracts of Proceedings, 2010-2024*

Year	Papers	Countries	References
2024	76	31	Linardopoulos and Gkounta (2024)
2023	62	19	Linardopoulos and Gkounta (2023)
2022	73	23	Wick and Gkounta (2022)
2021	36	19	Papanikos (2021)
2020	33	17	Papanikos (2020)
2019	92	31	Papanikos (2019)
2018	117	30	Papanikos (2018)
2017	160	40	Papanikos (2017)
2016	112	38	Papanikos (2016)
2015	161	40	Papanikos (2015)
2014	136	50	Papanikos (2014)
2013	124	37	Papanikos (2013)
2012	107	32	Papanikos (2012)
2011	119	26	Papanikos (2011)
2010	161	28	Papanikos (2010)

It is our hope that through ATINER's conferences and publications, Athens will become a place where academics and researchers from all over the world can regularly meet to discuss the developments of their disciplines and present their work. Since 1995, ATINER has organized more than 400 international conferences and has published over 200 books. Academically, the institute is organized into 6 divisions and 37 units. Each unit organizes at least one annual conference and undertakes various small and large research projects.

For each of these events, the involvement of multiple parties is crucial. I would like to thank all the participants, the members of the organizing and academic committees, and most importantly the administration staff of ATINER for putting this conference and its subsequent publications together.

Gregory T. Papanikos
President

Editors' Note

These abstracts provide a vital means to the dissemination of scholarly inquiry in the field of Education. The breadth and depth of research approaches and topics represented in this book underscores the diversity of the conference.

ATINER's mission is to bring together academics from all corners of the world in order to engage with each other, brainstorm, exchange ideas, be inspired by one another, and once they are back in their institutions and countries to implement what they have acquired. The *26th Annual International Conference on Education*, accomplished this goal by bringing together academics and scholars from 31 different countries (Australia, Bulgaria, Canada, Chile, China, Colombia, Croatia, Estonia, Finland, Georgia, Germany, Hong Kong, Hungary, India, Ireland, Israel, Italy, Mexico, Norway, Oman, Philippines, Poland, Slovakia, South Africa, Spain, Switzerland, Taiwan, The Netherlands, Türkiye, UK, USA), which brought in the conference the perspectives of many different country approaches and realities in the field.

Publishing this book can help that spirit of engaged scholarship continue into the future. With our joint efforts, the next editions of this conference will be even better. We hope that this abstract book as a whole will be both of interest and of value to the reading audience.

Nick Linardopoulos & Olga Gkounta
Editors

26th Annual International Conference on Education, 20-23 May 2024, Athens, Greece

Organizing & Scientific Committee

All ATINER's conferences are organized by the Academic Council. This conference has been organized with the assistance of the following academic members of ATINER, who contributed by reviewing the submitted abstracts and papers.

1. Gregory T. Papanikos, President, ATINER & Honorary Professor, University of Stirling, U.K.
2. David Philip Wick, Director, Arts, Humanities and Education Division, ATINER & Retired Professor of History, Gordon College, USA.
3. Nick Linardopoulos, Head, Education Unit, ATINER & Associate Teaching Professor & Public Speaking Course Coordinator, Rutgers University, USA.
4. John Spiridakis, Co-Editor, Athens Journal of Education & Interim Chair and Professor, St. John University, USA.

FINAL CONFERENCE PROGRAM

26th Annual International Conference on Education, 20-23 May 2024, Athens, Greece

PROGRAM

Monday 20 May 2024

08.30-09.15
Registration

- **09:15-10:00**
  Opening and Welcoming Remarks: Gregory T. Papanikos, President, ATINER.

10:00-11:30 Session 1		
Session 1a **Moderator: Nick Linardopoulos**, Head, Education Unit, ATINER & Associate Teaching Professor, Rutgers University, USA.	**Session 1b** **Moderator: Alisa Wilson**, Assistant Professor, University of Tennessee at Martin, USA.	**Session 1c** **Moderator: Till Haenisch**, Professor, DHBW Heidenheim, Germany.
1. **Janet Alsup**, Professor, Purdue University, USA. ***Title**: Leadership Identity in Education: Stories of Women Leaders.* 2. **Eleni Coukos Elder**, Professor, Tennessee State University, USA. **Grant L. Winrow**, Director of Business Strategies, Special Assistant to the President, Tennessee State University, USA. ***Title**: The Impact of Male University Marching Band Members' Sense of Belonging on Retention at One HBCU in Tennessee.* 3. **Fathi Abunaser**,	1. **Ken Roberts**, Emeritus Professor, University of Liverpool, UK. ***Title**: Education to Work Transitions in Former Communist Countries after 30-plus Years of Transformation.* 2. **Shin Ji Kang**, Professor, James Madison University, USA. ***Title**: Global Virtual Exchange between US and S. Korean Elementary Teachers: Unexpected Outcome.* 3. **Thomas Tse**, Associate Professor, The Chinese University of Hong Kong, Hong Kong. ***Title**: Globalization at Work: Global Citizenship Education and NGOs in Hong Kong.* 4. **Patricia Eaton**, Director of Teaching and Learning, Stranmillis University College, Northern Ireland.	1. **Francesca Di Virgilio**, Full Professor, University of Molise, Italy. ***Title**: Innovative Work Behaviour and Empowering in Italian SMEs – University Eco-system.* 2. **Christoph Karg**, Professor, Aalen University of Applied Sciences, Germany. **Ralf-Christian Härting**, Professor, Aalen University of Applied Sciences, Germany. **Demian Deffner**, Scientific Employee, Aalen University of Applied Sciences, Germany. **Miriam Kappe**, Scientific Employee, Aalen University of Applied Sciences, Germany. ***Title**: CyberWuP – A Low-Threshold Cyber-Security Awareness Program for Small and Medium Enterprises.*

Professor, Sultan Qaboos University, Oman. ***Title**: Elevating General Education: Navigating Competitiveness through Expert Perspectives and Educational Leadership Abstract.* 4. **Johan Bergh**, Associate Professor, Oslo New University College, Norway. ***Title**: Reimagining Emancipation in Norwegian Naval Leadership Education and Practice – A Reflective Practice Approach.*	**Martin Brown**, Head of School of Policy and Practice, Co-Director, EQI: Centre for Evaluation, Quality and Inspection, Ireland. **Manuela Heinz**, Associate Professor, Head of Discipline of Education, University of Galway, Ireland. **Joanne Hughes**, UNESCO Chair, Director of the Centre for Shared Education, Queen's University Belfast, Northern Ireland. **Joe O'Hara**, Professor, Dublin City University, Ireland. **Anne Rowan**, Researcher, Stranmillis University College, Northern Ireland. **Mark Ballentine**, Research Fellow, Stranmillis University College, Northern Ireland. ***Title**: Insights into Cultural Responsivity in Teacher Education.*	3. **Kiridaran Kanagaretnam**, Professor, York University, Canada. ***Title**: Machine Lending and Discrimination: Evidence from Peer-to-peer FinTech Lending.* 4. **Massimo Maresca**, Professor, University of Genoa, CIPI, Italy. **Luca Andreoli**, Graduate Student, University of Genoa, CIPI, Italy. **Carlo Andreotti**, Software Engineer, DocSpace S.r.l., Italy. **Pierpaolo Baglietto**, Professor, University of Genoa, CIPI, Italy. ***Title**: Internet Service in the Maritime Domain.*

11:30-13:00 Session 2		
Session 2a **Moderator: Fathi Abunaser**, Professor, Sultan Qaboos University, Oman.	**Session 2b** **Moderator: Stavros Prineas**, Head of Anaesthetics, Blue Mountains Hospital, NSW, Australia.	**Session 2c** **Moderator: Francesca Di Virgilio**, Full Professor, University of Molise, Italy.
1. ***Nick Linardopoulos**, Associate Teaching Professor, Rutgers University, USA. ***Title**: Communication Outcomes, Small Groups and Large Lecture Courses.* 2. **Sebastian Lerch**, Professor, Johannes Gutenberg University Mainz, Germany. *Title:* **Critical Faculty. A Competence in Adult Education?** 3. **Brett Elizabeth Blake**, Professor and Senior Research Fellow, St. John's University, USA.	1. **Alisa Wilson**, Assistant Professor, University of Tennessee at Martin, USA. ***Title**: The Relationship between Teacher Absenteeism and Student Achievement.* 2. **Anders McD Sookermany**, Associate Professor, Norwegian Defence University College, Norway. **Janne H. I. Helgesen**, Head of Department, Norwegian Police	1. **Till Haenisch**, Professor, DHBW Heidenheim, Germany. **Christoph Karg**, Professor, Aalen University of Applied Sciences, Germany. ***Title**: Virtual Labs for Contemporary Teaching of IT-*

Title: Poetry Writing as Cathartic Learning among English Language Learners in the U.S.

4. **Jos Schijns**, Assistant Professor, Open Universiteit, The Netherlands.
   Title: Exploring the Impact of Multiple Accreditations on Students' Perceived Service Quality in Higher Education.

University College, Norway.
Tatanya Valland, Professor, Norwegian Police University College, Norway.
Johanne Yttri Dahl, Professor, Norwegian Police University College, Norway.
Ole Boe, Professor, Norwegian Police University College / Inland Norway University of Applied Sciences, Norway.
Title: *Adapting Teaching Quality: Insights from Bronfenbrenner's Contextual Framework during the COVID-19 Pandemic.*

3. **Minna Maunula**, Associate Professor, University of Jyväskylä, Kokkola University Consortium Chydenius, Finland.
   Minna Maunumäki, Teacher, University of Jyväskylä, Open University, Finland.
   Sirkku Lähdesmäki, Lecturer, University of Eastern Finland, Finland.
   Jenni Kantola, Researcher, University of Jyväskylä (JSBE), Finland.
   Title: *The Connection between Mentoring and Continuous Learning and Sustainability.*
4. **Yang Xie**, PhD Student, Beijing Normal University, China & University of Oslo, Norway.
   Title: *"I won't remain here": Socially Advantaged Students and Vocational Education in the Context of Institutional Tracking in China.*

Security.

2. **Djuradj Budimir**, Reader in Wireless Communications, University of Westminster, UK.
   Title: *IoT Based Monitoring of University Classrooms.*
3. **Franziska Schuetz**, Senior Researcher, DHBW Heidenheim, Germany.
   Till Haenisch, Professor, DHBW Heidenheim, Germany.
   Title: *Transforming CS Curricula into EU-standardized Micro-Credentials – The Hard Parts.*

13:00-14:30 Session 3		
Session 3a **Moderator: John Spiridakis**, Professor and Chair, Department of Education Specialties, St. John's University, USA.	**Session 3b** **Moderator: Li-Qiong Wang**, Distinguished Senior Lecturer, Brown University, USA.	**Session 3c** **Moderator: Christoph Karg**, Professor, Aalen University of Applied Sciences, Germany.
1. **Alan Bailin**, Professor, Hofstra University, USA. **Ann Grafstein**, Professor, Hofstra University, USA. ***Title**: What Can't Johnny Read? How Do We Know?* 2. **Maurizio Dabbicco**, Professor, University of Bari, Italy. ***Title**: The Scientific Method Turns IV Century: Is it Ready for Adulthood?* 3. **Fengshu Liu**, Professor, University of Oslo, Norway. ***Title**: From 'Educational Desire' to 'Educational Anxiety': The Case of Rural Families in China's Remote Areas.* 4. **Yuanbing Liu**, Associate Professor, Jiaxing University, China. ***Title**: Chinese Rural Families and their Offspring's Education: The Case of Jiaxing.*	1. **Stavros Prineas**, Head of Anaesthetics, Blue Mountains Hospital, NSW, Australia. ***Title**: The HEAPS Experience: A Review of a Large-Scale Human Factors/Ergonomics Education Programme for Healthcare Workers.* 2. **Natalia Tsereteli**, Associate Professor, New Vision University, Georgia. **Khatuna Saganelidze**, Professor, New Vision University, Georgia. ***Title**: The Power of Partnership: Elevating Medical Education Through Peer Coaching.* 3. **Anastasia Koutsoni**, PhD Candidate, University of Cordoba, Spain. ***Title**: The Role of Swimming in Reducing Stress in Higher Education Students.*	1. **Hans Dulimarta**, Professor, Grand Valley State University, USA. **William Dickinson**, Professor, Grand Valley State University, USA. ***Title**: Composite Command Pattern in Spherical Geometry.* 2. **Sikha Bagui**, Distinguished Professor, University of West Florida, USA. **Dustin Mink**, Research Faculty, University of West Florida, USA. **Subhash Bagui**, Distinguished Professor, University of West Florida, USA. ***Title**: Creating a Comprehensive Network Intrusion Dataset Based on the MITRE ATT&CK Framework in the Big Data Environment: UWF-ZeekData22.* 3. **Thomas Fehlmann**, Senior Researcher, Euro Project Office AG, Switzerland. ***Title**: Measuring Knowledge – An Attempt to Define a Measurement Principle.*

14:30-15:30 Lunch

15:30-17:00 Session 4	
Session 4a **Moderator: Bongani Mkhize**, Senior Lecturer, University of Johannesburg, South Africa.	**Session 4b** **Moderator: Susan Miller**, Chair, Department of Family Medicine, Houston Methodist Academic Institute, USA.
1. **Paulo Maria Pagkatipunan**, Professor, University of the Philippines Manila, Philippines. ***Title**: Challenges in Distance*	1. **Trinetia Respress**, Interim Dean of Graduate School/Professor, Tennessee State University, USA. **Owen Johnson**, Professor, Tennessee State

Learning: Is the Philippines Ready for a Digital University? The Students' Perspective.

2. **Yong Zeng**, Associate Professor, Fudan University, China.
   ***Title**: Digital-Technology Integrated and Outcome-Based Hybrid Faculty Development Approach.*
3. **Orly Calderon**, Associate Professor, Long Island University, USA.
   Lauren Manzione, PhD Student, Long Island University, USA.
   David Luhr, PhD Student, Long Island University, USA.
   Caryn Nahum, PhD Student, Long Island University, USA.
   ***Title**: Students and Faculty Share: Lessons from COVID-19 to Inform the Future of Post Secondary Online Education.*
4. **Ioannis Ziakos**, PhD Candidate, University of Cordoba, Spain
   Veronica Marin Diaz, Professor, University of Cordoba, Spain.
   ***Title**: The Role of ICT in the Preservation and Teaching of Traditional Musical Instruments.*

University, USA.
Sosiak Makonnen, Director of Special Projects and Grants, Tennessee State University, USA.
***Title**: Early Exposure/Long Term Gains: Encouraging High School Students to Pursue STEM Degrees and Careers.*

2. **Jennifer Cuddapah**, Professor, Hood College, USA.
   Jessica Keeney, Classroom Teacher, Frederick County Public Schools / Hood College, USA.
   Riley Smith, Mathematics Teacher, Frederick County Public Schools, USA.
   ***Title**: Preparing STEM Teachers for Today's Post-COVID Classrooms.*
3. **Elsa Tovar**, Educational Consultant, Trail Tree Consulting, USA.
   ***Title**: Learning from Experience: Development of Culturally Responsive STEM Curriculum.*
4. **Pius Tanga**, Professor, University of Fort Hare, South Africa.
   Magdaline Tanga, Lecturer, Professor, University of Fort Hare, South Africa.
   ***Title**: Contestations of Remote Teaching and Learning of English Language During Covid-19 Pandemic: A Case of a South African University.*

17:00-18:30 Session 5
Moderator: Brett Elizabeth Blake, Professor and Senior Research Fellow, St. John's University, USA.

1. **John Spiridakis**, Professor and Chair, Department of Education Specialties, St. John's University, USA.
   ***Title**: Book Bans and Culture Wars in America: Upheavals in Schooling and Society.*
2. **Kausalai Wijekumar**, Professor, Texas A&M University, USA.
   Javier Garza, Program Director, Texas A&M University, USA.
   Maria Sierra, Research Specialist II, Texas A&M University, USA.
   ***Title**: Children are Smart, the Systems are Preventing them from Achieving Success in Literacy.*
3. **Mohammad Toyon**, PhD Candidate, Estonian Business School, Estonia.
   ***Title**: Understanding Variability: A Closer Look at the Career Assistance Requirements and Contentment of Employed and Unemployed University Students in Estonia.*
4. **Paramita DasGupta**, Assistant Professor, National University of Juridical Sciences, Kolkata, India.
   ***Title**: Epistemological Interdisciplinarity in Legal Education: The Default Pedagogical Methodology for the New Global Reset? An Investigation.*

20:30-22:30
Athenian Early Evening Symposium (includes in order of appearance: continuous academic discussions, dinner, wine/water, music)

Tuesday 21 May 2024

09:00-10:30 Session 6

Session 6a
Moderator: Jean A. Berlie, Researcher, The Education University of Hong Kong, Hong Kong.

1. **Susan Miller**, Chair, Department of Family Medicine, Houston Methodist Academic Institute, USA.
   ***Title**: How Music Survived the Third Reich.*
2. **Ming-Dih Lin**, Professor, National Chung Cheng University, Taiwan.
   ***Title**: A Case Study of an Elementary Principal's Learning Practice in a Dynamic Society: Approaches and Elements.*
3. **Bongani Mkhize**, Senior Lecturer, University of Johannesburg, South Africa.
   ***Title**: The Role of Instructional Leadership in Supporting Education for Sustainable Futures: Learnings Gleaned from a Leadership Conference.*
4. **Elif Cansel Yikmis**, Master's Student, Düzce University, Türkiye.
   Nesime Kübra Terzioğlu, Assistant Professor, Bolu Abant İzzet Baysal University, Türkiye.
   ***Title**: Determining the Home-Based Activities of Mothers with Children with Intellectual Disabilities in Early Childhood Mathematics.*

Session 6b
Moderator: Emese Boksay-Pap, Lecturer, Pázmány Péter Catholic University, Hungary.

1. **Volodymyr Voytenko**, Professor, Sheridan College, Canada.
   ***Title**: An Iot-Based Smart Home System Prototype. with Sensors Management.*
2. **Opher Etzion**, Professor and Chair, Information Systems Department, Zefat Academic College, Israel.
   ***Title**: Event Processing within the Human Body.*
3. **Wladimir Mitiuszew**, Professor, Cracow University of Technology, Poland.
   Natalia Rylko, Associate Professor, Cracow University of Technology, Poland.
   ***Title**: Computer Simulations of the Effective Properties of Dispersed Composites.*
4. **Stanislav Selitskiy**, PhD Student, University of Bedfordshire, UK.
   ***Title**: Batch Transformer Architecture: Case of Synthetic Image Generation for Makeup and Occlusion Face Recognition.*

10:30-12:00 Session 7

Session 7a
Moderator: Ming-Dih Lin, Professor, National Chung Cheng University, Taiwan.

1. **Dalun Zhang**, Professor and Associate Dean for Faculty Affairs, Texas A&M University, USA.
   ***Title**: The Impact of Work-Based Learning Experiences on Students with Special Needs.*
2. **Alkisti Katsakou**, PhD Candidate, South-West University "Neofit Rilski", Bulgaria.
   ***Title**: Primary Education and Hyperactive Children.*

Session 7b
Moderator: Hilda Patino, Dean, Department of Education, Universidad Iberoamericana, Mexico.

1. **Elizabeth Diaz**, Associate Professor, The University of Texas at Arlington, USA.
   ***Title**: Literacy and Assisted Technology.*
2. **Marisel N. Torres Crespo**, Associate Professor, Hood College, USA.
   Jennifer Cuddapah, Professor, Hood College, USA.
   ***Title**: Building Teacher Confidence and Capacity for Incorporating Computer Science and Computational Thinking into Practice.*
3. **Martina Holenko Dlab**, Associate Professor, Head of Chair of Multimedia Systems and e-Learning, University of Rijeka, Croatia.
   Nataša Hoić-Božić, Full Professor, Head of Laboratory for Application of Information

	Technologies in Education (EDULAB), University of Rijeka, Croatia. ***Title**: Enhancing Remote Work Competencies in Croatia: Findings from VirtualEdu Project.* 4. **Samar Amer Zubidat**, Lecturer, The College of Sakhnin for Teacher Education, Israel. ***Title**: Could Robotics Help Arab Teachers to Conduct STEM Based Lessons?*
12:00-13:30 Session 8	
Session 8a **Moderator: Dalun Zhang**, Professor and Associate Dean for Faculty Affairs, Texas A&M University, USA.	**Session 8b** **Moderator: Elizabeth Diaz**, Associate Professor, The University of Texas at Arlington, USA.
1. **Cathia Papi**, Full Professor, TÉLUQ University, Canada. ***Title**: What about Tutoring to Support Students?* 2. **Heidi Harju-Luukkainen**, Professor, University of Jyväskylä, Finland. **Minna Maunula**, Associate Professor, University of Jyväskylä, Kokkola University Consortium Chydenius, Finland. ***Title**: The Future Skills of Special Needs Teachers in Evolving Educational Landscapes.* 3. **Benja Fagerland**, Associate Professor, University of South-Eastern Norway, Norway. ***Title**: Sustainable Leadership in the Norwegian Police Education: Experiencing an Almost Complete Lack of Research and Curriculum Literature Creating Unforeseen Challenges for Education and Learning.* 4. **Remah Khaleifa**, Head, Department of Special Education, The Arab Academic College of Education, Israel. **Randa Abbas**, College President, The Arab Academic College of Education, Israel. ***Title**: Language Learning Strategies in Elementary Education: Teacher, Implementation and Student Perspective.*	1. **Valeria Svecova**, Assistant Professor, Constantine the Philosopher University in Nitra, Slovakia. **Marta Balgova**, Coordinator, National Institute of Education and Youth (NIVAM), Slovakia. **Veronika Uhrikova**, Teacher, Elementary School with Kindergarten Na Hôrke, Nitra, Slovakia. ***Title**: Development of Critical Thinking through the Creation of Mathematical Problems.* 2. **Hilda Patino**, Dean, Department of Education, Universidad Iberoamericana, Mexico. **Luis Medina Gual**, Coordinator, Universidad Iberoamericana, Mexico. **Arcelia Martínez**, Tenure Professor, Universidad Iberoamericana, Mexico. ***Title**: Academic Achievement in Language and Mathematics in Primary and Secondary Education in Mexico: A Comparative Analysis before and After the COVID-19 Pandemic.* 3. **Jose Efrain Guataquira Ramirez**, Research Associate, Francisco José de Caldas District University, Grupo Enseñanza y Aprendizaje de la Física, Colombia. **Olga Lucia Castiblanco Abril**, Researcher, Francisco José de Caldas District University, Grupo Enseñanza y Aprendizaje de la Física, Colombia. ***Title**: The Diary of Sky: A Methodology for Teaching Astronomy Aimed at Teachers.* 4. **Stefania Zoi Ntregka**, Lecturer & Research Fellow, Hotelschool The Hague, The Netherlands. **Michelle Schefman**, Lecturer, Hotelschool The Hague, The Netherlands. ***Title**: Agile Teaching in Applied Science Universities: Integrating an Evidence-based Approach.*
13:30-14:30 Lunch	

14:30-16:30 Session 9

Session 9a **Moderator: Orly Calderon**, Associate Professor, Long Island University, USA.	**Session 9b** **Moderator: Olga Gkounta**, Researcher, ATINER.
1. **Yasna Moreno**, Professor, Pontificia Universidad Católica de Chile, Chile **Marcos Frey López**, Clinical Assistant Professor, Universidad del Desarrollo and Universidad Diego Portales, Chile. ***Title**: What do the Best Clinical Teachers in Dentistry Do?* 2. **Jean A. Berlie**, Researcher, The Education University of Hong Kong, Hong Kong. ***Title**: Hong Kong is Changing. China's Higher Education in the USA.* 3. **Ulrika Gidlund**, Senior Lecturer, Mid Sweden University, Sweden. **Marcia Hakansson Lindqvist**, Senior Lecturer, Mid Sweden University, Sweden. ***Title**: Important Aspects of Teacher Shortage. A Literature Review.* 4. **Addolorata Amadoro**, PhD Student, University of Salerno, Italy. **Diana Carmela Di Gennaro**, Associate Professor, University of Salerno, Italy. ***Title**: Future Teachers' Perceptions of Visual Disability: Results and Suggestions from an Exploratory Study.*	1. **Smita Guha**, Professor, St. John's University, USA. ***Title**: Nutrition Education for the Underprivileged Mothers and Children in India: An Ethnic Study.* 2. **Emilie Sitzia**, Associate Professor, Maastricht University, The Netherlands. ***Title**: Senses-Based Learning in Tertiary Education.* 3. **Li-Qiong Wang**, Distinguished Senior Lecturer, Brown University, USA. ***Title**: Collaborative, Interdisciplinary and Case Study Approaches in Undergraduate Research, Teaching and Learning.* 4. **Emese Boksay-Pap**, Lecturer, Pázmány Péter Catholic University, Hungary. ***Title**: Wearing the Instructional Designer's Hat. Teachers and Transformative Learning.* 5. **Busisiwe Ndawonde**, Teaching and Learning Consultant, University of Fort Hare, South Africa. ***Title**: Effects of the Teaching Philosophies in Life Sciences.*

17:00-20:00 Session 10
Old and New-An Educational Urban Walk

The urban walk ticket is not included as part of your registration fee. It includes transportation costs and the cost to enter the Parthenon and the other monuments on the Acropolis Hill. The urban walk tour includes the broader area of Athens. Among other sites, it includes: Zappion, Syntagma Square, Temple of Olympian Zeus, Ancient Roman Agora and on Acropolis Hill: the Propylaea, the Temple of Athena Nike, the Erechtheion, and the Parthenon. The program of the tour may be adjusted, if there is a need beyond our control. This is a private event organized by ATINER exclusively for the conference participants.

20:30-22:00
Dinner

Wednesday 22 May 2024
An Educational Visit to Selected Islands
or Mycenae Visit

Thursday 23 May 2024
Visiting the Oracle of Delphi

Friday 24 May 2024
Visiting the Ancient Corinth and Cape Sounion

Fathi Abunaser
Professor, Sultan Qaboos University, Oman

Elevating General Education: Navigating Competitiveness through Expert Perspectives and Educational Leadership

Abstract

Education is the cornerstone of development in all its forms, and therefore, the continuous development of education is a fundamental necessity sought by all societies' to ensure progress and advancement. Schools are the fundamental pillars for the development and growth of society in all areas, and education is how communities achieve progress and prosperity. The study primarily aims to uncover the essential requirements and expected challenges to enhance the competitiveness of Omani public education schools from the perspectives of educational leaders and experts. A qualitative approach was employed in collecting and analyzing qualitative data. The study sample consisted of 43 experts and educational leaders from the Ministry of Education in various governorates around the Sultanate, including 19 working in higher education and 24 in the public education sector. Data was gathered through open-ended interviews structured around two main axes: the requirements and expected challenges. The study revealed a list of requirements to enhance competitiveness in the areas of administrative, cognitive, human, and organizational requirements. It also identified the prominent challenges expected in enhancing competitiveness. This study supports the realization of Oman Vision 2040 by striving to instill a culture of competitiveness within public education schools, integrating it into development plans, and coordinating efforts to enhance their competitiveness.

Janet Alsup
Professor, Purdue University, USA

Leadership Identity in Education: Stories of Women Leaders

Many leadership researchers argue that "the construction of a life story is a major element in the development of authentic leaders" (Shamir & Eilam, 2005, p. 395). The purpose of this study is to explore the leadership stories of seven accomplished women leaders in education in order to add to the research available about the development and support for female, educational leaders. This interview-based study focuses on leaders in a variety of contexts, including athletics, at universities, in K-12 schools, and in state legislatures. The research questions are:

- How do educational leaders narrate their development of a leadership identity?
- What can emerging leaders in education learn from these leadership narratives?
- How can mentors best prepare emerging educational leaders?
- How has effective leadership changed in the 21st century?
- How does the researcher's own leadership story complicate, extend, and inform the participant data?

After conducting the interviews and analyzing the interview recordings, transcripts and related documents, the researcher found that 1) the leadership journeys of these women leaders were influenced by pivotal leadership experiences that they narrativized; 2) positive experiences with mentorship were those that were emergent, not imposed by others; 3) their leadership identities center on collaborative, team-building relationships with their direct reports rather than top-down approaches; and 4) they were often identified as leaders by others in their lives prior to them self-identifying as such.

In this presentation, the researcher describes the study, its methodology and processes of data analysis. She outlines the preliminary findings in the context of existing literature about leadership and identity development. Finally, she discusses implications both for mentoring new educational leaders and for future research.

Addolorata Amadoro
PhD Student, University of Salerno, Italy
&
Diana Carmela Di Gennaro
Associate Professor, University of Salerno, Italy

Future Teachers' Perceptions of Visual Disability: Results and Suggestions from an Exploratory Study

In recent years, a large body of research has given much attention to implicit variables that influence teachers' action for the implementation of school inclusion processes. More specifically, these variables are linked to the kind and to the severity of disability, to pre-service training and to the direct experience with disability. Furthermore, together with these factors, individual representation of disability can strongly influence teachers' way of teaching and their didactic choices.

Stemming from these reflections, the paper aims to present the results of an exploratory study on future Primary Education teachers' perceptions on visual disability.

The sample is composed of a group of students enrolled at the University of Salerno (Italy) and attending a course on Special Education. The research protocol included the administration of a questionnaire at the beginning and at the end of the course and the subsequent data analysis.

The questionnaire is divided into two parts. The first section collects demographic data aiming at providing a detailed description of the sample, whereas the second section comprises four open questions on future teachers' perceptions of visual disability.

The aim is twofold: firstly, the study aims to explore the representations and the perceptions of the sample in relation to visual disability; secondly, it aims to examine the eventual change of teachers' perceptions due to the acquisition of a deeper knowledge and awareness about the disability.

Samar Amer Zubidat
Lecturer, The College of Sakhnin for Teacher Education, Israel

Could Robotics Help Arab Teachers to Conduct STEM based Lessons?

The educational system's outcomes can be influenced by various factors, including cultural, socioeconomic, and political issues. In Israel, a country known for its investment in science and technology, there is a focus on preparing qualified teachers in integrative STEM (Science, Technology, Engineering, Mathematics), but this approach differs for Jewish and Arab teachers. Jewish teachers have more self-efficacy in integrating technology and promoting STEM education, leading to higher achievements among Jewish students compared to Arab students. To bridge this gap, it is crucial to empower Arab teachers and students in STEM education.

Robotics is widely recognized as a platform that advances integrative STEM and student-centered learning of scientific and technological concepts. In this study, 88 in-service teachers from two Arab teacher colleges participated in a STEM course that introduced educational robotics and its use in teaching mathematical and physical principles. Subsequently, seven teachers applied robotics activities in mathematics, physics, and programming lessons with their students.

Data collection involved a questionnaire to assess participants' motivation, interest in learning, problem-solving skills, and conceptual knowledge. Semi-structured interviews were also conducted with the ten teachers.

The survey results indicated that participants perceived robotics as an effective tool for engaging students in problem-solving activities and facilitating a deeper understanding of scientific and technological concepts. The teachers expressed a notable level of motivation and interest in integrating robotics-enabled STEM lessons into their future teaching practices. Additionally, the teachers highlighted that robotics brought enjoyment to their classrooms, aided in visualizing abstract concepts, and fostered spontaneous collaborative learning, regardless of gender. However, concerns were raised about the time-consuming nature of integrating robotics and its potential impact on curriculum progress.

In summary, Arab teachers in Israel considered robotics a valuable platform that can enhance STEM learning and support the emotional and intellectual development of students. It is recommended to implement further training and research initiatives to support the

professional development of teachers in STEM education, particularly among underrepresented populations. Evaluating the effectiveness of this approach in reducing disparities in academic achievements is also recommended.

Sikha Bagui
Distinguished Professor, University of West Florida, USA
Dustin Mink
Research Faculty, University of West Florida, USA
&
Subhash Bagui
Distinguished Professor, University of West Florida, USA

Creating a Comprehensive Network Intrusion Dataset Based on the MITRE ATT&CK Framework in the Big Data Environment: UWF-ZeekData22

With the rapid rate at which networking technologies are changing, there is a need to regularly update network activity datasets to accurately reflect the current state of network infrastructure/traffic. However, there is very little literature, if any, on creating such network datasets in the Big Data environment. This paper outlines how both the cyber range and big data platform are used to create labeled data. The cyber range labs from The University of West Florida's (UWF's) National Centers of Academic Excellence in Cybersecurity designated cybersecurity degree will be presented.

The UWF-ZeekData22 is publicly available at datasets.uwf.edu in three formats: CSV, Parquet, and PCAP. The UWF-ZeekData22 is collected using Security Onion in two formats: Zeek logs and PCAPs. The collected data is labeled using the MITRE ATT&CK Framework, crowdsourced from the cyber range labs from UWF's National Centers of Academic Excellence in a Cybersecurity designated Cybersecurity degree.

Alan Bailin
Professor, Hofstra University, USA
&
Ann Grafstein
Professor, Hofstra University, USA

What Can't Johnny Read? How Do We Know?

Throughout the world, educational institutions evaluate the ability of students to read. In so doing, one standard approach is to select texts at various levels of difficulty and test to see how well students can answer comprehension questions for specific levels. It seems simple, doesn't it?

Unfortunately, the process is messier than it would appear. Much of the problem relates to the way in which texts are assigned reading levels. How do we know if the formulas are an accurate measure of text difficulty? This paper will open the curtain hiding the way in which reading levels are actually assigned to texts in order to explore the serious problems with their methodologies and the difficulty levels they assign.

Typically texts are assigned readability scores through the application of readability formulas. These use a set of statistical measures that may measure the number of "difficult" words in a text, the grammatical difficulty/complexity of the texts, and the coherency of the text. We briefly examine each of these metrics and demonstrate that they do not adequately measure reading difficulty, either independently or together.

Of even greater significance is the fact that readability formulas focus only on formal linguistic properties of texts. They do not address what may be a critical factor in the ability of readers to comprehend texts, that is, the role that the reader's background knowledge plays in text comprehension. While it may be tempting to attribute these disparities to differences in education, that is only one of the factors that affects an individual's knowledge.

Someone with an advanced degree in biochemistry may well have difficulty understanding an article on biblical hermeneutics. A person living in England is more likely to be able to understand an article on cricket than an American who has grown up with baseball. One's interests, the country one lives in, social caste and many other factors can affect the background knowledge we need to understand a text.

The use of formulas overlooks the critical role of background knowledge.

We argue that, in ignoring the important role of knowledge in comprehension, we are overlooking one of the most important factors in a reader's ability to understand a text. We propose that instead of assessing an individual's ability on the bases of flawed readability rankings using formulas, that we proceed in a different way. We argue that we need to examine what knowledge is necessary for understanding texts that we consider important and then ask the question of how we can best equip students with that knowledge. Such an approach focuses less on ranking students and more on helping students to develop their ability to comprehend texts.

Johan Bergh
Associate Professor, Oslo New University College, Norway

Reimagining Emancipation in Norwegian Naval Leadership Education and Practice – A Reflective Practice Approach

The purpose and goals of this paper is firstly to reflect on personal educational experiences. Also, it aims to explore certain educational practice events with examples from a Norwegian naval military leadership educational perspective. In this paper, I examine some personal experiential phenomena from a military perspective and possible notions of, or differences in Norwegian naval leadership education past and present. By using reflective practice research, I refer to the concept of "the reflective practitioner," and "professional knowledge in action" as found in Donald Schön (1983; 1987) and others.

The paper relies also on the Brazilian educator and philosopher Paulo Freire's authorship as a basis for original and critical reflections. My initial approach is based on reflective practice research. "Which contributes to educators' professional development and personal growth". Reflective practice may be regarded as one of the ways that professionals learn from experience to understand and develop their practice. The concept of reflection and the reflective practitioner has exerted a strong influence on the development of professional education.

The paper also includes results from a survey conducted at Royal Norwegian Naval Academy. Thus, I have applied mixed methods. There seems to be scarce research concerning Norwegian cadets' subjective perception of today's naval leadership education. As I explore this, I refer to bell Hooks (2010). She claims that "learning requires openness and willingness to engage with new possibilities". Therefore, this paper may shed new light on leadership education from both learner's and practitioners' perspectives. Leadership education, beit civilian or military, may also benefit from this article.

Jean A. Berlie
Researcher, The Education University of Hong Kong, Hong Kong

Hong Kong is changing: China's Higher Education in the USA

The handover of Hong Kong from the United Kingdom to the People's Republic of China was at midnight on 1 July 1997. Hong Kong is now established as a special administrative region of China (SAR) for 50 years, maintaining its own economic and governing systems from those of mainland China. This article tries to explain that in 1980-1990 China announced reforms to improve HE. Many Chinese HE students got the chance to study in the United States and Great Britain. In 2003 572,509 HE Chinese studied in American universities.

This article will study the great importance of Chinese Higher Education and the chance of the development of modern education and economy under the President Deng Xiaoping and later a great number of China's HE students were educated in American Universities.

In 2020 Hong Kong system of education started to be slowly adapting for the first time to the new process of mainlandization and legalization of Hong Kong. On 10 December 2023, new District Council elections designated 36 'patriotic deputies of the DAB' as the largest political group in the new District Councils, the FTU is trailing behind. The moderate patriotic camp performed rather satisfactorily, but very importantly for the first time since 1997 elected seats are 'less than 20 per cent which is the lowest voter turnout' (SCMP 22.12.2023).

However, the mainlandization is strengthening patriotic education which is new and the British system of Education is replaced. In the past, before the handover in 1997, 1860 **education in Hong Kong** was a combined effort of the colonial government, the Chinese community, and missionary bodies. In 2020 Hong Kong system of education started to be slowly adapting for the first time to the new process of mainlandization. Legalization has created an important migration of Hongkongese in particular to Great Britain after the year 2000. Sonny Lo in 2022 used the term 'Chinese style socialism' which is rather strong to designate a new system in Hong Kong.

The legalization is also strengthening patriotic education, new in Hong Kong, this system of Education is reinforcing Beijing rule.

Brett Elizabeth Blake
Professor and Senior Research Fellow, St. John's University, USA

Poetry Writing as Cathartic Learning among English Language Learners in the U.S.

Multilingual learners (MLLs) or (ELLs) are among the US's fastest growing public school populations. Increasingly, and especially after the Pandemic, MLLs have been able to pass state exams leaving them to remain in ELL classrooms. As New York City and its suburbs became the virus' epicenter of the world, these students suffered further .Undoubtedly, teaching strategies, objectives, and subsequent outcomes had to be revisited, revisited not only to keep students motivated but engaged/reengaged in their learning. MLLS notoriously were reported to be losing the most ground (The New York Times, 4/12/20, pg. 16).

This became nowhere more apparent as when ELLs (who have demonstrated "sustained difficulties with traditional school narrative structure" (Reid & Button, 1995, p. 602 began to write poetry. Precisely because there may be more flexible rules that the structure itself can seem less inhibiting, affording MLLs genuine opportunities to control or to own what they write. Poetry, in my recent work with these students in NYC and beyond, seems to have given students the opportunity to gain a measure of control their writing through personal and creative expression; often called, "linguistic freedom". (Blake, 2009, p. 149) leading often, to a strong sense of catharsis overall.

Emese Boksay-Pap
Lecturer, Pázmány Péter Catholic University, Hungary

Wearing the Instructional Designer's Hat: Teachers and Transformative Learning

The need to reposition teacher training to meet the needs of the evolving environments of 21st-century education and job markets has led to several innovative teacher capacity development programs. The present longitudinal research study examined the learning and development processes of in-service secondary school teachers enrolled on a teaching skills course centered on designing gamified learning experiences. Three groups of in-service teachers took part in the study (N=27). The study spanned a period of three years, and it followed the steps of the grounded theory method. The main aims of the study were: identifying the research participants' understandings of *transformative learning*, identifying the landmarks that shaped the participants' acquisition trajectory of designer knowledge, and the issues that they interpreted as *hindrance to development*. Data collection took place by way of one-to-one interviews, focus group interviews and self-reports of progress/stagnation. Collected data was interpreted in the sequences of open-coding, in-vivo coding, and focused coding. The formulated middle-range theory suggests that teachers' learning that results in adopting new (teaching) attitudes and behavior is hindered by (1) skepticism in own abilities (imposter syndrome), (2) the lack of institutional support and (3) lack of opportunities to practice new (teaching) habits. The trajectory that characterized the construction of new knowledge was marked by the phases of (1) enthusiasm, (2) ambiguity/confusion, (3) crystallization, and (4) completion. The outcomes of the study may have some implications for teacher education and teacher training programs.

Djuradj Budimir
Reader in Wireless Communications, University of Westminster, UK

IoT based Monitoring of University Classrooms

This paper presents the design of the wireless communication architecture, the implementation of IoT technology in educational institutions and the system hardware based on customised micro-controller and wireless communication processors. The study involves the security threats involved in current practices and proposing a solution using IoT. The conventional method of recording attendance using RFID cards has proven to be insecure and prone to proxies. This paper provides a smart attendance system using IoT based sensors, and Raspberry Pi to collect data. The IoT devices are embedded into the existing education environment for data to be collected, transmitted through WiFi using MQTT protocol and store data in local server. The collected data is then accessible to the management with real time insights and attendance pattern. There are many advantages for educational institutions and their stakeholders in using IoT-based attendance tracking systems. Firstly, it promotes accuracy and reliability by eliminating the possibilities of proxy attendance. Secondly, it promotes a sense of accountability among students and promotes consistent attendance, which is directly related to better academic performance. The proposed solution was tested in several different courses in real time over a period of time and the results were compared to the actual attendance data collected through traditional methods. The Raspberry Pi and sensors are used together to collect, process, share, and store data. The need for students to carry an RFID tag and automated the attendance system is eliminated. The IoT system is equipped with BME280 sensors integrated into a Raspberry Pi Zero W on a single-piece breadboard. The sensors are used to capture measurements such as pressure, temperature, and humidity. The Raspberry Pi Zero has an implemented Micropython script that uses the Micropython-bme280 library driver to read continuous sensor values. The proposed monitoring was tested in several different courses in real time over a period of time and the results were compared to the actual attendance data collected through traditional methods.

Orly Calderon
Associate Professor, Long Island University, USA
Lauren Manzione
PhD Student, Long Island University, USA
David Luhr
PhD Student, Long Island University, USA
&
Caryn Nahum
PhD Student, Long Island University, USA

Students and Faculty Share: Lessons from COVID-19 to Inform the Future of Post Secondary Online Education

The education landscape has seen significant transformations and adaptations following the COVID-19 pandemic. Predicting a lasting presence for virtual learning and videoconferencing (Kaur & Bhatt, 2020), researchers emphasize the importance of uncovering valuable lessons gleaned from this unprecedented educational experience, which forced a global and sudden shift from in-person to online learning. Previous research (Calderon et al., 2023) focused on challenges and solutions within the realm of logistics, such as technological difficulties (e.g., access to internet and tech-compatible devices, proficiency in Learning Management System tools), access to suitable, and distraction-free teaching and learning environments. Other studies discussed practical challenges and coping strategies for both faculty and students such as comfort with computer literacy (Jackowicz & Sahin, 2021; Mahaye, 2020; Williams, 2020), time management (Berger et al., 2022) and the quality of peer-to-peer and student- to- faculty interaction (DiSalvo, 2020; Jackowicz & Sahin, 2021).

The purpose of the current qualitative study, representing a portion of a larger mixed-method research project (see Calderon et al., 2023) is to expand on previous literature by exploring post-secondary education students and faculty idiographic experiences such as factors that have contributed to their motivation to study and teach in a time of crisis as well as their insight regarding style of learning and teaching that can support future educational and professional endeavors.

The constant comparison method was used to analyze responses from 102 faculty and students, mostly from social work and nursing disciplines, recruited via random sampling. Preliminary findings reveal overlap between idiographic and practical themes. Faculty and students' motivation during the pandemic, as well as their insight about their respective teaching and learning style, was tied to ease of

adaptation, or lack thereof, to the online educational environment and modality, and to the importance of interpersonal interaction. Students expressed how support from faculty was essential to their learning style and to their motivation in general. Faculty emphasized recognizing they needed support from each other and from administration, and that presence of such support served to increase their motivation to teach.

Unique to the idiographic experience of both faculty and students, motivation was informed by the capacity to identify positive takeaways and, especially for faculty, by altruistic thinking.

The findings reiterate conclusions from previous research that underscore the importance of addressing logistical issues in remote education to support optimal practical implementation of remote education (e.g., professional development for faculty and supporting students access to technology, pedagogy shift that allows for meaningful interaction in the online educational environment).

Notably the current study reveals idiographic pandemic-related educational experiences that highlight the importance of facilitating a shift in the attitude towards, and the emotional reaction to, online education. Creative and innovative pedagogical approaches are needed, that will incorporate meta-learning strategies, foster conversations around values, and encourage empathy in the educational environment. Sensitivity to the unique experience of students and faculty will enhance personal involvement in a learning environment that can otherwise seem impersonal and will contribute to improving online education as it continues to evolve in post - pandemic times.

Eleni Coukos Elder
Professor, Tennessee State University, USA
&
Grant L. Winrow
Director of Business Strategies, Special Assistant to the President,
Tennessee State University, USA

The Impact of Male University Marching Band Members' Sense of Belonging on Retention at One HBCU in Tennessee

The purpose of this study was to investigate how participation in a university marching band influences black male students' sense of belonging. Sense of belonging refers to students' perceived feelings of support, connection, and importance within their campus community. For this study, sense of belonging was measured by levels of peer support, faculty support, classroom comfort, and isolation. Framed on Tinto's *Model of Student Involvement and Student Departure* (1975, 1993), this mixed-methods study explored the influence of involvement in a university marching band black male band members' sense of belonging at one Historically Black College/University (HBCU). Through an online survey to approximately 80 marching band members from the Tennessee State University' *Aristocrat of Bands* marching band and a focus group session, participants described their marching band experiences and perceptions of how the band program influenced their feelings of connection and mattering on campus. Among the major findings of the study: (a) HBCU marching bands are about tradition and community-building; (b) HBCU marching bands promote student leadership development; and, (c) the longer the HBCU student participates in the marching band, the higher his sense of peer support and faculty support) and the lower sense of isolation. Results may guide marching band and student affairs administrators in optimizing extracurricular opportunities to strengthen underrepresented students' attachments and integration at their institutions through a heightened sense of belonging. By gaining insight into the potential relationship between marching band participation and sense of belonging, this research sought to inform strategies aimed at enhancing retention of black male students. Overall, the purpose is to add knowledge regarding ways structured involvement can boost retention.

Jennifer Cuddapah
Professor, Hood College, USA
Jessica Keeney
Classroom Teacher, Frederick County Public Schools / Hood College, USA
&
Riley Smith
Mathematics Teacher, Frederick County Public Schools, USA

Preparing STEM Teachers for Today's Post-COVID Classrooms

In the US, there continues to be a need for recruiting and retaining STEM teachers. The US Department of Education (n.d.) states, "few American students pursue expertise in STEM fields—and we have an inadequate pipeline of teachers skilled in those subjects" (para 2). Complicating the picture is the need to have a multifaceted approach to preparing secondary teachers to teach in post-Covid schools. To respond to this need, our college runs a grant-funded teacher education partnership in collaboration between a four-year school, a two-year school, and a local public school district. The goal of the program is to train high-quality secondary education STEM teachers and equip them to teach in what the US calls "high-needs" schools. These are schools with high teacher turnover, high student poverty, and staffing with those not certified to teach in the areas in which they are teaching. This grant program provides scholarships for students' last two years of study toward a bachelor's degree in one of three STEM disciplines (biology, chemistry, or mathematics) along with coursework to qualify as a fully credentialed secondary education teacher. In addition to scholarships, the program provides a variety of activities and support mechanisms to prepare secondary STEM teachers specifically to work in culturally relevant ways in high-needs schools. Hallmark professional development opportunities have included field trips, workshops, Young Scholars summer STEM program support, and STEM 101 immersion learning experience.

This presentation, written and prepared by college faculty and a student graduate of the program, will focus on the process and outcomes of the Young Scholars and STEM 101 experiences. STEM 101, designed for students who have completed their first year of college, is a multi-day experience comprised of workshops, informational sessions, and field trips, which brings together faculty in the STEM majors, the Education Department, and the local school system. It

introduces potential STEM teachers to the STEM major options and Secondary Education. Young Scholars is a 2-week summer program for identified at-risk youth who demonstrate potential for achieving in the STEM areas. This program has been sponsored at Elementary, Middle, and High School sites over the past decade. Hood's student teachers have served as assistants during this summer program, and college STEM faculty have assisted with content teaching support each year. Graduates of the college's program have gone on to become the lead educators in the Young Scholars Program. Presenters will share an overview of the STEM 101 and Young Scholars curricula as well as the outcomes from data collected about these two teacher preparation experiences designed to support new entrants for today's schools. Participants will reflect on the information provided as well as engage in discussion around post-COVID school and student needs and how teacher preparation programs can adapt to meet these needs.

Maurizio Dabbicco
Professor, University of Bari, Italy

The Scientific Method Turns IV Century: Is it ready for Adulthood?

Prelude: the SM was born in response to theological Truth, with the aim of grounding knowledge on Earth and on human observation, instead of God and the church interpretation. The SM in based on three abstractions (things are separable, measurable, reproducible) and one wishful thinking (models must be checkable). Despite its fragile constitution, SM has grown up strong and conquered first western physical sciences, to later expand worldwide and knowledgewide. The encounter with Relativity and Quantum Mechanics signed the passage from boyhood to juvenescence, with the recognition that the parents' truth was neither so definitive nor so general.

Case: science teaching, at all levels of education, is still based on the childish simplification that to measure the "external" world, a sectoral approach to independent disciplines is sufficient through repeatable and classifiable attempts. The historical perspective of continuous growth and knowledge construction over 'fundamental' principles does only marginally account for the implications that the technology made available by the SM is now posing not only in questioning the foundational principles (objective reality, causality determinism), but also the very same knowledge of the agent itself: Sapiens. One suggestive effort to put it in mathematical terms is the Harari's equation [1]: B x C x D = AHH. The equation implies that the accessible Biological knowledge, Computational power and Data availability will soon Allow the Hacking of Humans. This is a nonlinear equation modeling a very complex system. There is no unique solution and slightly different initial conditions can generate completely different scenarios, from self-destruction, to irrelevance, from critical instability to a new equilibrium state.

Proposition: for the young SM to become adult, it has to get rid of its adolescent arrogance and the exclusive belief on evidence based conclusions. It should openly face the uncertainty and acknowledge the ignorance inherent in any attempt by the human brain to make sense of life and universe. The old Greek inscription *γνῶθι σεαυτόν* has to move out the philosophical and psychological academic courses to permeate all sciences and humanities tracks. It is not the case of setting rules, fighting, or withdrawing in a safer spacetime. It is the case of opening wide our eyes now shut on the intrinsic entanglement of life and

training at an equal level the two legs Homo adapted to walk with: scientific and philosophical knowledge, without which no comprehension would ever be possible.

Paramita DasGupta
Assistant Professor, National University of Juridical Sciences, Kolkata, India

Epistemological Interdisciplinarity in Legal Education: The Default Pedagogical Methodology for the New Global Reset? An Investigation

That education is a core human right and a crucial force for attaining sustainable development and peace, has been emphatically underscored by all international instruments, institutions and communities. Every goal in the United Nations Sustainable Development Agenda requires education to empower people with the knowledge, skills and values to live in dignity, build their lives and contribute to their societies. Ambitions for education are essentially captured in Sustainable Development Goal 4 (SDG 4) of the 2030 Agenda, which, per the UNESCO's Leading SDG4 – Education 2030 Report, aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030. The roadmap to achieve the education goal, adopted in November 2015, provides guidance to governments and partners on how to turn commitments into action.

It thus follows that, a quality education is the foundation of sustainable development, and therefore of the Sustainable Development Goals, in that education as a policy intervention, acts as a force multiplier which enables self-reliance, boosts economic growth by enhancing skills, and directly enhances lives by opening up opportunities for pursuing better livelihoods [Vaughan (2007); Walker & Unterhalter (2007); Terzi (2008)]. And while individual governments do indeed shoulder the primary responsibility for ensuring the right to quality education – the 2030 Agenda, it bears emphasis is, as formally re-affirmed by The Incheon Declaration, 2015 – a universal and collective commitment. It therefore requires not just political will, but global and regional collaboration as well as the engagement of all governments, civil society, the private sector, the United Nations, and other multilateral agencies to tackle often deeply ingrained systemic challenges so as to be able to shift into a fresh paradigm that is inclusive, equitable and relevant to all learners, equipping them holistically for the journeys ahead.

That said, the actual process of education policy formation, and thereby, knowledge creation, is but "an analysis of the dynamics of value formation" [Vaughan & Walker (2012)], in that, it demands an

honest reflection of the interwoven aspirations, contexts, histories [Rizvi & Lingard (2009)], and the embedded values that build the normative bedrock upon which, sound policy choices may be envisioned and made, and it is against this backdrop that this Paper will seek to critically analyse the scope for epistemological and pedagogical interdisciplinarity as afforded by the National Education Policy (India) 2020, when read against a strife-torn, post-pandemic global context, with the aim of constructively demonstrating the now exponentially pertinent merits of adopting fundamentally pluralistic perspective when seeking to impart higher education, in particular vis-à-vis the 'integrated' model of legal education, – so as to be better able to create a generation of advocates, jurists, statespersons and future policymakers who, personally, intellectually and professionally, will help lay the foundations of a sincerely inclusive, mutually respectful and a genuinely equitable society, going forward.

Francesca Di Virgilio
Full Professor, University of Molise, Italy

Innovative Work Behaviour and Empowering in Italian SMEs – University Eco-system

Skills and technology interact and the relationship represents a key reason for the large observed differences in productivity and competitivity, which in turn determine the processes of internationalization and stimulate innovation.

The recognition of the importance of efficient policies to move the private sector to the technological together with the awareness of the relevance of the need to effectively increase the level of regional human capital, represent fundamental steps to successfully perform in terms of technology-driven increases in living standards.

SMEs' inventive activity strongly depends on technological opportunity and appropriability which act as principal industry-level determinants of the SMEs' inventive activity. A different channel of knowledge transfer is the cooperation agreement with other SMEs and university through the implementation and support of innovation hub such as "Contamination Labs" (Clab), enhancement of entrepreneurial skills and the implementation of a collaboration model with the entrepreneurial environment. The present study aims to significantly contribute to the existing literature by comprehensively analysing a case study and to pave the way for further research in related areas

Elizabeth Diaz
Associate Professor, The University of Texas at Arlington, USA

Literacy and Assisted Technology

The process of learning to read in the Spanish language has always been considered straightforward due to its phonetic alphabet. Spanish is considered a transparent language, according to its linguistic classification. However, teaching and learning modalities continue to evolve significantly in the modern age. For example, a conventional "bottom to top" approach is known to introduce first small fragments such as letters and progresses to words. The opposite approach begins with word memorization to understand the smaller fragments as a secondary effect.

This article introduces the transformative power of technology as a tool that enhances the teaching and learning of any Spanish literacy method. Particularly the way in which assistive technology can be used to offer more accessible and engaging tools for teaching children to read in Spanish.

Using a novel two-step approach to support teaching children how to read in Spanish, an interactive, clickable image can initiate the symbol-sound correspondence by increasing phonemic awareness through analysis of the sounds that the object represents.

Learners can click on the image to hear the corresponding sound of the word and interact with individual syllables to hear each one. They can assemble these written syllables into a complete word, receiving instant feedback from the system.

In this first step, students are able to listen to the entire word before dragging the corresponding syllables to form a word. It has always being said “Everything is about sound”.

A second supporting step using artificial intelligence (AI) is employed to further facilitate learning. The AI model presents a text to the learner, who reads it aloud. Through speech-to-text (STT) technology, the model can verify whether the learner is reading correctly. Following this, the model administers a series of questions to assess the learner's comprehension of the text.

This groundbreaking approach not only leverages technology to enhance the reading experience for learners, but also offers a more efficient and engaging way to teach and assess reading skills in the Spanish language. It represents a significant advancement in the field of Spanish literacy education. These types of tools can target elementary school children by enhancing their experience with the support of a

reading teacher. This powerful tool will be able to help learners become proficient readers using school-provided devices that present these simple steps and make it easier to break the code, thus assisting children with the goal to become skillful readers!

Hans Dulimarta
Professor, Grand Valley State University, USA
&
William Dickinson
Professor, Grand Valley State University, USA

Composite Command Pattern in Spherical Geometry

Spherical Easel (https://easelgeo.app) is a free web application for researching, teaching, and learning spherical geometry written in Typescript. Spherical geometry is the geometry of the Earth and is a fundamentally important in modeling real-world phenomenon including climate, navigation, and communication. To aid users learning about spherical geometry, Spherical Easel is equipped with an abundant suite of tools that enable users to create, manipulate, transform, and measure spherical objects. Users can create constructions that consist of spherical points, segments, lines, circles, parametric curves, and conics. These constructions can be transformed using spherical reflections, rotations, translations, and inversions and almost always contain with one or more dependencies. This means that while being manipulated, updates to a single object in a construction must propagate to many other objects that depend on it. For example, if a vertex of an equilateral triangle construction is moved, all parts of the triangle are updated to maintain the triangle's equilateral nature. The application stores the dependency structure using a directed acyclic graph of objects to allow these updates to propagate correctly. The entire application is contained in an open-source code base in VueJS v3 that combines several design patterns, global data structures, and cloud-based storage for storing and retrieving spherical objects under user's individual accounts.

In this paper, we describe how Spherical Easel employs the Command design pattern used in conjunction with the Composite design pattern for the app to maintain a history of construction edits, allowing its users to undo and redo edits, before finally storing the final constructions as a script to a cloud database. We also describe how the two design patterns are fully integrated with various VueJS supporting libraries. To guarantee correct rendering of the spherical objects when a construction is loaded, the stored script is also designed to preserve the structure of the directed acyclic graph. The construction script parser built into Spherical Easel is also designed to take advantage of the (Composite) Command design pattern. Using this innovative design, adding new object types does not require a major redesign of the script

parser. All these command patterns allow users to easily explore spherical geometry while allowing the application to seamlessly expand to accommodate new features.

Patricia Eaton
Director of Teaching and Learning, Stranmillis University College, Northern Ireland
Martin Brown
Head of School of Policy and Practice, Co-Director, EQI: Centre for Evaluation, Quality and Inspection, Ireland
Manuela Heinz
Associate Professor, Head of Discipline of Education, University of Galway, Ireland
Joanne Hughes
UNESCO Chair, Director of the Centre for Shared Education, Queen's University Belfast, Northern Ireland
Joe O'Hara
Professor, Dublin City University, Ireland
Anne Rowan
Researcher, Stranmillis University College, Northern Ireland
&
Mark Ballentine
Research Fellow, Stranmillis University College, Northern Ireland

Insights into Cultural Responsivity in Teacher Education

PISA scores show that in most countries, even when the socio-economic status and parental level of education are considered, not only first but also second-generation migration background students, have continually performed worse in many countries compared to those from native-born parents (OECD, 2019). This clearly has implications for education and it is incumbent upon those involved in the education system to ensure that serving teachers, and indeed student teachers, are equipped with the skills, knowledge and confidence to support pupils from a range of cultural backgrounds. A series of case studies in Europe revealed that teachers are struggling to find professionally sound ways of responding to cultural diversity (Nortvedt et al. 2021). A further scoping exercise by Brown et al. (2022) also found that whilst culturally responsive (CR) education exists in teacher training modules it is often combined with other aspects of equity and inclusion. This is particularly critical in Ireland as the changing cultural make-up of the island of Ireland means that cultural diversity is increasing, with citizens born outside of each jurisdiction standing at 7% in 2021 in Northern Ireland, compared to 2% in 2001 and 12% in 2022 in the Republic of Ireland compared to 6% in 2002.

The 'Cultural Responsivity in Teacher Education: Research in Action' (CRiTERiA) project was awarded funding by the Shared Island unit under the Department of the Taoiseach in the Republic of Ireland and the Standing Conference in Teacher Education, North and South (SCoTENS). The project's key aims were to deconstruct the challenges and opportunities for the preparation of Initial Teacher Education (ITE) students to teach in culturally diverse environments.

This project team undertook a comparative analysis of the professional learning supports and programmes which initial teacher education providers and statutory support services have in place for initial teacher education students to prepare them for multicultural and multilingual classrooms.

This was followed by a series of focus groups on the challenges and opportunities experienced by student teachers, teachers and teacher educators as they relate to the preparation of students to teach in culturally diverse learning environments and the focus groups informed a survey of teachers and student teachers regarding their perceptions of preparedness for addressing cultural diversity in their classrooms. This paper addresses the results of the survey which indicates that student teachers and teachers have concerns, particularly in working with pupils who have English as an additional language while they are stronger in supporting the pastoral needs of pupils. There are small-to-moderate mean differences between jurisdictions, for most variables, ranging from -12.5 to +21.8 (with 91% of mean differences <12%), thus, showing small-to-moderate differences despite a similar trend for most variables across the two jurisdictions. In addition, the results showed a variation in mean rating across the variables for teachers.

The outcome of the project is a co-designed Open Access ECTS module for Cultural Responsivity Education in Initial Teacher Education and Inservice Teacher Education Programmes on the island of Ireland that could potentially be adapted for use in other jurisdictions.

Opher Etzion
Professor and Chair, Information Systems Department, Zefat Academic College, Israel

Event Processing within the Human Body

The event processing discipline provides the ability to analyze event patterns in real-time and make timely reactions, in reactive or proactive mode. Current developments both around sensors and actuators that can be planted within the human body, along with the advancements in the areas of big data analysis, and autonomous intelligent systems serves as a major revolution the approach to healthcare. They provide the opportunity to react to events that are detected within the human body, and provide either warnings to a human, or even autonomic reactions. These abilities has a potential to create a major revolution in life as we know it by providing the gate to singularity that brings with it eternal (or at least very long) life.. The talk concentrates upon the description of the current development that enable event processing within the human body, the notion of body area networks in general, and applications of this area to medical and non-medical applications. Among the surveyed areas: Training monitoring, Patient's monitoring in ICUs, Stress control, Sleep Disorders, Artificial pancreas, Implants for cardiovascular diseases, Cancer treatment, Bypass damaged senses and more. Some predictions about future trends in this area, especially the vision of singularity is discussed, and some philosophical observations about the implications are also discussed in detail.

Benja Fagerland
Associate Professor, University of South-Eastern Norway, Norway
Søren Obed Madsen
Associate Professor, University of South-Eastern Norway, Norway
&
Ole Boe
Professor, University of South-Eastern Norway, Norway

Sustainable Leadership in the Norwegian Police Education: Experiencing an Almost Complete Lack of Research and Curriculum Literature Creating Unforeseen Challenges for Education and Learning

The Norwegian Police University College (NPUC) is introducing sustainability as a part of its police leadership studies. This introduction of sustainability leadership is a part of a major revision of the NPJUC´s leadership programs, which aims to prepare leaders for the challenges facing the modern police. A challenge that has been raised lately is how these ideas of sustainable leadership should be incorporated into different programs in police leadership programs. This in order to facilitate for the police students (experienced police leaders) learning related to sustainable leadership. This challenge has arised since there is an ongoing debate in different research communities as to what sustainable leadership is. In addition, several different definitions of the concept sustainable leadership exists rendering it difficult to understand what it is, how it should be executed and how to teach and facilitate police students learning of the concept. At present, the NPUC has no curriculum that contains any literature on sustainable leadership in the police. Thus, our two research questions in the present study became: 1. What has been written in the research literature about sustainable leadership in the police? 2. How is the concept of sustainable leadership in the police used in learning and education of police students? Due to the abovementioned uncertainty and in order to establish a common ground for what sustainable leadership is in the police, we decided to conduct a systematic literature review using the search terms sustainable leadership and police. We searched the databases Academic Search Premier, Criminal Justice Abstract with Full Text, PsycInfo and Scopus as they seemed to be the most relevant databases in order to answer our research question. The results from this first search were only ten hits covering these two search terms. The ten hits were extracted and we found two duplicates. This lead to a total of eight unique articles that dealt with our topic of interest.

Screening the eight hits, it quickly became clear that they were not very relevant to what we were searching for. The police-relevant aspects were usually mentioned as a suffix, rendering the concept of sustainable leadership in the police little notice. Expanding our search, as it is common to include cop*/cops as a search term as this term is used in more operative police work in the field, we conducted a second search in the same databases with this new search term. We then ended up with a total of 40 hits. The identification of studies via databases and registers was conducted in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement. However, none of the extra 40 hits using the search term cop*/cops seemed relevant to our study. Our two research questions therefore still seem to remains unanswered. We therefore draw the conclusion that there is an almost complete lack of research and curriculum literature on sustainable leadership in the police that probably will lead to unforeseen challenges for education and learning for NPUC´s police students. Our results from the systematic literature review identifies and indicates a clear research gap. This gap needs to be examined in the future if we want to prepare police leaders for upcoming challenges that the modern police may face in the years to come.

Thomas Fehlmann
Senior Researcher, Euro Project Office AG, Switzerland

Measuring Knowledge – An Attempt to Define a Measurement Principle

How should ChatGPT be measured? From the user's perspective, it is an elementary input process and a more or less well calculated output - however, we are not even sure whether an elementary data function is maintained. We know that ChatGPT has been pretrained and benefits from a large collection of data, but this is not the essence of AI.

A more sensible approach is to examine the data sets that ChatGPT moves. We don't know much about its actual implementation, but we recognize pieces of knowledge – about things, events, physics, or politics – that users can align with some specific data sources.

These pieces of knowledge have some reliability. It may depend on the sources or the sensor equipment that provides it, but it is measurable and sometimes even known in advance from the sensor specifications. When testing AI-based systems (intelligent systems), this is a promising attempt to predict its overall reliability.

However, there are other reasons to measure software besides testing. Do reliability metrics help us in this regard? Can we compare different implementations of AI by looking at their predicted reliability? It would be nice but there are a lot of open questions. This paper outlines them.

Ulrika Gidlund
Senior Lecturer, Mid Sweden University, Sweden
&
Marcia Hakansson Lindqvist
Senior Lecturer, Mid Sweden University, Sweden

Important Aspects of Teacher Shortage: A Literature Review

Teacher shortage appears to be a challenge worldwide. In a recent report, UNESCO reports the need for some 44 million new teachers to reach the Agenda 2030 targets (UNESCO, 2023). Attracting and retaining new teachers is difficult in relation to both geographical areas and in certain subjects, being a common challenge of many developed countries (European Commission, 2018). Teacher shortage is seen in many countries (Federičová, 2020; Håkansson Lindqvist, Boström & Gidlund, 2022; O'Doherty & Harford, 2018). Teacher shortage has consequences as teaching in schools, students' learning and therefore the quality of education. The overall aim of this literature review was to analyze peer-reviewed articles regarding teacher shortage from 2018-2023 in Scopus. The literature review was conducted to investigate the serious situation in the world today regarding different teacher shortages in different countries. Some 63 articles met the inclusion criteria of this literature review. The articles represent 19 different countries all over the world. These were: Australia, Belgium, Canada, Germany, India, Ireland, Israel, Kuwait, Netherlands, New Zealand, Norway, Oman, South Africa, South Korea, Sweden, Thailand, United Kingdom, United States, Zambia, Uganda and Undefined. The methodologies of the studies also varied, for example, qualitative and quantitative studies. The content of the included articles was thematically encoded and categorized by the described reasons behind. The themes were identified inductively; they were strongly linked to the data, and the steps of qualitative content analysis (Schreier, 2014) were followed to identify these themes. The preliminary findings indicate that many of the articles analysed report on teacher attrition, teacher recruitment and teacher retention. Motivation to enter the teaching profession and understanding view of the profession as well as the aversion to the profession were also studied. Other important aspects of teacher shortage studied were more specific, e.g. themes regarding conditions for language and bi/multilingual teachers, gender and inclusion issues, rural contexts and specific subject areas such as natural sciences and special education. The overall conclusion is that

teacher shortage is multifaceted and complex. There are many reasons for teacher shortage and there are many aspects that interact. Implications for practice, according to the articles studied in this literature review, and important issues for future research will be presented.

Jose Efrain Guataquira Ramirez
Research Associate, Francisco José de Caldas District University, Grupo Enseñanza y Aprendizaje de la Física, Colombia
&
Olga Lucia Castiblanco Abril
Researcher, Francisco José de Caldas District University, Grupo Enseñanza y Aprendizaje de la Física, Colombia

The Diary of Sky: A Methodology for Teaching Astronomy Aimed at Teachers

Observing the sky with the naked eye is usually an activity that is not encouraged in primary and secondary educational institutions in Colombia. This may be attributed to an inability to interpretate celestial observation or a lack of methodology as to how it should be done. Hence, it is often an activity discredited by teachers or the school they work when teaching astronomy. Due to this situation, this work seeks to educate the teacher from a new perspective to understand how to observe of the sky and from there create methodologies in teaching astronomy that challenge the scientific thinking of children and inspire young people to question and understand the underpinnings of this science.

To do this, a proposal developed by the Educational Cooperation Movement – MCE based in Italy was taken as a reference, which was later replicated in Brazil within the framework of education research. Four main stages were contemplated in this project, starting with the adaptation of The Diary of Sky (an instrument that is the result of MCE research) to the geographical, astronomical, and language conditions for Colombia. In the second stage, implementation tests of the instrument were carried out in a virtual classroom with members of the Physics Teaching and Learning Group – GEAF to identify situations that could arise in the methodological process of each in meeting the requirements of the target group.

In the third stage, the activities of the instrument were developed, covering nine sessions of 'The Diary of Sky', divided into twenty-three meetings, each lasting four hours. Sessions were implemented in Educational Institutions, Public Libraries, and the Planetarium of Bogotá, where forty professionals participated from different fields of knowledge (including natural sciences, human sciences, early childhood education, and technology) who guided the teaching processes in initial, preschool, primary and secondary education in

schools. Schools ranged from official, concession and private and throughout different sectors of the city of Bogotá. Although most of the participants were professionals in the areas of education, some technologists and engineers who participated were working as teachers in educational institutions.

In the fourth and final stage, the transcription, analysis of the information and the conclusion of the research were carried out, where it was highlighted that observing the sky with a simple view is an infinite resource of data and experience that allowed us to know the concerns, ideas and knowledge of teachers. Through dialogue and from the location of the cardinal points, the use of two-dimensional graphics, the origin and use of different time scales, the manufacture of instruments in the classroom, observation techniques and recording of celestial bodies, among other emerging contents in the development of activities, the tests offered a multitude of teaching and learning possibilities. Thus, it seemed to show that the constitution of more solid, broad and truthful discourses is possible, ratifying the need to create scenarios aimed at teachers where the learning of astronomy and methodologies for its teaching in primary and secondary education is promoted through the observation of the sky with the naked eye.

Smita Guha
Professor, St. John's University, USA

Nutrition Education for the Underprivileged Mothers and Children in India: An Ethnic Study

Objective: The objective of this project was to educate underprivileged mothers on nutrition through an educational video made in Bengali language.

Design: The research was qualitative. Data was collected through pre and posttest survey questionnaire, observation and interview. The video was intervention.

Setting: Kolkata, India.

Participants: There were 30 mothers from accessible population, slum in Kolkata, India. The mothers were divided into two groups of 15. Return rate of survey was 100%.

Intervention(s): The essential feature of the intervention was informative musical video about essential diet especially during pregnancy. The video was about 6 minutes long and video was shared with mothers.

Main Outcome: Mothers paid attention while the video was played. Video was repeated and was paused for discussion. The posttest answers were much richer than pre-test answers. The mothers retained information from the video.

Analysis: The qualitative analyzed using thematic approach.

Results: Two themes emerged: Mothers gained knowledge about nutritional needs of themselves and their children. Maternal autonomy about diet increased.

Conclusions and Implications: Since poor nutritional outcomes of Indian children are steadily increasing, this project addressed maternal autonomy and health and nutrition education. The mothers received greater access to resources and knowledge of healthy diets during pregnancy.

Till Haenisch
Professor, DHBW Heidenheim, Germany
&
Christoph Karg
Professor, Aalen University of Applied Sciences, Germany

Virtual Labs for Contemporary Teaching of IT-Security

Developments in teaching like eLearning, distance learning, remote teaching etc. increased the need for virtual laboratories to allow access even without being present at the university. While being interesting and successful long before Corona hit, the pandemic pushed the relevance and acceptance of virtual labs. For a long time, virtual labs were mainly used in the life sciences or engineering disciplines where labs tend to require costly equipment and special setups. In computer science, cloud-based containers can be used to standardize programming environments. Especially in teaching IT-security, containerized labs are a valuable tool to allow students to practice with malware or exploits in a virtual setting that would be too dangerous to run in the wild.

There is wide experience of using virtual machines for simulating real world infrastructure, for example and this is still the typical way to implement such labs. While Infrastructure as a Service (IaaS) cloud services could move this approach to the cloud but is not without problems regarding running malware on public spaces. So typically, on premise solutions are used for this purpose.

A lightweight alternative to virtual machines are containers which deploy only a specific service or application. A very popular tool for containerization is Docker which is available on all common operating systems such as Linux, MacOS and Windows. Docker provides ready-to-use container images for a large variety of applications via the Docker Hub. One advantage of using Docker is that students can run Docker setups on their notebooks and hence are independent from the computing service of the university.

If containerization needs to be run on a larger scale, Kubernetes is a frequently used orchestration tool. Kubernetes is a "chameleon" somehow, because it can be used in many environments, for instance as a standalone application such as Minikube, in a self-hosted on-premise cluster or in a public cloud such as Amazon Web Services (AWS), Microsoft Azure or Google Kubernetes Engine (GKE).

With the emergence of Micro-credentials, the requirements continue to increase. This trend indicates a shift to more specialized,

flexible and personalized learning opportunities that allow individuals to acquire specific skills. Using VMs for that would require expensive resources and might lead to scalability problems.

This paper describes several ways to use containers to support personalized configurations of security labs especially for asynchronous learning experiences. The following use cases are presented in more detail. Firstly, it is explained how to deploy a standardized environment for programming exercises in applied cryptography by using an appropriate Docker container. Secondly, a simple setup is described to teach common web application vulnerabilities using a container provided on the Docker Hub. Thirdly, the architecture of a Kubernetes cluster is presented. The cluster runs on an on premise hardware and can be used for "Capture The Flag" contests, to showcase for cloud-native web application deployment, or to teach topics on Kubernetes itself. Fourthly, the setup for a virtual lab on implementation issues of distributed systems is presented. This lab is offered as a Micro-credential. The paper closes with a summarization of lessons learned, especially the advantages and disadvantages of using containerization in teaching topics on IT-security.

Heidi Harju-Luukkainen
Professor, University of Jyväskylä, Finland
&
Minna Maunula
Associate Professor, University of Jyväskylä, Kokkola University Consortium Chydenius, Finland

The Future Skills of Special Needs Teachers in Evolving Educational Landscapes

Special education teachers have a central educational mission, identifying pupils' specific needs and providing tailored support for learning. In the future, the work of special education teachers will require a wider range of skills to meet the increasingly diverse needs of pupils (Harju-Luukkainen et al., 2022). This study explores special education teachers' perceptions of the future skills needed and their relevance in today's education. The research question is: what are special education teachers' perceptions of the future skills needed and their relevance in their received education? The data for this study (N=30) consists of responses from recently graduated special education teachers. The data was collected by means of a qualitative questionnaire. The data was analysed using a data-driven content analysis.

The results show that special education teachers identified the future of the special education profession as expanding, which will challenge them in a number of ways. Students' individual needs and starting points need to be identified and responded to in a timely manner. In addition, future special needs teachers will need to have strong IT skills. Digitalisation and the role of technology in learning are constantly growing. Special education teachers should be able to use a variety of digital tools and resources to provide effective support and accessible learning opportunities for their students. The results further suggest that special needs teachers need to develop cultural sensitivity and multicultural competences. Societies are becoming more diverse, and special needs teachers will encounter students from different cultural backgrounds. The ability to recognise and respect different cultures and their impact on learning is essential. Collaboration and communication skills are also essential. Special needs teachers need to work closely with other teachers, parents and specialists. High-quality communication and collaboration contribute to pupils' well-being and learning. In addition, empathy and interpersonal skills are relevant for special needs teachers both now and in the future. Supporting pupils

with special needs requires the ability to put oneself in the shoes of the pupil and his/her carers, to understand their needs and to build trust. Special needs teachers also need continuous professional development and critical thinking. As education systems and pupils' needs change, special needs teachers need to be prepared to learn new skills and develop their practice to meet these challenges.

In summary, the future competences of a special needs teacher consist of a wide range of elements, including technical competence, cultural sensitivity, collaboration and communication skills, continuous professional development, critical thinking and empathy. Mastering these skills enables special needs teachers to respond effectively to the diverse needs of students and ensure that all students have the opportunity to learn and succeed.

Martina Holenko Dlab
Associate Professor, Head of Chair of Multimedia Systems and e-Learning, University of Rijeka, Croatia
&
Nataša Hoić-Božić
Full Professor, Head of Laboratory for Application of Information Technologies in Education (EDULAB), University of Rijeka, Croatia

Enhancing Remote Work Competencies in Croatia: Findings from VirtualEdu Project

The Erasmus+ project "VirtualEdu - Upskilling and certification scheme for virtual educators, managers, workers" aims to create a certification scheme that improves the skills of remote workers (educators, managers, and support staff) and certifies them. The overall goal is to support the European Union's digital transformation efforts and improve readiness to withstand the disruptive effects of pandemics and unforeseen events that impact education, collaboration, and professional work in general. In addition to creating a certification system, the main goals of the project are to develop innovative training methods and materials, establish a digital library of training materials, and organize a Massive Open Online Course (MOOC) to develop the skills of remote workers.

This paper presents the results of a study that aimed to identify a skills gap among remote workers in Croatia to inform the design of the training curriculum and materials for the VirtualEdu MOOC. To identify the skills gap, the questionnaire was developed based on a literature review and two European frameworks: DigComp (Digital Competence Framework for Citizens) and DigCompEdu (Digital Competence Framework for Educators). In the questionnaire, respondents assessed the relevance of a set of competencies and skills to remote work and to training designed to develop those competencies and skills. The competencies were grouped into five categories: digital competencies, self-management and organization, collaboration competencies, interpersonal, intercultural and communication skills, and specific skills of remote educators (other than those already mentioned). The questionnaire also aimed to determine users' perceptions of the usefulness of training for the development of these competencies. To identify the most stringent needs, a skills gap analysis was conducted using the competency matrix developed as part of the VirtualEdu project.

The results of the analysis showed that respondents (N=86) perceived the greatest need for the development of digital competencies, self-management and organizational skills, specific skills for educators, and collaboration skills. An important finding of the research was that all of the topics originally proposed for the training curriculum were confirmed as necessary by the questionnaire results. The use of a competency matrix allowed the identification of several competencies related to time management, autonomy in task completion, and social isolation that need to be included in the training curriculum.

The interest and perceived usefulness of the training for the development of remote work competencies by Croatian remote educators, managers, and workers indicate the need for the development of lifelong learning opportunities such as the VirtualEdu training.

Kiridaran Kanagaretnam
Professor, York University, Canada

Machine Lending and Discrimination: Evidence from Peer-to-peer FinTech Lending

We hypothesize that statistical racial discrimination can exist in machine lending even when racial information is not directly observable. Using a large sample of loan listings from a sizeable peer-to-peer (P2P) lender in the U.S., we find strong evidence that loan listings in counties with a greater proportion of minority population are associated with higher lending rates and loan denial rates. In cross-sectional tests, we document that statistical racial discrimination is less pronounced with the availability of more traditional and non-traditional information on credit quality. Employing path analysis, we find that county-level racial information is implicitly transmitted through the P2P platform's internal rating process.

Shin Ji Kang
Professor, James Madison University, USA

Global Virtual Exchange between US and S. Korean Elementary Teachers: Unexpected Outcome

The purpose of the study is to explore the impact of the Global Virtual Exchange (GVE) experience on 18 US pre-service elementary teachers and 5 S. Korean in-service elementary teachers' learning. The participants engaged in an ice breaking period at the beginning, had a deeper dive in each other's cultural autobiographies, and then held focused discussions on sexism. All exchanges were conducted asynchronously. Participants completed BEVI (Beliefs, Events, and Values Inventory) two times (pre- and post- GVE). BEVI is widely employed by higher education institutions especially to measure the effectiveness of international programming such as education abroad. BEVI collects both quantitative and qualitative data including demographic information, life histories, a comprehensive assessment of beliefs, values, attitudes, and worldviews, and experiential reflections.

Some unexpected outcomes in the BEVI measures as an impact of a GVE experience will be unpacked and discussed during the presentation:

US participants and S. Korean participants scored significantly differently in Basic Openness, Self-Certitude, Physical Resonance, and Gender Traditionalism without meaningful changes within groups. It means that US participants tended to be open and honest about the experience of thoughts, feelings, and needs (Basic Openness); comfortable with own body and experientially inclined (Physical Resonance); and preferred traditional and simple views of gender and gender roles (Gender Traditionalism) to a greater extent than their S. Korean counterparts. On the contrary, S. Korean participants tended to focus on individual causes of success and failure and have strong sense of will at a greater extent than the US counterparts (Self-Certitude). This data reveals that the two groups are different from the beginning and also responded differently to the GVE curriculum as appeared in some BEVI scales.

The Basic Determinism pretest scores for both groups were at the similar level and the same dramatic growth in the posttest scores was presented. This means that the both groups preferred simple binaries and simple cause-effect explanations for differences or human behaviors at a greater extent at the end of GVE. Significant increase in Religious Traditionalism was also observed in both groups. Initially,

the pretest scores showed that US participants were less religious and more inclusive in various spiritual beliefs than the S. Korean counterparts, however, both groups became more religious and certain of the exclusive rightness of own spiritual beliefs after the GVE as appeared in the posttest. These outcomes are unexpected and warrant critical discussions for future implications in research and practice. More detailed explanations will be presented in relation to the intentions and contents of the cultural autobiography assignment, focused themes of online postings, work experiences, sociopolitical and religious contexts as well as other BEVI research demonstrated unintended learning outcomes.

Christoph Karg
Professor, Aalen University of Applied Sciences, Germany
Ralf-Christian Härting
Professor, Aalen University of Applied Sciences, Germany
Demian Deffner
Scientific Employee, Aalen University of Applied Sciences, Germany
&
Miriam Kappe
Scientific Employee, Aalen University of Applied Sciences, Germany

CyberWuP – A Low-Threshold Cyber-Security Awareness Program for Small and Medium Enterprises

With the ongoing digital transformation, small and medium Enterprises (SMEs) are exposed to a higher risk of cyber-attacks. The implementation of cyber-security recommendations is a challenging task for SMEs. Especially, small enterprises struggle in this context because of the lack of personnel and financial resources and the absent expertise. In 2022, the Ministry of the Interior of the State of Baden-Württemberg, Germany, funded in cooperation with the Aalen university the research project CyberWuP (Cybersecurity, Economic protection, and prevention for SMEs). The project's main goal is to develop an awareness program for cybersecurity which covers the needs of SMEs, especially the small ones, and is applicable breadthwise in the region of East Württemberg. The paper emphasis on the results and findings which have been achieved by the project. The paper is organized as follows. The first section shows the approach behind the awareness concept together with the goals to be achieved. The second section focusses on empirical studies with SMEs in East Württemberg to determine their knowledge and requirements concerning cybersecurity issues like cybercrime, insufficient equipment, and prevention. Several surveys have been rolled out. The empirical research provides important insights to design an awareness program which fits the needs of smaller enterprises. In particular, specific activities for a more sophisticated cybersecurity level, the time frame for potential consulting meetings (an hour) and the level of knowledge (low) have been derived from survey's data. The studies can confirm the particular importance of a consulting concept, since the most important influencing factor on the perceived threat of cyberattacks depends especially on the prevention measures used. The results clearly indicate that there is a lack of awareness of cybersecurity in small businesses, even among management. In addition, existing

information is not used, which is why the sustainable applicability of a consulting concept and low-threshold access to it are particularly important. The results of the survey, in combination with a systematic literature review, formed the basis for a consulting concept. Section 3 describes the development of the awareness consulting process and the respective information materials. With the involvement of experts and cooperation partners, a process model was created with the four stages "Informal Awareness Raising, Initial Impulse, Initial Consultation, and Integration of a Service Provider. Stage 3 is a central activity of the concept. It represents a low-threshold approach to improving management awareness with respect to cyber-security. The approach includes eight essential cyber-security recommendations which are mandatory to establish a minimal level of security within the enterprise. Supporting media are used, such as checklists, information cards, and IT-tools. Section 4 summarizes the results of a pretest of the awareness concept in the field. The pretest is divided into two phases. The sample size is approx. n = 50 and above the standards for pretests. Finally, in section 5 a conclusion is given with limitations of the concept and a further outlook of the research project.

Alkisti Katsakou
PhD Candidate, South-West University "Neofit Rilski", Bulgaria

Primary Education and Hyperactive Children

Through the years, hyperactivity disorder develops into one of the most common disorders in children, known as attention deficit hyperactivity disorder (ADHD), characterized by symptoms such as impulsivity, inattention, and hyperactivity. These symptoms can make it challenging for hyperactive children to focus on lessons and assignments, resulting in difficulties in school. However, there are steps that schools can provide to assist these children, such as creating a safe environment, incorporating breaks to address impatience and restlessness, allowing more time for activities to reduce pressure, and establishing clear rules for classroom behavior. Elementary school provides an opportunity for hyperactive children to learn how to control their attention and concentration, thus alleviating the symptoms of the syndrome.

In the beginning of a children's life, hyperactivity symptoms begin to emerge. Inattention, hyperactivity, and impulsivity are among the main symptoms that can lead to an early diagnosis of ADHD (Barkley, 2006a). Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common disorders in children and adults, affecting approximately 3% to 6% of the school population. While males are predominantly diagnosed, females also exhibit symptoms and receive diagnoses, albeit at lower rates (Cantwell, 1996) (Ronald Kessler, 2006).

From the symptoms mentioned above, only three are needed to lead to ADHD diagnosis at a very early age. Nevertheless, the diagnosis is usually overlooked by parents and teachers because these symptoms are common among children this age (E. Palmer, 2001) (Rafalovich, 2001). These symptoms later become the primary challenges for the child's adjustment in school and social settings. ADHD can also be characterized by impulsive behavior, constant movement, difficulty sustaining attention, and problems with memory and information retention (Tamsin Ford, 2003) (Ronald Kessler, 2006).

Conversely, students with ADHD struggle with these elements and so making appropriate teaching methods and interventions is crucial for their success. In order to achieve this, appropriate teaching methods and interventions must be used (Kakouros E, 2000). The teacher plays a key role in the education of this child because he has the knowledge to address his needs and the ability to help him learn with the right educational strategies. Also, children with ADHD face emotional and

social challenges in their daily lives, particularly in school (Papageorgiou, 2005).

In conclusion, hyperactive children often face challenges in elementary school due to their overwhelming experiences in the classroom. Their hyperactivity, impulsivity, and difficulty sitting still for extended periods can impede their academic progress. However, early diagnosis of ADHD and appropriate management can alleviate the symptoms, enabling children to effectively manage impulsivity, lack of concentration, and hyperactivity. With the right support, these children can lead fulfilling lives both socially and academically.

Remah Khaleifa
Head, Department of Special Education, The Arab Academic College of Education, Israel
Wafaa Murkus
Lecturer, The Arab Academic College of Education, Israel
Ibrahim Asadi
Head of Learning Disabilities, The Arab Academic College of Education, Israel
Shaden Shuhaiber Rizik
Lecturer, The Arab Academic College of Education, Israel
Aula Khateeb Abu-leil
Lecturer, Oranim Academic College, Israel
&
Randa Abbas
College President, The Arab Academic College of Education, Israel

Language Learning Strategies in Elementary Education: Teacher, Implementation and Student Perspective

This mixed-methods study investigated the integration of learning strategies by Arab elementary teachers in their language lessons (Arabic, Hebrew, and English) from both teacher and student perspectives.

learning strategies are "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferable to a new situation" (Oxford, 1990, p. 8). These strategies are crucial for successful language learning.

The research addressed two gaps: 1. limited focus on elementary Arab teachers' implementation of language learning strategies and their students' experiences, and 2. achievement gaps between Arabic and Hebrew speakers in Israel's education system (Blass, 2017). Challenges like diglossia (Ferguson, 1959), Arabic's complex script (Ibrahim et al., 2002), and rich morphology (Shalhoub-Awwad & Leikin, 2016) contribute to these gaps.

The methodology involved surveying 60 Arab-Israeli language teachers on their reported usage of 34 specific language learning strategies from the Learning and Study Strategies Inventory (LASSI; Weinstein, 1987). In parallel, 600 5th-6th grade students rated how often their teachers actually implemented each strategy. Reliability was assessed using Cronbach's alpha. Qualitative data from semi-structured interviews with 12 teachers and 28 students supplemented the quantitative findings.

Key research questions examined:

1) The specific language learning strategies employed by teachers across Arabic, Hebrew and English classes and differences between languages.
2) The alignment between teachers' intended strategy use and students' experienced implementation.
3) How teacher demographics influenced their integration of language learning strategies.

By identifying the strategies leveraged, discrepancies between intentions and practice, and influences of teacher factors, the findings can shape pedagogy and guide professional development in Arab schools. Promoting effective strategy instruction may help Arab students become self-regulated learners (Vermunt, 2020) and could reduce achievement gaps (Abu-Rabia & Siegel, 2002) for more equitable education.

The study's insights from teacher and student perspectives can inform curricular decisions and practices to better support elementary language learning.

Anastasia Koutsoni
PhD Candidate, University of Cordoba, Spain

The Role of Swimming in Reducing Stress in Higher Education Students

In modern education, traditional teaching methods are progressively being supplanted by innovative educational practices designed to nurture diverse skills in learners (Karatrantou et al., 2020). Within the realm of new educational approaches suitable for higher education, swimming emerges as a significant example. As a comprehensive sport, swimming enhances muscle strength and endurance, which in turn, positively impacts students' overall physical condition, while also mitigating stress and elevating mood. This enhancement in physical and psychological well-being facilitates more active participation in educational activities (Willcox-Pidgeon, Peden, & Scarr). Specifically, swimming serves as a poignant illustration of how physical activity contributes to the psychophysical health and academic performance of students. Beyond physical health benefits, swimming also promotes psychological well-being, especially crucial during the stress-laden exam periods (Mehr, 2011), and concurrently aids in academic performance enhancement.

Swimming embodies the principles of discipline, perseverance, and patience. The cultivation of these qualities through this sport can assist students in organizing their academic endeavors and responsibilities more effectively. This organization process not only alleviates stress but also fosters a balance between education and quality leisure time. The resultant psychological well-being, derived from physical relaxation during swimming, empowers students to better manage their academic obligations, thereby positively influencing their grade performance. Consequently, a more effective collaboration among students is facilitated, enhancing active participation in the learning process (Salehian & Golabhi, 2021).

Given that many students concurrently work while pursuing higher education, the resultant mental health strain can amplify anxiety over academic performance and achievement of learning objectives. Thus, swimming, as an innovative educational practice, holds potential to ameliorate the mental health challenges students frequently face due to their burgeoning responsibilities.

Sebastian Lerch
Professor, Johannes Gutenberg University Mainz, Germany

Critical Faculty: A Competence in Adult Education?

"Critique" can be actively carried out through arguments, but also through creative work, laughter or sleep, but it can also be experienced and received. Critical people no longer seem to be confronted with a system from the outside, but the ability to give and receive critique is also perceived as a profitable resource on the entrepreneurial side. On the one hand it is more oriented towards people and their lives in the world, on the other it is connected with an appeal to one's own optimization (in between there are numerous shades).

Remaining in this contrast, the latter is something quite different from critique in the sense of civic participation or social interests. Nevertheless, the critical faculty is on the rise both as a competence in education policy (cf. BMBF 2013) and as an entrepreneurial competence. But can "critical faculty" be a competence at all? Does this not imply an internal contradiction that shows itself in the fact that the resistive moment of critique cannot at the same time be a professionally exploitable category?

Taking this into account, the present contribution will reveal characteristics of critical faculty. The aim will be to sketch semantic projection screens and thus make a contribution to the use of critical faculty in adult education. In a first step (1), the currency of the topic will be demonstrated. In a second step (2) it is discussed to what extent critical faculty can be regarded as competence at all. Against this backdrop, (3) the relative possibility of promoting critical faculty is discussed. The presentation concludes with a summary of important moments in determining critical faculty (4).

Ming-Dih Lin
Professor, National Chung Cheng University, Taiwan

A Case Study of an Elementary Principal's Learning Practice in a Dynamic Society: Approaches and Elements

The challenges for secondary and elementary school principals are more complicated in a dynamic society. The characteristics of a principal's job could be characterized as context-specific, variety, brevity, choppiness, fragmentation, patternless, disconnected, and a great deal of discretion. Furthermore, there is a lack of establishing professional standards for principal professional development and growth; it is imperative to investigate principal learning in the real context. This study investigates a practicing principal's learning, including learning approaches and learning elements. Specifically, this study investigates the learning of one elementary practicing principal in learning approaches and learning elements.

This paper has been done 21 times, or 101 hours of observation with one elementary school principal. The study has also finished 9 people, 12 times, or almost 9 hours of interviews. All the observations and interviews were transcribed, and the data were used to do analysis.

The findings of the study include: 1) when asking context-specific questions, principals mentioned that they learn more about declarative knowledge related to teaching and learning and more about procedure knowledge related to problem solving, leadership craft, and change in decision-making with general questions. 2) Principals learned more through self-reflection and group interaction and reflection than through professional training and profession inquiry. 3) With regard to the elements of leadership craft, the learning of the principal focuses more on the understanding of people and environment, the formation of an acceptable result, the utilization of critical administrative technique and skills, and the understanding of possible obstacles, but less on the "nose' for things and the timing of doing things practically and ethically.

Nick Linardopoulos
Associate Teaching Professor, Rutgers University, USA

Communication Outcomes, Small Groups and Large Lecture Courses

In this presentation, I will report on the design and outcomes of a re-designed approach in incorporating small group activities in large lecture courses. Group work and large lecture format are typically not terms that are closely aligned. In this two-stage project, small groups were purposefully and strategically introduced to a large lecture course in order to enhance student engagement with the course material and the learners. Based on the feedback received from the first stage of the project, the small group set-up was redesigned in two key ways: team membership was determined based on the results of a personality test (Enneagram) as opposed to randomly generated and/or allowing members to pair with each other. In addition, the assessment of the group activities was revised to include a peer evaluation component based on which scores for individual team members would be lowered in relation to the group average should the peer evaluation outcomes were unsatisfactory. The presentation will compare the outcomes and student perception of the small group component before and after those two key interventions and will share recommendations for best practices associated with the incorporation of small group in large lecture courses.

Fengshu Liu
Professor, University of Oslo, Norway

From 'Educational Desire' to 'Educational Anxiety': The Case of Rural Families in China's Remote Areas

The dramatic socio-economic changes over the past decades in China coupled with a deep-rooted cultural belief in education have been accompanied by unprecedented 'educational desire' and 'educational anxiety'. Whereas a few previous studies somehow recognize that strong educational desire is true of both urban and rural societies, there has been little investigation of how it may be playing out in rural families. Furthermore, the discussion about 'educational anxiety' has solely concerned urban parents, reflecting an assumption that the notion can hardly apply to rural parents, especially those in poor/remote areas. These trends fail to do justice to present-day rural families' complex relationship and engagement with their children's education. This study explores how both 'educational desire' and 'educational anxiety' may be at work, and in tandem, to shape rural families' lived experiences related to their children's education.

The study draws on in-depth interviews with parents/care-takers in 39 families and participant observation in 5 households in a remote area in northern China. The participants typically think higher education is of paramount importance for their children's future welfare, or 'the only way out'. They hope that their children will score into a university as prestigious as possible and have as much education as possible. Most of them were constantly anxious about their children's school performance and future education prospects. Anxiety had also to do with their inability to help the child academically. I argue that rural families typically show strong educational desire and intense educational anxiety—no less than urban middle-class families do. However, the rural educational 'desire' and 'anxiety' have rural-specific manifestations. This needs to be understood against the specific Chinese rural circumstances in the context of rampant modernization and urbanization and, indeed persistent rural-urban disparities—a form of structural violence per excellence.

Yuanbing Liu
Associate Professor, Jiaxing University, China
&
Fengshu Liu
Professor, University of Oslo, Norway

Chinese Rural Families and their Offspring's Education: The Case of Jiaxing

Policymakers and researchers have long recognized the significance of developing rural education in China. Under the Education Modernization 2035 initiative, there is a clear focus on improving education quality and equity in rural areas. While rural education has been acknowledged as a means of enhancing human capital and reducing the urban-rural divide, different regions of China have experienced varying degrees of progress. Certain rural areas have made significant strides in closing the gap with their urban counterparts economically. As such, it is crucial to delve deeper into the development of rural education in these areas to gain a more nuanced understanding of its complexities. Zhejiang Province is held up as a model for 'getting rich together' in China, serving as a demonstration zone for 2021. Urban residents in Zhejiang Province have consistently maintained the highest income in the country for 21 consecutive years, while its rural residents have held this record for an impressive 37 years. Among all the prefecture-level cities in the province, Jiaxing stands out for having the smallest urban-rural gap. For 19 consecutive years, it has ranked first in terms of farmers' income, with the urban-rural residents' income ratio narrowing to 1.60. With lower living costs than their urban counterparts, rural people's quality of life in material terms is seen as no lower than that of the urban. Jiaxing's success extends beyond income, as all seven counties (cities, districts) under its jurisdiction have achieved 'educational modernization' based on Zhejiang Province's evaluation. The level of educational modernization in Jiaxing is commonly seen as among the top in the province and even the entire country. How do families in such rural areas go about the education of their offspring in the context of education modernization? This study uses rural areas in Jiaxing as a case study to explore this question. It draws on in-depth interviews with parents and grandparents in 15 families around their perceptions and practices related to their offspring's education.

Massimo Maresca
Professor, University of Genoa, CIPI, Italy
Luca Andreoli
Graduate Student, University of Genoa, CIPI, Italy
Carlo Andreotti
Software Engineer, DocSpace S.r.l., Italy
&
Pierpaolo Baglietto
Professor, University of Genoa, CIPI, Italy

Internet Service in the Maritime Domain

The advent of Internet connectivity at sea is poised to revolutionize the way ships and yachts communicate, manage operations, and provide services to passengers. Shipping companies will have the capability to monitor fleet conditions and control operations, passengers will enjoy continuous Internet access during sea travel, and yachts will establish a permanent connection with the Coast Guard to enhance safety. Moreover, the Internet economy, previously limited over the sea, is expected to generate new services and business opportunities.

However, there are challenges associated with maritime connectivity, including the high cost of satellite services and the necessity to manage bandwidth in a shared environment. With ongoing technological advancements, maritime connectivity is anticipated to rapidly become more accessible and reliable, offering further advantages to the maritime industry and travelers.

This paper addresses three aspects related to the introduction of Internet connectivity over the sea: latency, rate, and the provisioning model. Latency is a crucial factor, proportional to the physical distance that data must travel. In satellite-based communication, satellite altitude significantly affects user experience compared to distances encountered directly on the planet. Geostationary satellites, positioned at approximately 36,000 km, result in a latency of 240 msec (2 * 36,000 km / (300,000 km/s) = 240 msec, considering ground-to-satellite and satellite-to-ground communication. This latency affects the rate and, consequently, the perceived quality of service, due to the operational mode of Internet protocols, particularly TCP, associated to end-to-end connections protected by error control, three-way handshaking and slow-start policy.

In addition to latency, user experience is influenced by the rate supported by providers. Although the nominal rate typically supported

is of the order of tens of Kbps, up to several hundred with higher pricing, the effect of TCP reduces this nominal value and weakens connections, thereby reducing availability. This has hindered the widespread adoption of the Internet at sea, considering that the average size of a web page is around 300K Bytes (i.e., 2.4 Mbps), resulting in a download time of approximately 40 seconds at 60 Kbps. This is deemed unacceptable, as users expect an experience comparable to that of traditional and modern terrestrial communication systems.

Regarding the provisioning model, today we are accustomed to Internet service providers offering user access through an IP address. Services or applications operate over the IP layer, which is agnostic and solely responsible for transferring packets from one point to another. In contrast, satellite communication providers tend to offer pricing schemes based on the specific application services used, such as email, web, streaming, etc. This approach resembles the old provisioning paradigm of telephone companies and conflicts with the Internet provisioning paradigm.

The Starlink initiative provides a solution to these issues, exhibiting low latency thanks to low orbit, high rate, and an Internet provisioning model. The paper presents a comparative analysis of Iridium, Inmarsat, Thuraya, and Starlink from the three aforementioned perspectives (latency, rate, and provisioning model), as well as from the price perspective. Additionally, it covers a range of possible applications of Internet technology in the maritime domain.

Minna Maunula
Associate Professor, University of Jyväskylä, Kokkola University Consortium Chydenius, Finland
Minna Maunumäki
Teacher, University of Jyväskylä, Open University, Finland
Sirkku Lähdesmäki
Lecturer, University of Eastern Finland, Finland
&
Jenni Kantola
Researcher, University of Jyväskylä (JSBE), Finland

The Connection between Mentoring and Continuous Learning and Sustainability

Mentoring is a way to strengthen adult learning (Damsa et al., 2017; Harteis et al., 2020) in a sustainable way in working life. The relevance of mentoring is underlined in all dimensions of sustainability: ecological, social, and economic. At the heart of the sustainability aspect of mentoring will be the need for continuous learning and the need for rapid development in the working life (Lemmetty & Collin, 2020).

This study examines the discourses produced by mentors (N=10) on the importance of mentoring for continuous learning and the different dimensions of sustainability. The data consists of thematic interviews with mentors. The data was analysed using theory driven content analysis.

The analysis of the data interpreted the three different discourses of mentors in terms of mentoring, continuous learning and sustainability. 1) Continuous learning and its meaning. In this category, mentors' discourse focused on the importance of continuous learning in today's changing world and workplace. Mentors spoke about topics such as technological advances, changes in the labor market and how continuous learning helps individuals to remain competitive in the workplace. 2) The principles of sustainable development and how to apply them. This class of mentors' discourse focused on discussing what sustainability means in different contexts, including the environment, business, and society. Mentors discussed the principles of sustainability and their application in practice, providing advice on how individuals can promote sustainability in their own lives and work. 3) Combining sustainability and continuous learning. This class explores how continuous learning can support the sustainable development goals (SDG). Mentors discussed how the latest knowledge

and skills can help individuals engage in sustainability efforts such as environmental protection and social responsibility.

Through these discourse classes, mentors will have the opportunity to provide a starting point for discussions on the link between mentoring and continuous learning and sustainability and help them provide useful guidance and advice in these important areas. The potential for mentoring in the future is seen from both a continuous learning and sustainability perspective. However, further reflection is needed on how mentors can be trained and prepared for this important role, which has multiple societal implications.

Susan Miller
Chair, Department of Family Medicine, Houston Methodist Academic Institute, USA

How Music Survived the Third Reich

During the 19th century, German music was "considered a sacred realm…floating far above the ordinary world." Nevertheless, the insidious echoes of antisemitism pre-dated the Third Reich vis-à-vis Wagner's vitriolic *Das Judentum in der Musik* which attempted to link the "*idea* of Jewish perniciousness to the world of music," with the destruction and self-annihilation of Jews. Wagner's essay was incorporated into the Third Reich propaganda efforts by Goebbel's Education Ministry. A subsequent "*Law for the Restoration of the Professional Civil Service (1933)"* removed Jews from official musical posts. Musicologists next rewrote the musical history of Jewish musicians in Germany. Librettos previously written by Jewish authors were banned and retranslated. Performances by Jewish composers were prohibited. *The Lexicon of Jews in Music (1940*) and the *Judentum in der Music (1935)* further identified individuals subject to censorship in order to expunge any remaining Jewish influence.

In contrast, German reverence for music was embedded within daily life. "Classical music was one of the few subjects, along with children and dogs, which brought out a certain tenderness in Adolf Hitler." Political rallies were choreographed to Beethoven, Bruckner, and Wagner. In contrast, Hitler's reign resulted in the destruction of opera houses and concert halls while simultaneously murdering generations of musicians and composers. In Auschwitz, musical activities were created in the prisoner-orchestras, forced singing sessions and daily marches. Moreover, music accompanied the anguished cries of those within the gas chambers. Consequently, music became a witness to history.

The Berliner Philharmoniker's first Post-War Concert (May 26, 1945) was conducted by Leo Borchard, who, earlier, was discovered by the Soviets hiding in a cellar during the Battle of Berlin. Borchard spoke fluent Russian and was active in the *Onkel Emil,* a small, underground communist resistance group that hid Jews and provided them with falsified identity documents. This concert was performed at the Titania Palast movie theater in Steglitz, a western suburb of Berlin, and required the musicians to first clear the rubble with their bare hands.

In July, 1945, Yehudi Menuhin performed at Bergen-Belsen for the surviving former inmates. In May, 1948, Leonard Bernstein conducted a concert in Munich and separately, performed Gershwin's Rhapsody in Blue accompanied by seventeen concentration camp survivors at a displaced persons camp housed in the St. Ottilien abbey. Itzhak Perlman's performance of the soundtrack for Schindler's List received an Academy Award in 1993.

In summary, this presentation will discuss how the Third Reich failed to extinguish music's poignant voice, humanity, and legacy.

Wladimir Mitiuszew
Professor, Cracow University of Technology, Poland
&
Natalia Rylko
Associate Professor, Cracow University of Technology, Poland

Computer Simulations of the Effective Properties of Dispersed Composites

The study of structurally disordered dispersed patterns and the hidden relationships between the geometric random characteristics of composites and their physical properties is a common focus in various branches of mechanics, mathematics, and physics. Our objective is to address the challenge of providing a constructive quantitative description of the chaos/regularity, e.g., dislocations, exhibited by composites. The mathematical results are based on the generalized alternating method of Schwarz and the Riemann-Hilbert problem for a multiply connected domain.

The current state of the art of the theory of composites is outlined. We discuss the notions of *model* and *empirical method* used in the framework of material sciences, highlighting the discrepancies when various engineering approaches overlook asymptotic precision and conditionally convergent series.

We propose the computationally effective method of structural sums coinciding with the lattice sums for regular composites. In particular, the results yield new high-order analytical exact and asymptotic justified formulas for the effective conductivity and elasticity tensors of dispersed composites with isotropic phases. We specifically investigate the macroscopic properties of dispersed regular and random composites with a qualitative analysis of the degree of randomness, anisotropy, and clustering.

Bongani Mkhize
Senior Lecturer, University of Johannesburg, South Africa

The Role of Instructional Leadership in Supporting Education for Sustainable Futures: Learnings Gleaned from a Leadership Conference

The aim of this paper is to report on the lessons gleaned from a leadership conference aimed at surfacing a *glocal* perspective on leading education for sustainable futures. There are a variety of contesting ideologies and an ongoing political debate about the nature of sustainable development and futures. The United Nations defined sustainable development in the Brundtland Report as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It assumes that resources are finite, and so should be used conservatively and carefully to ensure that there is enough for future generations, without decreasing the present quality of life. Arguably, education is the most important tool to reshape worldviews and values and has enormous potential to address the sustainability challenges facing humanity. Education for sustainability invites us to question the assumptions of dominant discourses in education. This process of critical enquiry encourages people to explore the complexity and implications of sustainability as well as the economic, political, social, cultural, technological, and environmental forces that foster or impede sustainable development.

The leadership conference topics constituted a diverse spectrum aimed at having deep conversations regarding leading education for sustainable futures. The conversations were thematically analyzed, and this report focuses on emerging themes on the role of instructional leadership in supporting education for sustainable futures. These themes are:

1. Nurturing sustainable thinking and supporting various sustainability reforms
2. Embracing diverse lenses and engaging collaboratively towards shared goals
3. Fostering authentic learning through community partnerships, innovative technologies, and project-based learning
4. Creating and supporting alternative learning spaces and platforms for green pedagogies.
5. Fostering entrepreneurial leadership among students

The lessons gleaned from the leadership conference paved way for a research project aimed at developing a framework to expand instructional leadership of school principals to support education for sustainable futures. This paper contributes to the global knowledge in discovering and presenting specific evidence regarding the contribution of education under Sustainable Development Goal 4 for the effective achievement of the rest of Sustainable Development Goals.

Yasna Moreno
Professor, Pontificia Universidad Católica de Chile, Chile
&
Marcos Frey López
Clinical Assistant Professor, Universidad del Desarrollo and Universidad Diego Portales, Chile

What Do the Best Clinical Teachers in Dentistry Do?

Introduction: Clinical teaching in dentistry presents important challenges to ensure that theoretical content is put into practice in patients. Expert clinical teachers can provide background information for better teaching at a critical stage of the career. The research question: What do the best clinical teachers in dentistry do to achieve learning in their students? It allows us to delve deeper into a relevant topic through the manifestations of Didactic Content Knowledge, a way of teaching adapted to the individuality of the student and the level of learning, transforming disciplinary knowledge into didactically effective forms.

Objectives: Define dimensions used by expert clinical teachers in dentistry for the teaching-learning of students in higher courses.

Methodology: Inquiry from qualitative research, such as a case study, with an interpretive approach, based on non-participant observation in context; selection of teachers valued by the dental community, using instruments such as questionnaires, videos and unstructured interviews, to clinical teachers valued by the academic community and dental students.

Results: Dimensions are generated on the ways of managing teaching-learning through didactic knowledge of the content, including anticipation of application, clinical application, student knowledge, situational awareness, didactic questioning of the content, thinking aloud and expert thinking, feedback among others.

Discussion: Teaching and learning are an inseparable binomial, each individual is unique, and their way of learning is personal, the literature tells us that it is necessary to know the student body in all its dimensions to achieve quality education (Pozo, 2000; González- Pienda, González Cabanach, Núñez and Valles, 2002; Lozano, 2005; Martínez Geijo, 2007). The search for an ideal teacher has been constant, considering his personal and professional characteristics along with the multiple roles he fulfills, explains Margarita González-Peiteado (2013). It is stated in the evidence that the teacher influences his students and Society, and those who motivate students and achieve learning have a

particular way of teaching. Gallardo López, B. (2007) considers it necessary to pay attention to what he calls "teaching skills", which can be translated as the effective way of teaching for each student and circumstance, close to the concept of didactic content knowledge. Nowadays we see a great diversity of students in the academic community, which implies a search by the teacher to develop strategies that collaborate with learning adapted to the needs of the learner, which goes hand in hand with the teaching style of a teacher. expert, capable of guiding and influencing their learning.

Conclusions: The best clinical teachers are capable of managing instances for student learning, through their experience they have acquired tools and know how to apply them specifically for each student and particular situation within a clinical context, they can adapt their teaching and continue improving in the search for knowledge to achieve the training of its students, for the benefit of them and the patients.

Busisiwe Ndawonde
Teaching and Learning Consultant, University of Fort Hare, South Africa

Effects of the Teaching Philosophies in Life Sciences

Teachers claim, for varied reasons, to be either constructivists, behaviourists or cognitivists in orientation. Given these claims, this conceptual paper examines whether or not these three schools of thought adequately champion the modern-day teaching and learning of Life Sciences. This is done against a spectra of agreement vice versa disagreements regarding their individual or collective relevance, appropriateness and currency as a basis for authentic teaching and learning experiences. The situations attached to the context of the theories were associated with the reflections on the teaching philosophies prior, during post COVID-19 pandemic. This is a systematic review based on the philosophies of science teachers were affected in teaching and learning practices during the period. . Based on curriculum development, teaching and learning and assessment practices, it emerged from the literature that behaviourism, cognitivism and social constructionism are complementary in nature in as far as the instructional environment is concerned.

It is therefore recommended that with recent developments in teaching praxis due to lesson learnt from COVID-19, science teachers need to revisit their philosophies to accommodate how learners learn.

Stefania Zoi Ntregka
Lecturer & Research Fellow, Hotelschool The Hague, The Netherlands
&
Michelle Schefman
Lecturer, Hotelschool The Hague, The Netherlands

Agile Teaching in Applied Science Universities: Integrating an Evidence-based Approach

Hospitality is a fast-paced industry and one that requires flexibility and problem-solving skills. For students that prepare to become professionals in the industry it is important to be able to develop skills that will allow them to solve problems in business (Assen et al., 2023). In applied-science universities, it is therefore, important to ensure that students are equipped with the necessary skills to solve problems based on best available evidence and not just on own expertise. While working in a course that aims to achieve these learning goals, we also acknowledging teaching as an iterative process. Therefore, we stress the significance of continual refinement of teaching approaches based on student feedback, learning outcomes, and evolving educational methodologies in the classroom and material (Wright et al. 2016). This abstract offers insights into how evidence-based management principles enable lecturers to embrace adaptive teaching practices within challenge-based learning environments. Through this integration, student learning experiences are enhanced, better preparing them for success in their chosen fields within the applied sciences.

Central to our approach is the recognition of students' diverse needs and learning styles. Lecturers are encouraged to tailor teaching methods to accommodate these differences, creating inclusive learning environments for student engagement and success. Creating feedback mechanisms is crucial in this process. In the course of ten weeks students provide feedback formally twice and also encouraged to share after sessions their insights on learning experiences. However, we emphasize the necessity of aligning learning activities with course structures and objectives. Lecturers are urged to critically assess how approaches integrate with the overall course framework, ensuring consistency and relevance to optimize student learning outcomes. By integrating evidence-based management principles, lecturers are empowered to navigate the complexities of challenge-based learning effectively.

Paulo Maria Pagkatipunan
Professor, University of the Philippines Manila, Philippines

Challenges in Distance Learning: Is the Philippines Ready for a Digital University? The Students' Perspective

The Pandemic caused a shift from face-to-face mode of learning to a digital mode.

The study aimed to evaluate perceptions of students in online learning during the Pandemic.

Methods include online survey of open-ended questions regarding perceptions of students regarding online learning.

The survey came up with six themes which include issues in connectivity, mental health, learning environment at home, experience with professors, quality of learning and teacher/student engagement. It is concluded that the issues with interconnectivity of students with the Wi-Fi were at best wanting, especially those who went back to their provinces. Home environment was found not to be conducive for learning as the students were not spared of the home chores while studying. Students felt that skills development may be hampered as online learning would not help them develop the skills needed for employment. Engagement with the instructors and fellow students may have caused the largest impact as the connection with them as fewer opportunities for collaboration and interaction ensued giving way to mental health issues and decreased learning.

Cathia Papi
Full Professor, TÉLUQ University, Canada

What about Tutoring to Support Students?

Tutoring, which we define here as personalized support, provided individually or in small groups, at regular intervals over several consecutive weeks, is one of the key measures implemented by several governments to limit the learning losses caused by the pandemic (Gallagher-Mackay et al., 2022; Kuhfeld et al., 2020). In fact, the positive effects of tutoring on the learning of students in difficulty have been highlighted by numerous research studies and meta-analyses (Dietrichson et al., 2017; Nickow et al., 2020).

Thus, in Canada, in the province of Quebec, since January 2021, financial resources have been granted to the 72 school service centers to offer tutoring to elementary and secondary students for the years 2020-2021 and 2021-2022. How has tutoring been implemented and what are the effects?

To answer this question, we will present the results of two years of research commissioned by the Ministry of Education. Case studies involving interviews with the principals of 12 public schools and 8 organizations in 2021 and 2022, and a questionnaire answered by 309 public primary and secondary school principals in 2023, enable us to highlight the diversity of the schemes put in place. We will show that, depending on the school, the tutoring offered took different forms, and that the funds granted were sometimes used to improve other forms of support already in existence. We'll also see that tutoring was already offered by other organizations, and that a variety of forms of support are thus referred to as tutoring. Finally, we'll look at the effects of tutoring as perceived by the players involved, and open a discussion on the issues and challenges involved in deploying and evaluating ministerial measures over a wide area.

Hilda Patino
Dean, Department of Education, Universidad Iberoamericana, Mexico
Luis Medina Gual
Coordinator, Universidad Iberoamericana, Mexico
&
Arcelia Martínez
Tenure Professor, Universidad Iberoamericana, Mexico

Academic Achievement in Language and Mathematics in Primary and Secondary Education in Mexico: A Comparative Analysis Before and After the COVID-19 Pandemic

Knowing the progress of learning is a crucial issue in any educational project. It is essential in primary and secondary education, which is the path during which children and young people acquire the knowledge, skills, and attitudes that enable them to better opportunities in the workplace. No program can improve if its results are not known. The health emergency caused by the Covid-19 pandemic in 2020 and 2021 mainly affected the educational system in Mexico and has caused a lack of knowledge about the actual level of learning of children. Children have continued their education at home, without the teacher's physical presence and in charge of adults who are not pedagogically prepared to teach academic content.

Despite all the efforts made by the different educational actors to resolve the emergency, children and young people have faced many difficulties in continuing their distance education. The fact that there is no adequate space for work, that there is no computer or tablet available, or that the number of these at home is insufficient for everyone's work, the frequent failures of the internet connection, etc., coupled with the economic difficulties exacerbated by the loss of jobs. Those are sufficient reasons to doubt that the learning established in the study programs can be achieved.

For the reasons stated, the purpose of this research was to identify levels of academic achievement in Language and Mathematics reached by students of primary and secondary education.

The methodology proposed for the study is quantitative, non-experimental, cross-sectional, and with a correlational/exploratory scope. In this sense, standardized tests prepared by the National Institute of Educational Evaluation were applied, which ceased to operate in 2019.

The project also sought to apply a socio-emotional skills test in the same grades and from the third year of primary school.

A total of n=515,652 tests were applied, of which 431,568 were valid cases. This sample was obtained from different strategic alliances with seven state ministries of education. In addition to the analysis of student performance, a regression tree study was carried out to assess the influence of context questionnaire variables. When analyzing the results from the crossing with different context variables, we found that the variable that has the most significant effect on the results is the perception of student dropout in the different tests and educational levels.

Variables with significant weight in obtaining the score were to have or not a computer, parents' educational level, and the socioeconomic environment of the students. The results suggest that these differences were beyond the instructional differences that the students may have had during this contingency period. The use or non-use of the television program Learn at Home did not significantly affect the reported scores.

Stavros Prineas
Head of Anaesthetics, Blue Mountains Hospital, NSW, Australia

The HEAPS Experience: A Review of a Large-Scale Human Factors/Ergonomics Education Programme for Healthcare Workers

Human Factors/Ergonomics (HF/E) is the formal study of the factors that shape human performance in work environments. Human performance can be improved by adapting the worker to the work environment through training, by adapting the work environment to the worker through workplace design, or by a combination of both. Healthcare is an especially hazard-rich environment where patient safety is paramount. Traditional approaches to improving patient safety in medical curricula have revolved around technical training, where 'human error' was synonymous with 'incompetence'. However, as the scope of healthcare increases in volume, pace and complexity, adverse events still occur however adept, careful and motivated practitioners try to be. There is therefore an imperative to make healthcare workers and administrators more aware of clinical performance shaping factors, and how adverse events can be avoided, trapped, mitigated and rescued through a system-oriented rather than a person-oriented approach to safety, developing non-technical skills such as situation awareness, communication, teamwork and leadership skills, and through modifications in workplace layout and design, as well as the use of checklists and other cognitive aids.

This presentation follows the journey of four medical specialists, working with a professor of communication psychology and an aviation Crew Resource Management (CRM) trainer, who in 2001 developed a Human Error and Patient Safety (HEAPS) training curriculum designed specifically for healthcare workers naïve to HF/E concepts. The structure of the programme is presented together with evaluation data from over 15 years, a discussion of its real-world impact, and possible future directions.

Trinetia Respress
Interim Dean of Graduate School/Professor, Tennessee State University, USA
Owen Johnson
Professor, Tennessee State University, USA
Audie Black
Director, Tennessee State University, USA
&
Sosiak Makonnen
Director of Special Projects and Grants, Tennessee State University, USA

Early Exposure/Long Term Gains: Encouraging High School Students to Pursue STEM Degrees and Careers

Statistics for the underrepresentation of workers in the STEM field are alarming in the African American community. The United States Census Bureau indicates that African Americans represent 12.4 percent of the U.S. population (Nicholas, et al., 2021). However, only 37% of African Americans, 18-to-24 years of age, are enrolled in college (The Condition of Education, 2020). What is even more alarming is that only 45.9% of African American students complete their degrees within six years (United Negro College Fund, 2018). Finally, according to the Pew Research Center Report, African American students earned only 7 percent of STEM bachelor's degrees (PEW, 2021). African American adults are also underrepresented among those earning advanced degrees in STEM. These rates are extremely low compared to other races and ethnicities.

Tennessee State University, a Historically Black College/University located in Nashville, Tennessee, houses the Tennessee MUREP Aerospace Academy. The MUREP project addresses the problem of increasing the number of underrepresented African-American students interested in STEM. This study examines high school students' attitudes and interests in STEM post-secondary subjects and careers. The goals of the MUREP project are to: 1) Inspire underserved and underrepresented high school students to pursue their interest in STEM post-secondary degrees and careers, 2) Engage underserved and underrepresented students in STEM experiential learning experiences utilizing technology to develop their STEM identity, skills, and knowledge, 3) Educate students by utilizing culturally relevant STEM curricula and effective evidence-based strategies, and 4) Increase high

school students' and their families' knowledge and awareness of STEM internships, degrees, careers, and professional skills. Key strategies to reach the proposed goals include multi-faceted initiatives, such as Experiential Learning Experiences, Aerospace Education Laboratory (AEL), Engagement with STEM professionals, College and Career Readiness, Family Empowerment Sessions, and STEM Professional Development.

The study employed a quantitative survey research design. This study investigated five research questions, which include: 1) How many underserved or underrepresented students does MUREP expose to NASA specific STEM careers each year?; 2) How many hours of culturally relevant STEM curricula and experiential learning sessions utilizing technology does the MUREP program provide?; 3) How does participation in the MUREP program impact students expressed interest in STEM degrees and careers?; 4) How does participation in the MUREP program enhance students' STEM identity, STEM skills, and STEM knowledge after participating in the TSU MUREP program?; and 5) How does participation in the MUREP program increase parents'/guardians knowledge and awareness of STEM degrees, internships, career awareness, and college preparation?

The project utilizes a logic model that presents all the inputs, activities, outputs, and outcomes of the programs and graphically presents how they all impact and ultimately influence the accomplishment of the set goals and objectives. The data were collected using the Middle and High School (6-12th) survey. The target population are minority high school students in grades 9th–12th. The preliminary results of the study indicate that students expressed a positive attitude and interest in the STEM subjects and pursuing post-secondary STEM careers.

Ken Roberts
Emeritus Professor, University of Liverpool, UK

Education to Work Transitions in Former Communist Countries after 30-plus Years of Transformation

This paper reviews how young people's education-to-work transitions have changed since 1989 in former communist countries which have subsequently become full members of the European Union (EU). The sudden collapse of the command economies led to an equally abrupt breakdown in earlier routes into working life, but there were also new opportunities - to become self-employed and start a business, and to migrate. Subsequently the new independent states have reconstructed their education and training, and their market economies have developed. They have resumed national histories and revived national cultures that were interrupted and disrupted by the communist interlude. They now exhibit similar variations in rates of youth unemployment, progression through higher education, and mixtures of academic and vocational secondary education as older EU member states. However, there are features that continue to set all ex-communist countries apart irrespective of whether they have become full EU members. These are low local rates of pay and westward migration. Its new member states have joined the Southern countries in a European periphery. Yet there are sufficient winners in the European core and periphery to keep Europe united.

Jos Schijns
Assistant Professor, Open Universiteit, The Netherlands

Exploring the Impact of Multiple Accreditations on Students' Perceived Service Quality in Higher Education

This study aims to investigate the enhanced value associated with multiple accreditation labels concerning students' perceptions of service quality in higher education. Our investigation relies on secondary data obtained from Studiekeuze123.nl through the National Student Enquiry (NSE). This comprehensive survey captures students' perceptions of service quality, satisfaction levels, and their willingness to recommend their respective higher education institutions (HEIs). We selected a sample of 2,154 students from twelve Dutch universities offering programs in economics and/or business management. All twelve universities hold accreditation from the NVAO (Dutch-Flemish Accreditation Organization), which serves as the benchmark and control scenario. In addition to NVAO accreditation, most universities possess one, two, or three additional accreditations (AACSB, AMBA, EQUIS). Nonparametric sample tests, such as the Mann-Whitney U test and Kruskal-Wallis test, were employed to compare groups based on the number of accreditation seals. Furthermore, we explored whether the number of accreditation seals, as a moderator, amplifies the positive effects of service quality components on satisfaction. Our moderation analysis results indicated that the number of accreditations does not function as a moderator variable affecting heterogeneity in the service quality-satisfaction link in a higher education context. This outcome aligns with Butt et al.'s (2021) study, where they concluded that an increase in international accreditation badges does not provide additional value for students. Our group comparisons suggest that the 'law of diminishing returns' applies when stacking accreditations. In essence, adding more accreditation stamps may ultimately have an adverse effect on students' perceptions of service quality. A plausible explanation for this phenomenon is that an increase in accreditation seals raises students' expectations for higher service quality levels. However, it appears that HEIs fail to meet these elevated expectations, resulting in diminished student satisfaction. While our study does not provide empirical evidence for these explanations due to the NSE's performance approach, recommended by Boulding et al. (1993) for perceived service quality, an important theoretical implication emerges. Future research examining heterogeneity based on multiple accreditations may find the expectation-minus-performance measure

more suitable. From a managerial standpoint, evaluating the impact of a HEI's multiple accreditation status assists managers in resource allocation decisions toward obtaining multiple accreditations. Applying for multiple accreditations is time consuming, involves substantial costs, more bureaucratization, and a significant burden on teachers and staff due to increased administrative workload (Hou et al., 2015). However, the study's results suggest that investments in multiple accreditations may not be uniformly reflected in positive perceptions of the HEI's service quality among students. Therefore, HEI management is advised to reconsider efforts to acquire additional accreditations solely for student recruitment purposes. The potential for multiple accreditation to serve as a form of self-gratification for managers aiming "to have as many accreditation labels or stars as possible" (Knight, 2005: 3) should be avoided. To the best of our knowledge, this study is the first to empirically explore the (added) value of multiple accredited HEIs from students' perceived service quality perspective.

Franziska Schuetz
Senior Researcher, DHBW Heidenheim, Germany
&
Till Haenisch
Professor, DHBW Heidenheim, Germany

Transforming CS Curricula into EU-standardized Micro-Credentials - The Hard Parts

Since the working environment continues to develop, mobility and flexibility are becoming increasingly important for both companies and employees. Therefore, universities need to transform their study programs into smaller units, so called-micro-credentials, which offer flexible and individual learning pathways. To permit EU-wide exchange, micro-credentials have to be recognized and quality-assured and the certificates have to provide a transparent and universal skill set. The process for converting modules into micro-credentials still contains some open issues: Micro-credentials typically have a size between 1 and 3 ECTS which means that bigger modules must be broken down into smaller parts. The division of units leads to the problem of assigning especially transversal skills and how to assess, verify and certify them. Additionally, it is not yet clear how micro-credentials are to be classified in the European Qualification Framework (EQF) as modules are accredited in study programs within a certain EQF level. Since micro-credentials can be taken stand-alone this is not always possible. The mapping of skills from the educational sector to ESCO skills which refer to the European labor market is not trivial due to the different domains they're coming from. Therefore, the process to identify and request new ESCO skills needs to be documented.

This paper discusses these problems in detail, gives an overview of the state of the art for solving some of them and provides ideas for solving the other ones. Therefore the concept of partial skills is introduced.

Stanislav Selitskiy
PhD Student, University of Bedfordshire, UK

Batch Transformer Architecture: Case of Synthetic Image Generation for Makeup and Occlusion Face Recognition

A novel Transformer variation architecture is proposed in the implicit sparse style. Unlike `traditional' Transformers, instead of attention to sequential or batch entities in their entirety of whole dimensionality, in the proposed Batch Transformers, attention to the `important' dimensions (primary components) is implemented. In such a way, the `important' dimensions or feature selection allows for a significant reduction of the bottleneck size in the encoder-decoder ANN architectures.

The proposed architecture is tested on the synthetic image generation for the face recognition task in the case of the makeup and occlusion data set, allowing for increased variability of the limited original data set.

Emilie Sitzia
Associate Professor, Maastricht University, The Netherlands

Senses-Based Learning in Tertiary Education

Sensory skills are essential to many fields of practice. From Medicine to Museum studies, from Physical Computing to Chemistry, from Botany to Archaeology (to name just a few) most researchers and professionals are being trained to become, before all, expert observers. It is this capacity to detect symptoms, to evaluate the impact of light and smell on museum visitors or to distinguish between two textures of similarly shaped leaves that is essential to their training. The education of these experts involves attuning and developing their skills of observation. Core to this is a sharpening of their senses. In tertiary education, at best, these skills are taken for granted and not specifically catered for or evaluated in physical classes. It is the assumption that students will 'pick it up' as they go to class, attend labs or workshops, make site visits or do internships. At worst, students learn in their studies to distrust their senses and follow protocol and so-called hard skilled science. In the case of digital learning, these skills are further side-lined and, when present at all, focus on vision, and occasionally listening, rather than multiple (and connected) senses.

Senses-based Learning is a pedagogical methodology for tertiary education focusing on exploring and developing sensory awareness and skills as well as critically reflecting on their importance in education, research and professional practice. After almost three years working on the 'Senses-based Learning' Comenius Leadership project, the team is ready to share our results. We started the project (financed by NRO/NWO – i.e., the Dutch government) aiming to re-balance and reassert the importance of sensory skills in tertiary education and in professional practice. We experimented with interventions in the existing curriculum across Faculties at Maastricht university and beyond. The interventions took the shape of specifically designed learning units (courses, electives or part of courses), learning resources (physical or digital presented in the Sensory Learning Lab – sensesbasedlearning.org), activities, specifically designed internships, etc.

In this intervention we will first introduce senses-based learning and the theories behind this project, share what we found in our classroom experiments, expert interviews and literature research. We will share key senses-based learning design principles and typology of

exercises to help university teacher reintegrate the senses in their own teaching.

Anders McD Sookermany
Associate Professor, Norwegian Defence University College, Norway
Janne H. I. Helgesen
Head of Department, Norwegian Police University College, Norway
Tatanya Valland
Professor, Norwegian Police University College, Norway
Johanne Yttri Dahl
Professor, Norwegian Police University College, Norway
&
Ole Boe
Professor, Norwegian Police University College / Inland Norway University of Applied Sciences, Norway

Adapting Teaching Quality: Insights from Bronfenbrenner's Contextual Framework during the COVID-19 Pandemic

The COVID-19 pandemic necessitated a critical examination of teaching quality amid educational disruptions, relevant also for police education (Halford & Youansamouth, 2024). Utilizing Bronfenbrenner's bio-ecological systems theory, this article explores the pandemic's impact on teaching quality as a practice through the context lens of Bronfenbrenner's Process-Person-Context-Time (PPCT) model (Bronfenbrenner, 1986; Bronfenbrenner & Morris, 2007). The study provides an analysis of how police educators have navigated the challenges and transformations of the educational landscape during this period.

Employing a qualitative approach that combines inductive and deductive analysis (Braun & Clarke, 2006; Fauskanger & Mosvold, 2014; Tjora, 2013) the research draws upon semi-structured interviews with police educators and their nearest leaders at the Department of Post Graduate studies at the Norwegian Police University College. The aim of the study is to better understand the influence of environmental systems at varying proximities on teaching quality as a practice. In this study teaching quality as a practice is understood as a contextual and collective action (Tight, 2015; Wittek & Habib, 2012). The study reveals that the pandemic has significantly altered the microsystem of direct interactions, necessitating adaptations in teaching methods and the reinforcement of relationships via digital mediums. The mesosystem's interlinkages faced a recalibration as educators bridged the gap between home and institutional learning environments. At the exosystem level, institutional policy changes and community responses

emerged as critical influencers of pedagogical approaches. The macrosystem, encompassing the broader societal response to the pandemic, also significantly shaped educational norms and expectations from the early stages and throughout the pandemic period.

This article shows how the pandemic has spurred a rethinking of teaching quality as a practice, highlighting the importance of adaptability, innovation, and resilience among police educators and suggesting integration of these attributes into future educational strategies. Reflecting on the pandemic and advocating for a bio-ecological approach, the study underscores the complex interdependencies of the educational environment and promotes a responsive, holistic educational paradigm aligned with the ever-evolving societal landscape. Thus, in the process advocating for a vision of embracing context in analyzing relevant factors for teaching quality enhancement.

John Spiridakis
Professor and Chair, Department of Education Specialties, St. John's University, USA

Book Bans and Culture Wars in America: Upheavals in Schooling and Society

Education and the reliance on literature for learning has seen renewed controversy that reflects the divergent attitudes and conflict of social mores of a divided American populace. School boards with control over curricula and content have run roughshod in deselecting curricula, textbooks and literature to be used in teaching. Banning books defies the First Amendment of the U.S. Constitutional guarantee of freedom of speech and expression as it applies to education and literature. In American classrooms, competing interests and viewpoints have been applied to justify restrictions on allegedly "discordant opinions" being cancelled: shouting fire in a public theater. Equated with studying Shakespeare to Salinger, authors such as Toni Morrison and Maya Angelou.

A cursory review of the media storm over censored books during the past century and the current torrent of eliminating books from the shelves of school libraries in America reveal a current culture war that seems to grow fiercer.

What are the societal change ramifications and who is affected by this new surge of canceling authors and freedom to read about diverse cultures and lifestyles or the history of racial oppression in America? New court battles have emerged to address and remedy violations of First Amendment rights. Obscenity has returned as a reason to burn books but with new definitions of what is offensive calculated to oppress and further minoritize certain individuals of color and LGBTQ communities. "Fahrenheit 451" is alive and well; local governments are attempting to restrict access to ideas and knowledge by denying freedom of expression and trying to spread sociocultural hatred of the culturally different.

Valeria Svecova
Assistant Professor, Constantine the Philosopher University in Nitra, Slovakia
Marta Balgova
Coordinator, National Institute of Education and Youth (NIVAM), Slovakia
&
Veronika Uhrikova
Teacher, Elementary School with Kindergarten Na Hôrke, Nitra, Slovakia

Development of Critical Thinking through the Creation of Mathematical Problems

Through creative thinking, it is possible to acquire new attitudes and a view of the world, not only of mathematics but from several sides (Kamp, 2016). Creativity in mathematics can be defined as a process based on sensitivity to problems, deficiencies, gaps in knowledge and sensitivity to identifying missing elements, revealing difficulties in finding solutions, making estimates, formulating hypotheses, and verifying them and then forming a conclusion (Mann, 2006). The concept of critical thinking is closely related to creativity. Its essence, not only in mathematics, lies in the way of formulating and asking questions. Broader assigned tasks or complex problems lead students to new data and knowledge, which naturally creates the ability to think critically. The paper focuses on problem posing and the development of critical thinking through the creation of tasks based on Bloom's taxonomy and criterial testing requirements.

Part of the paper will also be a description of the process of creating test tasks, i.e., creating tasks, compiling a test based on various criteria, evaluating the test, diagnosing students based on the results and proposing further work with students.

Criterion testing in Slovakia is only in the beginning. Nationwide testing in 3 cycles of mathematics (after the 3rd, 5th and 8th grade of elementary school) is planned from 2026. Until then, the creators' task will be to create enough tasks for creating tests suitable for pilot testing. These will provide the test makers with feedback on the tasks as well as the entire test.

Pius Tanga
Professor, University of Fort Hare, South Africa
Nhlanhla Landa
Senior Lecturer, University of Fort Hare, South Africa
&
Magdaline Tanga
Lecturer, Professor, University of Fort Hare, South Africa

Contestations of Remote Teaching and Learning of English Language during COVID-19 Pandemic: A Case of a South African University

The coronavirus (COVID-19) which started in Wuhan, China November 2019 was declared a global pandemic and necessitated measures to curb it spread. This resulted to all countries adopting World Health organization Protocols. One of the measures in South Africa was the closure of all schools and tertiary institutions and only remote or online teaching and learning was permitted. The aim of this study was to explore from the perspective of lecturers and students at the University of Fort Hare, Alice Campus the Contestations of Remote Teaching and Learning of English Language during COVID-19 Pandemic. Using an exploratory case study design and qualitative research approach as well as interpretivist paradigm, a sample of 34 English Language participants, made up of 26 students and eight (8) lecturers from the faculties of Education and Social Sciences and Humanities. Data was collected through in-depth interviews and focus group discussions. The Connectivism Theory of Learning by George Siemens (2005) and the Technology Acceptance Model (TAM) by Davis (1989) underpinned this study. Data analysed manually in themes and subthemes. The major findings include the fact that teaching and learning as was perceived as an unimaginable task during the COVID-19 pandemic. The participants revealed that assessment during the COVID-19 pandemic was a nightmare for both students and lecturers. COVID-19 brought with it some positive experiences such convenience, flexibility and enables both students and lecturers to better managed their time. However, the findings show that there were enormous changes including anxiety, depression, lonely and frustrated lonely journey. Nonetheless, the participants report that there were support structures to adapt to and overcome challenges to teaching and learning English language during the COVID-19 pandemic. Therefore, COVID-19 created fear and uncertainty in the minds of the participants, especially at initially stages of the pandemic and introduction of remote

teaching and learning. This was later overcome, and many participants tended to like and prefer remote teaching and learning because of its advantages such as convenience and flexibility and the fact that students easily pass online tests and examinations. Recommendations have been made to Department of Higher Education and Training, University authorities, lecturers, and students.

Marisel N. Torres Crespo
Associate Professor, Hood College, USA
&
Jennifer Cuddapah
Professor, Hood College, USA

Building Teacher Confidence and Capacity for Incorporating Computer Science and Computational Thinking into Practice

Computational thinking is a critical skill that has gained increasing importance in education across the United States. It is essential in the education system as it prepares students for the future, fosters critical thinking and problem-solving skills, supports STEM education, and contributes to economic development and global competitiveness. Integrating computational thinking into the curriculum helps ensure that students are well-equipped to navigate the challenges of the digital age.

With that in mind, a college hosted a learning conference to support inservice and preservice teachers in learning computational thinking and computer science. It facilitated the collaboration with departments of computer science, education, the local school system, and the community college in the planning and implementation phases. With keynote speakers and content learning sessions, the conference aimed to build computer science knowledge and skills by incorporating computer science standards. The conference allowed the participants to apply and receive a mini-grant to support classroom implementation plans. The struggle for teacher educators, committed to infusing the principles of computational thinking across the preK-12 curriculum, has been to build the confidence and capacity of education faculty and reach all our new teachers in ways that scaffold their learning. The conference idea was planned with this in mind.

The presenters will give the session participants an overview of the conference they planned and hosted, the specifics around the content and format of the keynote speakers and workshops, and the assessment data from the sessions and the overall conference gathered from the external evaluator. The presenters want the participants to discuss and provide reflections, feedback, and advice about what they envisioned, what was actually done, and what was reflected in the evaluation data. The session will provide prompts around the lessons learned, challenges experienced, participation rates, participant motivation and buy-in, institutional supports and constraints, and leveraging

institutional and community collaborations. The participants' responses will guide future conference planning at the college and will frame narratives about the results of this teaching and learning format for scaffolding computational thinking in preK-12 preservice teacher preparation.

Elsa Tovar
Educational Consultant, Trail Tree Consulting, USA

Learning from Experience: Development of Culturally Responsive STEM Curriculum

Research on summer camps has consistently highlighted the benefits of organized camping. However, it has become increasingly important for camps to document their outcomes for stakeholders and practitioners. The "*Learning from Experience: Development of Culturally Responsive STEM Curriculum*" evaluation report presents results and recommendations based on camper experience, specifically as it relates to building self-confidence, cultural connectedness, and heightened awareness in Science, Technology, Engineering, and Mathematics (STEM) fields. The evaluation project aimed to understand whether student participants experienced increased self-efficacy, a reinforcement of personal values, and a stronger connection to their Indigenous identity. Additionally, it sought to determine if these participants developed an interest in or increased knowledge of STEM. Another goal was to educate non-Native American students about the historical evolution of STEM within the context of First American culture. Data collection methods included a variety of assessments such as observations, interviews, satisfaction surveys, and Likert scales to evaluate camp practices. The results offer insights for camp teachers, administrators, coordinators, and counselors working with children in informal educational settings. The core inquiries guiding the evaluation were structured as follows:

1. To delineate optimal strategies for integrating culturally pertinent materials and pedagogical
1. methodologies into both the realm of Oklahoma education practices and STEM programs/camps.
2. To discern evidence-based practices that facilitate the establishment of a culturally responsive STEM
3. learning milieu, and identifying the key determinants that contribute to its successful implementation.
4. To ascertain the attitudinal and learning implications stemming from Indigenous-centered STEM
5. education, differentiating its effects on Native American and non-Native American learners.

The underrepresentation of First Americans in the STEM workforce remains a persistent issue. Addressing this disparity necessitates the creation of a culturally responsive curriculum, one that empowers Native American youth to reclaim their heritage and acknowledge the substantial contributions made by Indigenous individuals to contemporary STEM practices. A holistic approach is imperative to reform all facets of the educational journey, extending from the early stages of preschool through to higher education. Within this expansive landscape, summer camps emerge as a critical element of the solution, providing fertile ground for fostering a genuine understanding of STEM disciplines through the lens of Indigenous culture.

Mohammad Toyon
PhD Candidate, Estonian Business School, Estonia

Understanding Variability: A Closer Look at the Career Assistance Requirements and Contentment of Employed and Unemployed University Students in Estonia

This paper sought to evaluate the sufficiency of career guidance offerings available to employed and unemployed university attendees in Estonia, utilising a mixed-methods approach. The objective was to identify the differences in contentment and necessities of services among these two distinct categories of students. Data was amassed using the Eurostudent Survey VII, complemented by additional interview methodologies. The findings unveiled notable disparities in the levels of satisfaction, where employed working students articulated a desire for more adaptable and tailored guidance services that could effortlessly integrate with their scholastic, vocational, and familial commitments. Such students displayed diminished gratification with the prevailing assistance offerings, emphasising a potential requirement for services that are more versatile and pertinent. Conversely, unemployed students exhibited a preference for conventional career guidance offerings and demonstrated higher levels of satisfaction. Notwithstanding these disparities, there were universally acknowledged necessities, such as career advice and proficiency enhancement workshops, which were esteemed uniformly by all participants. This research accentuates the crucial necessity for academic institutions to refine and enhance their career guidance offerings, ensuring they are comprehensive, learner-focused, and adept at catering to the multifarious necessities of every student category, thereby acting as a pivotal resource for the augmentation and refinement of such services, as well as steering subsequent scholarly inquiries and policy enhancement in the domain of career guidance.

Thomas Tse
Associate Professor, The Chinese University of Hong Kong, Hong Kong

Glocalization at Work: Global Citizenship Education and NGOs in Hong Kong

Neo-institutionalism (also known as World Polity Theory) as developed by J.W. Meyer and F. O. Ramirez views the world as a social system constituted by a distinct global cultural framework called "world polity", which encompasses and shapes the social actors (states, international organizations, and individuals) and their actions (Meyer, et al. 1997; Boli, 2006; Mcneely, 2012a, 2012b). This world polity provides the actors with a set of global norms or directions to follow. It results in homogenization or isomorphism of structure and practices across places, evidenced by the broad worldwide institutional diffusion and convergence that has occurred since WWII. The world polity theory has been criticized for attributing too much consensus to world culture and its smooth transfer at the expense of flow and conflict, emphasizing cultural over economic factors, and lacking a historical account for the origins and dynamics of the world culture (Silova & Rappleye, 2015). To some extent, such disputes can be resolved by further empirical work sorting out the relative weight of factors involved. Recent world polity theorists also notice some afore-mentioned limitations and recognize that the diffusion does not necessarily mean homogeneity (Boli, 2005; Boli & Thomas, 1999; Lechner & Boli, 2012). They agree that general rules and models are interpreted in light of local circumstances and local conditions respond to similar constructs in different ways. Different places will adapt their own polices or practices to local uses. In other words, glocalization or hybridization is a common possibility. A good explanation needs to grips with the multiple layers and dimensions of the phenomenon of institutionalization.

Against the perspective of neo-institutionalism, the primary purpose of this article is to examine the roles of three non-governmental organizations (NGOs) in shaping or supporting "global citizenship education" (GCE) for the young people, in both school and out of school contexts. The study tried to identify the aims and the work of GCE of these NGOs; look at how actors in these NGOs define GCE and put it into practice; and compare their works and look for their similarities and differences, as well as convergence and divergence over time.

Chinese Young Men's Christian Association of Hong Kong, Oxfam Hong Kong, and the Girl Guides Association are salient NGOs in Hong

Kong of western origins and international connections. Over the past two decades, they have respectively advocated their own GCE programs for young people. While some have been carrying out their programs till nowadays, some have shifted its focus and accorded priorities to other tasks. A diachronic and multiple case study would hence allow a comparison across these NGOs and over time. This study searched on websites and newspaper dataset, and collected papers and published reports on these NGOs. Relevant documents like teaching materials, reports on some funding schemes and minutes of meetings of these organizations with regard to citizenship education were also examined. Also, the part of documentary research was supplemented by interviews with the NGO staff to gain in-depth understanding of these NGO's involvement in GCE.

Natalia Tsereteli
Associate Professor, New Vision University, Georgia
Khatuna Saganelidze
Professor, New Vision University, Georgia
&
Nino Cheminava
Associate Professor, New Vision University, Georgia

The Power of Partnership: Elevating Medical Education through Peer Coaching

Dental education for special needs dentistry can present a number of challenges for both educators and students. One of the challenges is limited exposure to patients with special needs. Many dental schools have limited opportunities for students to work with patients with special needs, which can make it difficult for students to gain the necessary skills and experience. Another challenge is limited faculty expertise. Not all dental faculty members have expertise in special needs dentistry, which can limit the availability of resources and mentorship for students who are interested. Additionally, patients with special needs can have a wide range of conditions and disabilities, which can make it challenging for dental students to develop a comprehensive understanding of the various oral health needs and treatment considerations for these patients. Also, communication barriers might arise, since patients with special needs may have communication barriers that make it difficult to obtain a full history or understand their needs and preferences.

Despite the challenges, New Vision University Dental School provides opportunities for students to work with patients with special needs, offers specialized core course and elective, and recruit faculty members with expertise in special needs dentistry. Additionally, NVU Dental School collaborates with community organizations and clinics to provide clinical experiences for students to work with patients with special needs. For example, during clinical rotations of the course Special Needs Dentistry students visit centers for children with special needs, nursing homes, where they gain clinical experience. Also, NVU Dental School collaborates with Georgian Children's' Paralympic Association, organizing dental checkups for children and arranging education programs to raise awareness about the importance of oral health. By taking advantage of these opportunities, dental students can gain the knowledge, skills, and experience needed to provide high-quality dental care to patients with special needs.

Regardless of opportunities, there are areas of improvement. Taking care of those patients requires cooperation with other medical professionals, improving cultural and language barriers, dedication, commitment and education of the caregivers. The big question is what else we can do in order to inspire to care our students?

Volodymyr Voytenko
Professor, Sheridan College, Canada

An Iot-Based Smart Home System Prototype with Sensors Management

The Internet of Things (IoT) is a network system that enables the connection and remote monitoring of devices through the Internet. Over recent years, the IoT concept has undergone significant development and is presently applied in diverse areas, including smart homes automation system. In our rapidly advancing world, the integration of a smart home can greatly enhance our quality of life by providing increased comfort, convenience, and safety. These smart homes leverage cutting-edge communication and information technologies, employing IoT sensors and devices to continuously monitor our well-being. Our ongoing research is dedicated to developing a responsive smart home system prototype that can promptly detect critical deviations from regular daily activities within a residence. Examples of such situations include scenarios where a refrigerator is inadvertently left open, a stove (oven or element) has been operating for an extended period, a garage entrance door is left ajar, or cooking in the kitchen is left unattended. Our work introduces the system prototype, detailing the implementation how to gather and analyze data from various wireless sensors. The proposed system encompasses the following computing architecture:

- Raspberry Pi with display acts as the central configuration unit and human-computer interaction part for the mobile context module, enabling automatic boot with a direct connection to the home network without requiring any additional authentications.
- Sensors tag manager is capable of managing multiple wireless sensors (up to 40 within a residence) connected to the home network, providing unlimited cloud storage for logged data.
- Wireless sensor designed to sense physical information, including temperature, ambient light, air humidity, angle-based motion data, etc.., and transmit the collected data back to the sensor tag manager, covering a distance of up to 200 meters.
- Wireless tag web service offers unlimited access to sensor tag information stored in the cloud, encompassing all sensor data.

In the event of a notifications, the system is able to notify a user's emergency contacts through SMS services. Additionally, a voice

message (alert) can be delivered via the residence's speaker. On the user side, options include accepting a notification, snoozing it for specific time intervals, or clearing the alert. This multi-modal approach ensures flexibility and responsiveness in addressing critical situations.

In conclusion, proposed smart home system prototype tested with one specific Case Study “My home Guardian”. The main purpose of this study is to monitor sensor data, utilizing this information in decision-making scenarios to bolster support for individuals within their residences.

Li-Qiong Wang
Distinguished Senior Lecturer, Brown University, USA

Collaborative, Interdisciplinary and Case Study Approaches in Undergraduate Research, Teaching and Learning

This presentation will center on our initiatives to advance collaborative, interdisciplinary, and case study approaches in undergraduate research, teaching, and learning. We will provide examples illustrating the success of these approaches and address both the effectiveness of student learning and the challenges associated with implementing such methodologies, especially in large undergraduate classes.

The case study method, traditionally employed in professional schools of business, medicine, and law, has recently gained popularity in undergraduate colleges and universities. Departing from traditional teaching methods, students engage with real cases by reading literature or news articles and then bring questions for discussion to the class, with the instructor leading the discourse. This teaching method aims to enhance critical thinking and problem-solving skills. The relevance of real-life cases motivates students to learn, and the case study method often incorporates hands-on laboratory activities directly linked to lecture content, further enriching students' learning experiences.

We have successfully implemented a case-study-based approach in our recently created Interdisciplinary course, "Chemistry and Art." This course emerged from collaborative efforts between faculty and undergraduates and has been taught by faculty members from diverse disciplines, including museum curators and professors from the humanities to the sciences. The Brown University Undergraduate Teaching and Research Awards (UTRA) enable outstanding and diverse undergraduates to collaborate with professors in researching and developing innovative teaching materials and hands-on activities. Through this collaborative endeavor, students have not only gained valuable research experiences and critical thinking skills through close interactions with faculty but have also produced highly engaging educational products based on their research findings.

This adaptable model and approach have the potential to be implemented in various other undergraduate institutes, fostering collaboration, interdisciplinary learning, and the effective integration of case study methodologies.

Kausalai Wijekumar
Professor, Texas A&M University, USA
Javier Garza
Program Director, Texas A&M University, USA
&
Maria Sierra
Research Specialist II, Texas A&M University, USA

Children are Smart, the Systems are Preventing them from Achieving Success in Literacy

For forty years, the world has tracked student progress on multiple measures of basic literacy such as reading comprehension and writing. Unfortunately, the scores have remained stubbornly resistant to change with 30 to 80 percent of children at elementary grades failing these essential skills. A robust and vibrant democracy can only survive if their population is educated and can read and write to communicate effectively. During the last 20 years, our Literacy. IO team has carefully studied the reasons why children fail to master comprehension at elementary schools. Our results were surprising to us, and all the educational communities we serve. Most notably, we reviewed the state and national test scores for reading and graphed the specific constructs that constitute reading tests – main ideas, summarization, inferencing, vocabulary, author's purpose, retelling, and genre studies. Most striving readers performed very poorly on main ideas and summarization. We further studied how these important skills were taught in the textbooks and classrooms across the world. We observed three important factors. First, the textbooks organized their instruction as isolated skills, with spiraled skills with no emphasis on any particular construct. This led to an equal emphasis on less important skills such as author's purpose. More time needs to be devoted to main idea and summarization to achieve comprehension. Second, there were over 30 strategies given to students for writing a main idea or summary. This resulted in too many options and poor outcomes. What was necessary was a strong evidence-based strategy that can be applied to any genre (e.g., narrative/stories, expository/content area, poetry, biography). Thus, we created the Knowledge Acquisition and Transformation (KAT) strategy that taught children how to generate a main idea using the text structure of the passage (i.e., cause and effect, problem and solution, sequence, description, and comparison). In the KAT framework, students extend the main idea to a summary by adding supporting details and evidence from the text. Third, we

observed that tests were full of academic language that was unfamiliar to many low-income families and their children. Thus, the KAT framework emphasizes the teaching of specific academic language found in tests.

Since 2016 we have conducted over eight large scale randomized controlled trials with hundreds of schools and thousands of students in elementary and middle grades. Our results showed that 62 schools achieved 100% pass rates on reading comprehension for all children. These included special education students (e.g., dyslexia, ADHD, Autism), bilingual learners, and children in under served communities (e.g., poverty). These results showcase that strong reading comprehension is possible to achieve if the systems factors are addressed. Our instructional toolset includes teacher-led lessons, web-based intelligent tutoring systems in English and Spanish, and 100 ACE podcasts in English and Spanish for families.

Alisa Wilson
Assistant Professor, University of Tennessee at Martin, USA

The Relationship between Teacher Absenteeism and Student Achievement

The purpose of this study was to investigate the relationship between teacher absenteeism and student achievement on the TNReady achievement test in the Southeast region. The three instruments used in this study were the TNReady achievement test results from 2018-2019, teacher absentee data provided by the local school district, and survey answers from Survey Monkey. The data from these three instruments formed the basis to compare sixth-, seventh-, and eighth grade student achievement scores with teacher absentee data. Vital to this investigation was the premise that student achievement can be negatively impacted by excessive teacher absenteeism in the classroom. The results of the findings indicated that, within the sample of teachers and students studied, there was no significance found between teacher absenteeism and student achievement on the sixth-grade level and negative, weak correlation with significance on seventh and eighth grades for English-language arts, math, and social studies. In this study, 57% of middle school teachers chose to be absent due to sickness, but 47% of the same teachers were absent due to reasons other than sickness. The phenomenon of teacher absenteeism was as varied as the teachers who taught in the field of education, including reasons for absences, views on attendance policy, and suggestions for what could be done to prevent teacher absenteeism.

Yang Xie
PhD Student, Beijing Normal University, China & University of Oslo, Norway

"I Won't Remain Here": Socially Advantaged Students and Vocational Education in the Context of Institutional Tracking in China

In China, the examination-oriented education system prioritizes academic performance as the primary criterion for evaluating students. Academic achievement not only correlates closely with social mobility but it is also considered as indicative of the individual's moral virtues. Hence, students with poor academic performance are often labeled as "unethical" or "bad students", deemed in need of correction. Previous research has analyzed the causes of underachievers from multiple perspectives, including education, biology, psychology, and sociology. Additionally, corresponding approaches for improving students' academic achievement have been proposed. Furthermore, scholars have developed concepts such as anti-school culture, self-abandonment culture, passive resistance, and 'passing time' based on theories of self-identity, social exclusion, and cultural reproduction. These concepts are utilized to explain the predicament of underachievers. However, most research on underachieving students in China tends to concentrate on theoretical analyses of causation and policy-oriented resolutions at the governmental level. There exists a noticeable paucity of research employing in-depth interviews to delve into the experiences of underachievers. Furthermore, studies focusing on students' experiences often adopt a cultural reproduction perspective, predominantly featuring students from rural or economically disadvantaged areas as subjects. Such studies tend to correlate underachievers with lower social classes, emphasizing the impact of restrictive socioeconomic backgrounds, while lacking supplementation from alternative theoretical perspectives and diverse regional contexts. Thus, previous research, predominantly focused on external factors influencing underachievers, has overlooked how these students themselves perceive their own experiences.

Therefore, this study discards the moral judgment-based perception of "bad students". Drawing on Foucault's theory of discipline, investigates the subjective experiences of underachievers. Foucault posits that modern schools epitomize disciplinary institutions, where educational activities evolve into processes that aim to produce and manufacture 'docile bodies'. Schools exercise control over

individuals through the regulation of time and space, ultimately integrating them into societal structures. This research aims to explore how underachievers receive and respond to the disciplinary practices of schools, as well as how these practices manifest within their families. Drawing upon Foucault's theory of discipline, the intricate relationship between China's education system and the experiences of underachievers is discussed in this study.

This study uses data collected through interviews conducted from March 2022 to June 2023 in a secondary vocational school in Beijing. A sample of 29 students was randomly selected for one-on-one in-depth interviews. Due to China's academic performance-based educational streaming system, students entering secondary vocational schools are predominantly considered "bad students" during their junior high school years. The interviews primarily focused on retrospective experiences, including the academic experiences of the participants during their junior high school years, such as academic performance, interactions with teachers, and peer relationships. Additionally, it also reveals how the students' parents (and other family members) participated in their school's disciplinary regime through practices such as parents' academic evaluations, rewards and punishments, and educational expectations.

Elif Cansel Yikmis
Master's Student, Düzce University, Türkiye
&
Nesime Kübra Terzioğlu
Assistant Professor, Bolu Abant İzzet Baysal University, Türkiye

Determining the Home-Based Activities of Mothers with Children with Intellectual Disabilities in Early Childhood Mathematics

Children with intellectual disabilities need to acquire various skills to lead their lives like their peers. Daily life skills, which form part of independent living skills, encompass the abilities related to an individual's self and immediate environment (Neistadt & Margues, 1984; Cavkaytar, 1998). Some of these daily life skills contribute to functional academic skills. Functional academic skills are regarded as reading, writing, and basic mathematical skills. Mathematical skills involve a wide range of abilities, from using the clock to handling money, managing time to acquiring shopping skills. These mathematical skills are gradually imparted to these children from the pre-school period through the advancing school years. However, beyond what is learned in school, some fundamental mathematical skills are instilled by parents during early childhood, or efforts are made by parents to ensure the permanence and generalization of the mathematical skills acquired at school. Some of these skills constitute early childhood mathematics skills. These skills are taught from early childhood to the later years of school. Experiences in mathematics during the pre-school period also influence future school success.

This research aims to reveal the activities that mothers engage in at home regarding early childhood mathematics with their children who have intellectual disabilities. This research was conducted using the semi-structured interview design, which is one of the qualitative research methods. The study investigated the activities of mothers of students with intellectual disabilities in imparting mathematical skills at home. This research was conducted with 10 mothers whose children attend a special education kindergarten in Bolu, Turkey. In the research conducted with 10 mothers, the mothers responded to these questions by stating that when they went to the market with their children, the child saw the number on the label, and when the mother paid at the cashier, the child counted the money in front of their eyes and gave it to the cashier. They also mentioned using measurement units in the

kitchen while cooking, playing counting games, conducting shape recognition and matching activities, and playing sorting games.

Parent education programs can be organized for other family members as well. From the moment a disabled child is born in hospitals, parents should be informed about the characteristics of children and their developmental tasks according to their ages. This way, mothers will reduce their anxieties and exhibit positive behaviors towards their children as they know what their children can do.

Yong Zeng
Associate Professor, Fudan University, China

Digital-Technology Integrated and Outcome-Based Hybrid Faculty Development Approach

Improving teachers' digital literacy is a significant issue. Thematic digital literacy training is a typical approach. Whether there is an approach that integrates digital literacy into faculty development programs focus on teaching philosophy, strategies, instructional methods, student's evaluation and learning study. Etc? Yes!

The Center for Faculty Development at Fudan University has developed a hybrid teacher training model that focuses on integrating digital technology with an outcome-based approach. This model incorporates teachers' digital literacy in the "Learning-Centered Innovative Course Design" (LICD) and the "FD-QM Blended Online Course Quality Standards" programs. The specific implementation plan involves setting up online courses with videos, pictures, text and quizzes, etc. on the *Chaoxing* eLearning Platform where teachers undertake independent online learning and a combination of in-person or online/offline meet-ups:

(1) In the opening session, in addition to ice-breaking and lectures, hands-on experience with electronic sign-ins and classroom interactions is also included.
(2) After the session starts, the trainees complete online quizzes and discussions through self-study of the online courses. Under the guidance of facilitators, they complete assigned assignments step by step and submit them to the training platform.
(3) Around the assignments of course design or evaluation, four rounds of team-based discussions and group studies are held, each participant produces high-quality output (course design or evaluation). By sharing research results through assignment peer-review and discussion, they improve their assignments and enhance their evaluation skills.

Throughout the training process, not only is there professional growth in teaching and learning design, but also an immersive digital learning experience. Teachers' digital literacy is enhanced through the completion of tasks.

The project implementation has been successful. (1) Internally, as of December 2023, 22 sessions of the training program have been run with participation from over 1440 teachers. More than 400 teaching and

learning reform projects have been accepted, over 260 courses have passed blended course acceptance, 33 courses are recognized as national first-class undergraduate courses, and 33 courses as Shanghai municipal first-class undergraduate courses led by teachers. (2) Externally, 19 sessions of the LICD has been run, benefiting over 800 teachers in 190 universities. The FD-QM standard training project has seen 40 sessions with more than 1900 teacher attendees. Over 670 courses achieved in-depth guidance, 66 courses won recognition as national first-class blended courses, a further 80 trainees have grown into training project facilitators or intern facilitators.

Dalun Zhang
Professor and Associate Dean for Faculty Affairs, Texas A&M University, USA

The Impact of Work-Based Learning Experiences on Students with Special Needs

Work-based learning (WBL) is a set of instructional strategies that engages employers and schools in providing learning experiences for students. WBL programs organized and provided by high schools have been used with students with special needs to stimulate their interest in learning, set their postschool employment goals, develop their basic employability skills, and enhance their academic performance. However, despite the wide utilization of this approach with students with special needs at the secondary education level, there is limited research on how effective WBL is in promoting student outcomes in these areas. In an attempt to synthesize existing research that has provided some empirical or substantiated evidence that WBL has made impact on students with special needs, we conducted a review of the literature about WBL on student outcomes. Using refined search strategies and inclusion/exclusion criteria, we identified 10 research articles that were published in the United States and conducted a critical review of these articles. Based on the reviews, we identified several areas of student outcomes that were improved by participating WBL.

In this presentation, I will share the process of our review process, the evidence that we have found, and the areas of student outcomes that are likely to be positively impacted by participation in WBL. In addition, I will share limitations of our study and recommendation for future research, as well as suggestions for practices that schools can engage in to implement WBL programs. In addition, I will share a university-based program that we have at Texas A&M University, which provides funding and technical assistance to high school across Texas for them to implement work-based learning programs such as school-based enterprises. In the past three years, we have funded nearly 100 high school WBL programs. I will share some real examples of school-based enterprises that have made impact in the lives of students with special needs.

Ioannis Ziakos
PhD Candidate, University of Cordoba, Spain
&
Veronica Marin Diaz
Professor, University of Cordoba, Spain

The Role of ICT in the Preservation and Teaching of Traditional Musical Instruments

The rapid advancement of Information and Communication Technology (ICT) has ushered in new prospects for the preservation and pedagogy of traditional musical instruments and expressions, presenting both opportunities and challenges in the digital epoch. The integration of ICT within educational frameworks signifies a crucial shift in the methodologies of teaching and learning traditional musical instruments, as well as in the preservation and dissemination of traditional musical expressions. In an era characterized by globalization, which poses a threat to the survival of local cultures, ICT stands as an indispensable instrument in ensuring the vitality and proliferation of the global musical heritage (Himonides & King, 2016).

This article delves into the multifaceted role of ICT in safeguarding and revitalizing cultural heritage, with a particular focus on its incorporation into educational practices concerning traditional music. Supported by the constructivist educational theory, which views learning as an active and constructive process, this analysis underscores the potential of ICT in traditional music education. A thorough examination of digital archiving (Aparac-Jelušić, 2017), e-learning platforms, augmented and virtual reality (AR/VR) applications (Jensen & Konradsen, 2018), as well as the employment of social media and online communities, elucidates the capacity of ICT to enhance access, engagement, and comprehension of traditional music amongst global audiences. The deployment of ICT, from digital archives to VR simulations, affords multi-sensory experiences crucial for the comprehensive understanding and acquisition of traditional musical skills. Moreover, it confronts significant challenges, including the digital divide, authenticity in musical transmission, and the preservation of intangible cultural heritage.

The discussion emphasizes the necessity for a collaborative methodology among educators, technologists, and cultural practitioners in forging solutions that respect tradition while looking forward. By reviewing innovative projects and methodologies, the article demonstrates how judiciously integrating ICT can augment the

learning experience and ensure the perpetuity and dynamism of traditional musical forms in the modern context. Technologies not only render traditional music education more accessible and appealing to a global audience but also safeguard the cultural essence and subtleties of these art forms for future generations (Reddy & Sonneborn, 2013). Through this intertextual approach, the theoretical underpinnings for embedding ICT into traditional music education emerge as robust and diverse (Wu & Din, 2014), presenting a comprehensive array of viewpoints that accentuate the adaptive nature of cultural preservation in the digital age.

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