iCERi 2020

13TH INTERNATIONAL CONFERENCE OF EDUCATION, RESEARCH AND INNOVATION

CONFERENCE PROCEEDINGS

9-10 NOVEMBER 2020
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ICERI2020 Proceedings
13th International Conference of Education, Research and Innovation
November 9th-10th, 2020
Virtual Conference

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Preface

ICERI2020 Conference Proceedings contain selected and revised papers from the 13th International Conference of Education, Research and Innovation that was held on-line on the 9th and 10th of November 2020.

ICERI2020 was a meeting point for lecturers, researchers, technologists and professionals from all over the world. Different perspectives on Education and Educational Research were presented and discussed by 1135 participants from more than 70 different countries.

In addition to the presentation of the conference papers, ICERI2020 offered many different networking opportunities for participants to interact and establish new contacts for cooperation. on education and research.

The main aim of ICERI is to disseminate educational methodologies as well as research experiences in all educational fields and disciplines. The scope of ICERI2020 included the following topics:

- Digital Transformation in Education.
- Digital and Distance Learning.
- Innovative educational technologies.
- Multiculturality and inclusion.
- Active and student-centred learning.
- Assessment, mentoring and student support.
- Educational strategies and life-long learning.
- Quality and Impact on Education.
- Teacher Training and Educational Management.
- STEM education.
- Language Learning and Teaching.
- Discipline oriented sessions.

In addition to the Technical Program classified by topic tracks, different invited speakers delivered some plenary sessions and workshops (IATED Talks are available at iated.org/talks/).

The first ICERI edition was held in Madrid in 2008. Since 2008, ICERI has been held in-person every year. ICERI2020 was held on-line due to the COVID-19 restrictions imposed in most of the participants' countries. Despite the current pandemic, ICERI2020 participants were actively involved in the activities and sessions, keeping their motivation to share, collaborate and engage in this new dimension. The conference was successfully held at international level, welcoming delegates from universities and educational institutions from more than 70 different countries.

The International Program Committee consisted of members coming from many different countries and institutions. We thank the International Program Committee members who conducted a blind peer review process to guarantee the quality of the presentations and contributions. A meticulous job in selecting papers for publication was conducted and the following points were evaluated: content, general structure, relevance, originality, relation to the conference topics and disciplines. The language of the publication was exclusively English.

Moreover, ICERI aims to publish conference proceedings that contain original research articles of high-quality meeting the expected ethical standards. All authors publishing in ICERI2020 agree the IATED copyright transfer. IATED guarantees the high technical and professional quality of the publications and that good practice and ethical standards are maintained. More information about the publication ethics is available at: https://iated.org/publication_ethics

Finally, we wish to extend a special Thank You to all delegates who joined and cooperated in the different conference activities, keeping the international ICERI2020 spirit alive.

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Luis Gómez Chova
Agustín López Martínez
Ignacio Candel Torres

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Organizing Committee

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Keynote Speakers

ICERI2020 Keynote Speakers

Pasi Sahlberg, *University of New South Wales in Sydney, Australia*

Jon Bergmann, *Flipped Learning Global Initiative, USA*

Vicky Colbert, *Escuela Nueva, Colombia*

Valerie Hannon, *Innovation Unit, UK*

Dave Cormier, *University of Windsor, Canada*

Tony Bates, *Ryerson University, Toronto, Canada*

Pasi Sahlberg. Gonski Institute for Education, University of New South Wales (Australia)

Keynote speech: Growing Up Digital in a Changing World
Current global pandemic has disrupted the ways we live, work, teach and learn. Many parents work from home, meetings and conferences are held virtually and hundreds of millions of children learn from home using digital technologies. There are many speculations how this 'global experiment' will affect our lives when the pandemic is finally over. We do know, however, that increasing time that young people spend on digital screens daily has several consequences in their wellbeing, health, identity and learning. In this presentation I describe an effort to find out how children and youth grow up in the world of digital media and technologies. Drawing from large-scale survey data from Australia and Canada I highlight the key findings in this project and suggest concrete steps forward in helping young people healthy, safe and responsible ways of living and growing up with their digital devices. These lessons are particularly relevant now when statistics suggest that daily time spent on digital gadgets has significantly increased.

Biography: Pasi Sahlberg is a Professor of Education Policy and research director at the Gonski Institute for Education, University of New South Wales in Sydney, Australia. He is a Finnish educator who has worked as schoolteacher, teacher educator, researcher, and policymaker in Finland and has examined and advised education reforms around the world. Pasi has held senior education expert posts in World Bank and European Commission, and he was a visiting professor at Harvard University in 2014-2016. He is a winner of several education awards, including Grawemeyer Award in the U.S. (2013), Robert Owen Award in Scotland (2014), and Lego Prize in Denmark (2016). His recent books include Finnish Lessons 3.0: What can the world learn from educational change in Finland, Let the Children Play! Why more play will save our schools and help children thrive (with William Doyle, 2019), and FinnishED Leadership: Four big, inexpensive ideas to transform education (2018). He lives in Sydney with his family.

Jon Bergmann. Flipped Learning Global Initiative (USA)

Webinar: Thriving in an Education Climate that Has Fundamentally Changed
In this session, Jon Bergmann shares the results of a global survey of over 10,000 K-12 teachers, university professors, tech coaches, and school leaders from 67 countries. He will examine how they responded to the COVID-19 impact on teaching and learning, highlight some of the significant insights, and practical takeaways, then shift to a primer on hybrid teaching in this new normal. The "primer" is an overview of the 12-step roadmap used to help k-12 schools and universities make a rapid transition to online learning at the beginning of the pandemic. It was adopted across the United States and the globe, including the largest school district in the United States - The New York City Department of Education. The 12-step roadmap is based on the Flipped Learning

framework, a proven instructional model for remote learning that is used in over 50 countries. The model was developed using the best practices collected, peer-reviewed and defined, by 100 educator-delegates from 49 countries, under the guidance of the Academy of Active Learning Arts and Sciences

Biography: Jon Bergmann is one of the pioneers of the flipped classroom and is currently the Chief Academic Officer at the Flipped Learning Global Initiative. Jon has authored 13 books on Flipped Learning, some of which have been translated into 13 languages. Jon received the presidential award for teaching excellence and has traveled over 700,000 miles helping educators and school systems around the world learn how to reach every student in every class every day. Jon has seen first-hand the global promise, passion, and potential for Flipped Learning. He has also seen the pitfalls and myriad ways that Flipped Learning can be compromised by bad practice, inappropriate technology, and poor execution. Jon is committed to supporting the successful adoption of Flipped Learning worldwide.

Vicky Colbert. Escuela Nueva (Colombia)

Keynote speech: Escuela Nueva Activa: Quality Education for Equity, Citizenship and 21st Century Skills
The presentation will provide an overall analysis of why improving the quality of the most vulnerable schools in the LAC Region requires a systemic perspective and a paradigm shift, from transmission of knowledge to comprehension and social construction of knowledge. It will describe how Escuela Nueva (EN), a local innovation, became a national policy in Colombia and has inspired educational reforms worldwide. EN transforms the teacher centered conventional mode of education into child centered participatory self-paced and cooperative learning and a new role of the teacher as facilitator and mentor. It will describe its main objectives, strategies, adaptations to other contexts, results and evaluations, which demonstrate better cognitive and non-cognitive results in Escuela Nueva schools compared to conventional ones.

Biography: Laureate of the first edition of the Yidan Prize for Education Development (2017) and 2013 WISE Prize for Education Laureate, Vicky Colbert is founder and director of Fundación Escuela Nueva. Colbert is a Sociologist from Javeriana University in Colombia and pursued her graduate studies in Sociology of Education at Stanford University in the United States. In 2015, the American University of Nigeria distinguished her with an Honoris Causa Doctorate in Philosophy. She is co-author of the worldwide renowned Escuela Nueva model and was its first National Coordinator. Colbert has pioneered, expanded and sustained this educational innovation from many organizational spheres: as Viceminister of Education of Colombia, UNICEF´s Education Adviser for LAC and now from Fundación Escuela Nueva (FEN), an NGO she founded to ensure its quality, sustainability and innovation. She has been recognized with several awards and distinctions in the fields of leadership and social entrepreneurship, such as the Skoll Award for Social Entrepreneurship, the Clinton Global Citizenship Award and the Kravis Prize. She has also been recognized as Outstanding Social Entrepreneur by the Schwab Foundation, Ashoka and the World Technology Network.

Dave Cormier. University of Windsor (Canada)

Keynote speech: Complexity and abundance - what higher education has learned from COVID19
For millennia our face to face classrooms have been a safe environment where the educator can control what information and knowledge the learners will be offered and tested for. In forcing entire education systems to consider online learning, we have been forced to reconsider what our education systems are for and what is possible and desirable as outcomes of this system. In this talk we will explore the light that our rush to teaching online has shed on our face to face teaching practices and what this could mean for the future of education.

Biography: As a change leader, an educational researcher and learning community advocate Cormier has spent the last twenty years trying to make education better. He has led teams in k12, college and university environments, and has published on open education, Rhizomatic Learning, MOOCs (Massive/Open Online Courses), and the impact of technology on the future of higher education. He is currently the learning specialist for digital learning strategy and special projects at the University of Windsor.

Tony Bates. Ryerson University, Toronto (Canada)

Webinar: The importance of digital learning for the future economy, and the subsequent need for radical changes in teaching
Even before Covid-19, economies were rapidly moving from industrialisation to digitalisation. This will result in many jobs being replaced by automation while new jobs requiring high-level intellectual skills will be created. Covid-19 is just speeding up this process. However, our education systems were designed for an industrial age and our current teaching methods are not sufficiently adapted to the changing circumstances. This webinar will look at the need for a greater focus on high level skills development, the teaching methods that are most appropriate for such skills development, and the role that digital learning can play in facilitating this shift. The webinar will include opportunities for questions and discussion with the audience.

Biography: Tony Bates is a Senior Advisor at the Chang School of Continuing Education, Ryerson University, Toronto and is also a Research Associate at Contact North, Ontario. He is currently Chair of the Board of the Canadian Digital Learning Research Association. He was a founding staff member of the British Open University, becoming a full professor in educational media research. In 1989, he became Executive Director, Strategic Planning and Information Technology at the Open Learning Agency, Vancouver. From 1995 to 2003 he was Director of Distance Education and Technology at UBC. He has worked as a consultant in the design and management of online and distance learning in over 40 countries. He is the author of twelve books, including his latest online, open textbook for faculty and instructors, 'Teaching in a Digital Age', which has been downloaded over 500,000 times and translated into ten languages.

Valerie Hannon. Innovation Unit (UK)

Keynote speech: THRIVE: schools reinvented for the real challenges we face.
In her latest book, THRIVE: schools reinvented for the real challenges we face Valerie Hannon looks at key trajectories for our future in the next 30 years. She argues that this gives us a clear, urgent and inspiring agenda for reconsidering the very purpose of schools, and therefore the nature of schooling: curricula, pedagogy, and what counts as success. This has become even more urgent and relevant in the context of COVID, when many are questioning what schools are for, as technology provides viable alternatives. Valerie argues that schools are more essential than ever – but only if fundamentally redesigned.

Biography: Valerie Hannon is a global thought leader, inspiring systems to re-think what 'success' will mean in the C 21st, and the implications for education. The co-founder of both Innovation Unit (UK and Australia/NZ) and of the Global Education Leaders Partnership, Valerie is a radical voice for change, whilst grounded in a deep understanding of how education systems currently work. Formerly a secondary teacher, researcher and Director of Education for Derbyshire County Council, then an adviser in the UK Department for Education (DfE) during the Blair years, she now works independently to support change programs across the world. Currently, she is also Senior Adviser to the OECD in its Education 2030 project. Valerie is a regular keynote speaker and facilitator at international conferences and workshops, drawing upon her substantial research and publications. Valerie is the 2020 author of The Australian Learning Lecture on the subject of The Future School. Her latest book is THRIVE: schools reinvented for the real challenges we face (2017) which will be published by Cambridge University Press in a second edition in 2020.

Conference Tracks & Sessions

The ICERI2020 conference program is available online at https://iated.org/iceri2020

INNOVATIVE EDUCATIONAL TECHNOLOGIES

Technology Enhanced Learning
Virtual & Augmented Reality
Research on Educational Technologies
Coding & Educational Robots

DIGITAL TRANSFORMATION OF EDUCATION

Data Science & AI in Education
Learning Analytics
Digital Technologies and Resources for Learning under Lockdown
21st Century Skills

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Technology for Language Learning

DISCIPLINE-ORIENTED SESSIONS

Architecture & Civil Engineering Education
Health Sciences Education
Business & Accounting Education
Social Work Education