ICOT18

INTERNATIONAL CONFERENCE ON THINKING

MAY 16 - 20, 2018
FLORIDA | USA

MIAMI

Florida International University
Modesto A. Maidique Campus

Editor
Stephanie C. Campo

FIU Arts, Sciences & Education
School of Education and Human Development

ICOT 2018

Proceedings of

The 18th International Conference on Thinking

May 16-20, 2018
Florida International University
Miami, Florida USA

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Editor: Stephanie C. Campo

College of Arts, Sciences, & Education
School of Education
Florida International University
Ziff Education Building, Miami, FL 33199

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Welcome

May 16, 2018

Dear Presenters and Delegations,

On behalf of Florida International University (FIU) and Visible Thinking South Florida (VTSF), I would like to extend a warm welcome to the 18th Edition of the International Conference on Thinking in Miami. ICOT18 is consistent with FIU's mission as a locally and globally engaged institution to address 21st century challenges. For over 10 years, Visible Thinking South Florida has been committed to promoting thinking communities of practice to nurture the development of thinking as a critical activity to pose questions and solve problems.

We are humbled to be the convenors of intellectual leaders, researchers and practioners from all fields from around the globe. ICOT18 aims to embrace the diversity of cultures and approaches to thinking and learning, and practical approaches to finding innovative solutions to issues of global significance.

The conference is emphatically transdisciplinary, drawing from all fields. With the theme "Cultivating Mindsets for Global Citizens", we invite you to become community builders as we bring our minds together to explore strategies to develop skills and dispositions for dealing creatively, cooperatively, and constructively with globalization, global citizenry, environmental sustainability, education, technology and related themes. Let us consider the interdependency of different disciplines in an effort to collaboratively find solutions to global problems in a digital era.

During the past three years, my team and I worked hard to organize this conference keeping each of you in mind. We are excited with the important and timely strands that will guide our conversations during these five days. We invite you to explore every opportunity to its fullest over the next 5 days, and hope that you leave curious and eager to continue the conversation.

Welcome to FIU, Miami, and best wishes for a productive ICOT18 conference.

Sincerely,

Dr. Angela K. Salmon

Chair ICOT18

Welcome to the 19th International Conference on Thinking (ICOT) in sunny Miami!

These conferences foster collegial exchange and educational development around the topic of thinking and its development. "Thinking" is understood broadly to include any kind of thinking and learning and to acknowledge cultural, psychological, historical, and disciplinary diversity and richness.

As is the tradition of ICOTs, this conference is transdisciplinary and provides opportunities for many people from very different countries, cultures, professions, work and life experiences to come together, meet and openly share ideas, extend their thinking and learn with and from each other. We are so pleased you are here and believe you too can contribute to ICOT Miami 2018!

We encourage you to be a risk taker and participate in sessions on topics that are new to you, speak with people you have not met before and think and dream about what can be and what you can do.

We wish you inspiring and enjoyable experiences as you engage in the rich programme developed for ICOT Miami, and a sense of fulfilment as your new thinking and understanding positively impact on what you do in life after these five days at ICOT in sunny Miami.

Best wishes,

The Members of ICOT's International Standing Committee

About

The International Conferences on Thinking (ICOT) are offered every two to three years in different parts of the world. The series was founded 34 years ago by the University of the South Pacific, Suva, Fiji. ICOT fosters collegial exchange and educational development around the topic of thinking and its cultivation. Thinking is understood broadly to include any kind of thinking and learning and to acknowledge cultural, psychological, historical, and disciplinary diversity and richness. The conference is transdisciplinary, drawing from diverse fields including education, neuroscience, health sciences, the arts, sports, government, business, anthropology, history, cross-cultural studies, architecture, engineering, economics, geography, technology and other areas.

Past ICOTs

After the first conference in Fiji (1982), ICOT events have been held in Cambridge, Massachusetts (1984), Honolulu (1987), Puerto Rico (1989), Townsville, Australia (1992), Cambridge, Massachusetts again (1994), Singapore (1997), Edmonton, Canada (1999), Auckland, New Zealand (2001), Harrogate, England (June, 2002), Phoenix, Arizona (July, 2003), Melbourne, Australia (July, 2005), Norrköping, Sweden (June, 2007), Kuala Lumpur (June, 2009), Belfast, Northern Ireland (June, 2011), and Wellington, New Zealand (January, 2013), and Bilbao, Spain, June-July 2015. With each location, the conference's theme, vision, mission, goals and brand/creative campaign are reimagined. The 18th International Conference on Thinking held in Miami, was the conference's fifth stop in the U.S.

Miami 2018

In May 2018, join practitioners and researchers from around the world for the International Conference on Thinking in Miami. This transdisciplinary conference brings together leading world researchers and practitioners who will offer research, insights and experiences that provoke, challenge and foster collegial exchange and educational development around the topic of thinking and its application to solving global problems and creating a better world. 'Thinking' is understood broadly to include the use of one's mind for cognitive processes such as thinking, learning, creativity, reflecting, reasoning, analyzing and deciding while also acknowledging cultural, psychological, historical, and disciplinary diversity and richness. Now more than ever it is imperative to innovate and deal with a deep and wide range of global problems IMMEDIATELY, as the consequences of not doing so are, frankly, dire. Set to marshal and develop the thinking and application of hearts and minds to better serve our fellow global citizens and planet. The conference is emphatically transdisciplinary in trend, drawing from such fields as education, neuroscience, health sciences, the arts, sports, government, business, anthropology, history, cross-cultural studies, architecture, engineering, economics, geography, technology and other areas. Issues like globalization, climate change, demographic changes, mass migration, immigration, technology, the global economy and ethical dilemmas lead us inquire and find solutions from multiple perspectives. With the theme: Cultivating Mindsets for Global Citizens" we aim to create awareness about global issues and the big questions that the next generations will inherit from us. Together we will explore strategies for deeply engaging citizens as young as toddlers up to seniors in understanding world issues from different points of view. We will consider the interdependency of different disciplines in an effort to collaboratively find solutions to global problems in a digital era.

Vision
ICOT Miami envisions a world in which global citizens successfully harness their brain power, thinking and creativity to address the social, environmental, economic and political problems facing current and future generations.

Mission
ICOT Miami is a transdisciplinary conference for investigating and developing thinking skills and dispositions for global citizens to understand and shape solutions for our world by being thoughtful, collaborative, creative, compassionate and competent.

Goals
ICOT Miami will educate, engage and challenge its audience to:

- Investigate ways of developing and applying 21st century skills (critical thinking, communication, collaboration, and creativity) to meet the challenges and opportunities of our interconnected world
- Engage individuals in the best transdisciplinary practices for developing a mindset of individual and collective social responsibility
- Promote the appreciation of the perspectives and contributions of diverse populations, cultures and genders to shape a sustainable environment for continued human growth
- Discover paths to health and well-being for the human and natural world.

Audience
The intended audience of ICOT Miami is broad by design. It includes anyone who has a stake in teaching others how to think and learn anywhere in the world including Florida and the United States, as well as from abroad, including the Caribbean, Central America and South America, Europe, Africa, Asia and Australia.

The conference welcomes:

- Educators, researchers and scholars from all fields
- Students, administrators and parents
- Government officials and public servants
- Social and business entrepreneurs
- Designers

Value to Educators, Researchers and Scholars from all fields
ICOT Miami will challenge and provoke educators to address what guides their education goals; how does society confront civic, moral and ethical problems; how to foster thoughtful learning and understanding across disciplines; what type of graduates do employers expect from schools; how to prepare students for jobs that do not exist now; how to prepare citizens to solve global issues creatively and innovatively.

Value to Students
Through ICOT Miami, students will have access to local, national and international scholars, researchers and leaders on thinking, who draw upon a variety of disciplines, providing invaluable insight on developing the skills needed to identify the challenges and opportunities of an increasingly interconnected world, and addressing them creatively, cooperatively and constructively.

Value to Parents
ICOT Miami offers parents a forum to address and discuss the thinking dispositions necessary for their children to be creative and innovative citizens who are prepared to solve local and global challenges in the 21st century.

Value to Social and Business Entrepreneurs
ICOT Miami offers social and business entrepreneurs access to local, national and international talent that can identify the challenges and opportunities of an increasingly interconnected world, and who can address them creatively, cooperatively and constructively.

Value to Government Officials and Public Servants
ICOT Miami offers a forum for government officials and public servants to create and promote a political arena driven by thinking, innovation and ethical approaches.

Themes

Now more than ever it is imperative to innovate and deal with a deep and wide range of global problems immediately, as the consequences of not doing so are, frankly, dire. So, join us to marshal and develop the thinking and application of hearts and minds to better serve our fellow global citizens and planet. The conference is emphatically transdisciplinary in trend, drawing from such fields as education, neuroscience, health sciences, the arts, sports, government, business, anthropology, history, cross-cultural studies, architecture, engineering, economics, geography, technology and other areas. Issues like globalization, climate change, demographic changes, mass migration, immigration, technology, the global economy and ethical dilemmas lead us inquire and find solutions from multiple perspectives. With the theme "Cultivating Mindsets for Global Citizens" we aim to create awareness about global issues and the big questions that the next generations will inherit from us. Together we will explore strategies for deeply engaging citizens as young as toddlers up to seniors in understanding world issues from different points of view. We will consider the interdependency of different disciplines in an effort to collaboratively find solutions to global problems in a digital era. Well-designed education programs of today offer relevant value by helping students identify the issues and problems of living in this world, develop viable problem solving and decision-making skills, equip them with skills and dispositions for dealing creatively, cooperatively, and constructively with globalization, global citizenry, environmental sustainability, technology and related themes. ICOT 2018 identified three focus areas based on questions the future holds and issues our next generation will inherit. The trigger questions are designed to spark or guide the submission of proposals. We invite presenters to share their big questions and add to any of the suggested questions or topics in order to open discussion and stimulate thought provoking conversations towards thinking and global mindedness.

Education, Learning and the Brain

- How do we develop mindfulness and thinking dispositions to learn?
- How do gaps in human development, and education systems affect the work place?
- What does cutting edge research on the brain tell us about how we think, feel, act and learn for the 21st century (e.g. upgrading our mental software)?
- How do neuroscience, cognitive development theories and the arts influence pedagogical practices from infancy through adulthood?
- How can we make better use of brain-power and thinking skills to optimize our human experience and expression?
- How can research modernize approaches to public policy regarding health, well-being and education?
- How do research and development inform us of the interdependency of humans and environment?

Health and Well-being

- How do we develop mindfulness of the interconnectedness of health and well-being?
- How do gaps in human development, health and education systems affect the economy?
- How can research modernize approaches to public policy regarding health, well-being and education?

- How do research and development inform us of the interdependency of humans and environment?

Environmental sustainability

- How do disciplinary and transdisciplinary thinking and practices promote environmental sustainability and revitalization?
- How do thinking skills promote practices that lead to environmental sustainability and revitalization?
- How does the past influence our thinking and current practices to create a better future?
- How can we use thinking & creativity skills to design a workable and inspiring future?
- How do we promote the development of thinking skills from infants to adults that lead to the use of knowledge, technology, and innovation to promote sustainability and revitalization?

Population movement, integration and global citizenship

- How do we prepare individuals & societies to embrace diversity and develop acceptance and empathy?
- How do we develop mindsets to create policies for demographic and cultural diversity?
- How do we develop mindsets and skills to promote interdependent dialogue & practices for respectful coexistence?
- How can cultural and artistic expressions enhance and elevate our shared human experience and identities?

Big Questions

- What should be the purposes that guide our educational goals?
- What are essential life-skills for success in school and in life, now and in the emerging future?
- How do we foster dispositions that support thoughtful learning and understanding across disciplines?
- How should we as human beings truly connect in a digital age?
- How do we thoughtfully confront civic, moral and ethical problems?
- What are the implications of the digital-age in our thinking process, problem finding and problem solving?
- What type of graduates is the world expecting from schools?
- How should we prepare and equip students for jobs that do not exist now?
- What practical strategies are you using to prepare creative and innovative citizens to solve current and future global issues?
- What strategies and tactics promote the connection between global citizenship and global engagement?
- How should we design and build sustainable environments for security, enjoyment and play?
- How do we create and promote a political arena driven by thinking, innovation, and ethical approaches?

Organization

Academically driven

ICOT Miami will feature keynote speakers, featured speakers, researchers, practitioners and leaders in the fields of thinking and learning and who draw upon a variety of disciplines, including education, government, business, history, neuroscience, architecture, sociology and anthropology, health sciences, sports and the arts, among others.

ICOT Miami is organized by Florida International University (FIU), Visible Thinking South Florida and the Association for Thinking and Learning. FIU is a public research university with colleges and schools that offer bachelor's, master's and doctoral programs in fields such as business, education, engineering, computer science, international relations, architecture, law and medicine. FIU is classified by Carnegie as a "R1: Doctoral Universities Highest Research Activity" and recognized as a Carnegie Community Engaged university. As such, ICOT Miami leverages the body of knowledge on thinking, learning and education being developed by FIU researchers, faculty and students and their network of colleagues and peers. FIU is an Ashoka Changemaker campus dedicated to promoting Ashoka's mission of social entrepreneurship to further a culture of social innovation in higher education. The Association for Thinking and Learning, originally Visible Thinking South Florida, is an initiative founded by Dr. Angela K Salmon in 2007 to engage new graduates in a professional community, support teachers' continuous professional development and action research, and build communities of practice and networking. It aims to bring cutting-edge research on thinking and learning and coach practitioners in the implementation of new ideas. The association previously hosted five International Visible Thinking Conferences at FIU.

International

Miami is known as the "Gateway to the Americas." As such, ICOT Miami is uniquely poised to connect thinkers and learners from around the world to promote the appreciation of the perspectives and contributions of diverse populations and to meet the challenges and opportunities of our increasingly global and interconnected world. Located in Miami-Dade County in southeast Florida, Miami is a leader in finance, trade, tourism, entertainment, media, fashion, culture and the arts. It serves as the headquarters for Latin American operations for many multinational corporations, including AIG, American Airlines, Disney, Exxon, FedEx, Kraft Foods, Microsoft, Sony, Visa, Wal-Mart and Yahoo, among others. Miami International Airport and Port Miami are among the nation's busiest ports of entry, especially for people and cargo from the Caribbean and South America. Nearly 60 percent of Miami-Dade County's population was born outside of the U.S., and95 percent of Miami-Dade County's foreign-born residents are from Latin America and the Caribbean. People from Europe, Africa, Asia and Oceana also make up the city's multicultural mosaic.

Ideally located

Organized by Florida International University (FIU) and the Association of Thinking and Learning (ATL) at FIU's Modesto A. Maidique Campus, ICOT Miami is ideally located in the heart of South Florida. The conference venue is nearly 11 miles from Miami International Airport and nearly 45 miles from the Ft. Lauderdale-Hollywood International Airport. Shuttled transportation to and from preferred hotels in nearby Doral, Fla. make it easy for patrons to attend the conference. Public transportation, including buses and trolleys, allow for easy traveling and exploring around

neighboring areas including Sweetwater, Little Havana, Coral Gables, Coconut Grove, Brickell and Downtown Miami.

Committees

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- Karin Morrison, Australia
- David Perkins, USA
- Jane Stewart, Australia
- Robert Swartz, USA

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- Yildiz Uzuner, Anadolu University (Turkey)
- Sonja Vandeleur Roedean School, South Africa
- Ana Maria Woll, Casuarinas, Peru

Keynote Speakers

Veronica Boix Mansilla is a Principal Investigator and Steering Committee member at Project Zero, Harvard Graduate School of Education, where she leads the IdGlobal Project and chairs the Future of Learning Institute. With a background in cognitive science, human development and education, she examines how to prepare our youth for a world of increasing complexity and interdependence. Her research focuses on three main areas. She studies (a) global competence as it develops among learners and teachers in various world regions; (b) quality interdisciplinary research and education among experts, teachers and youth; and (c) quality teaching and learning in disciplines (history, biology, the arts) as lenses through which to understand the world. Veronica's work has produced frameworks and practical tools to support educators in interested in quality teaching, learning, curriculum, research, assessment, professional development, and program evaluation. Her writing on interdisciplinary work and evaluation—has informed National Academies of Science, National Science Foundation, International Baccalaureate's interdisciplinary initiatives. Her work with the Asia Society on Global Competence education set the foundation for the US Department of Education's International Education strategy. Veronica serves as an advisor at a variety of institutions including the Asia Society, Association of American Colleges and Universities, Council of Chief State School Officers, the Socio-Environmental Synthesis Center, the International Baccalaureate, WorldSavy and Global Kids, among others. She teaches at the Harvard Graduate School of Education and has taught the University of Buenos Aires. She is the author of multiple papers and books including "Educating for Global Competence: Preparing our youth to engage the world" (2011) with Tony Jackson.

Dr. Arthur Costa Arthur L. Costa is an Emeritus Professor of Education at California State University, Sacramento and Co-founder of the Center for Cognitive Coaching in El Dorado Hills, California. He has served as a classroom teacher, a curriculum consultant, an assistant superintendent for instruction and as the Director of Educational Programs for the National Aeronautics and Space Administration. He has made presentations and conducted workshops in all fifty states as well as Mexico, Central and South America, Canada, Australia, New Zealand, Africa, Europe, Asia, the Middle East and the Islands of the South Pacific. Dr. Costa has devoted his career to improving education through self-directed learning and more thought-full instruction and assessment. Author of numerous journal articles, he edited the book, Developing Minds: A Resource Book for Teaching Thinking; *is the author of* The Enabling Behaviors, *and* The School as a Home for the Mind. He is co-author (with Larry Lowery) of Techniques for Teaching Thinking, Cognitive Coaching: Developing Self-Directed Leaders and Learners, *(with Bob* Garmston), Cognitive Capital *(*with Bob Garmston and Diane Zimmerman) and co-author of Assessment in the Learning Organization, Assessment Strategies for Self-Directed Learning and the Habits of Mind Series, Learning and Leading with Habits of Mind, Habits of Mind Across the Curriculum, and Dispositions: Reframing Teaching and Learning (with Bena Kallick) *and* the trilogy*, Process as Content* (with Rosemarie Liebmann). His works have been translated into Dutch, Chinese, Spanish, Hebrew, Italian and Arabic. Active in many professional organizations, Dr. Costa served as President of the California Association for Supervision and Curriculum Development and was the National President of Association for Supervision and Curriculum. Development. from 1988 to 1989. He was the recipient of the Lifetime Achievement Award from the National Urban Alliance in 2010 and the Thinking Changemaker Award at the International Conference on Thinking in Bilbao, Spain in July of 2015.

Howard Gardner is the John H. and Elisabeth A. Hobbs Professor of Cognition and Education at the Harvard Graduate School of Education. He also holds positions as Adjunct Professor of Psychology at Harvard University and Senior Director of Harvard Project Zero. Among numerous honors, Gardner received a MacArthur Prize Fellowship in 1981. He has received honorary degrees from thirty-one colleges and universities, including institutions in Bulgaria, Chile, Greece, Hong Kong, Ireland, Israel, Italy, South Korea, and Spain. Gardner received the Prince of Asturias Award for Social Sciences in 2011, and in 2015, he was awarded with the Brock International Prize in Education. The author of thirty books translated into thirty-two languages, and several hundred articles, Gardner is best known in educational circles for his theory of multiple intelligences, a critique of the notion that there exists but a single human intelligence that can be adequately assessed by standard psychometric instruments. For many years, Gardner was co-director of Project Zero and is now Chair of its Steering Committee. He also directs the Good Project, a set of research endeavors about work, citizenship, collaboration, and digital life. More recently, with long time Project Zero colleagues Lynn Barendsen and Wendy Fischman, he has conducted reflection sessions designed to enhance the understanding and incidence of good work among young people. With Carrie James and other colleagues at Project Zero, he is also investigating ethical dimensions entailed in the use of the new digital media. Among current research undertakings is a national investigation of higher education in the United States in the 21st century. His latest co-authored book, The App Generation: How Today's Youth Navigate Identity, Intimacy, and Imagination in the Digital World*,* was published in October 2013. In 2014, Gardner's Festschrift, entitled Mind, Work, and Life, was published in honor of his 70th birthday and is available for free electronically.

Dr. Temple Grandin is a designer of livestock handling facilities and a Professor of Animal Science at Colorado State University. Facilities she has designed are located in the United States, Canada, Europe, Mexico, Australia, New Zealand, and other countries. In North America, almost half of the cattle are handled in a center track restrainer system that she designed for meat plants. She obtained her B.A. at Franklin Pierce College and her M.S. in Animal Science at Arizona State University. Dr. Grandin received her Ph.D in Animal Science from the University of Illinois in 1989. Grandin became nationally known after appearing in Oliver Sacks's 1995 book, An Anthropologist on Mars, the title of which is derived from Grandin's description of how she feels in social settings. By that time, she had already made a name for herself in autism advocacy circles. Grandin first spoke publicly about autism in the 1980s, at the request of one of the founders of the Autism Society of America. She has appeared on television shows such as 20/20, 48 Hours, CNN Larry King Live, PrimeTime Live, 60 Minutes, the Today Show, and many shows in other countries. She has been featured in People Magazine, the New York Times, Forbes, U.S. News and World Report, Time Magazine, the New York Times book review, and Discover magazine. In 2010, Time Magazine named her one of the 100 most influential people. Interviews with Dr. Grandin have been broadcast on National Public Radio and she has a 2010 TED Lecture titled "The World Needs ALL Kinds of Minds." Her life story has also been made into an HBO movie titled "Temple Grandin, staring Claire Danes," which won seven Emmy awards and a Golden Globe. The movie shows her life as a teenager and how she started her career. In 2016 she received the Meritorious award from the OIE World Organization for Animal Health in Paris, France for her work on developing animal welfare guidelines. This same year she was also inducted into The American Academy of Arts and Sciences.

Mary Helen Immordino-Yang, EdD, studies the psychological and neurobiological bases of social emotion, self-awareness and culture and their implications for learning, development and schools. She is an Associate Professor of Education at the Rossier School of Education, an Associate Professor of Psychology at the Brain and Creativity Institute, and a member of the Neuroscience Graduate Program Faculty at the University of Southern California. A former urban public junior high school science teacher, she earned her doctorate at Harvard University in 2005 and completed her postdoctoral training with Antonio Damasio and Robert Rueda in 2008. Since then she has received numerous local, national and international awards for her research and for her impact on education. Immordino-Yang was elected 2016-2018 president of the International Mind, Brain and Education Society by the society's membership (www.IMBES.org). She is serving as a distinguished scientist on the Aspen Institute's National Commission on Social, Emotional and Academic Development, where she was selected to the sub-committee of six scientists and educators drafting a working definition of SEAD. She is appointed to the National Academies of Sciences, Engineering, and Medicine's Committee on the Science and Practice of Learning (i.e., the committee writing, How People Learn II). In 2015-2016, Immordino-Yang was selected by the AERA leadership as one of thirty scholars to participate in the AERA Knowledge Forum centennial initiative. Immordino-Yang is associate Editor for the award-winning journal Mind, Brain and Education and for the new journal AERA Open. She is on the editorial boards of the Journal of Experimental Psychology: General, Cogent Psychology and Culture and Brain. Among other funded work, Immordino-Yang has a cross-cultural, longitudinal NSF CAREER study investigating adolescent brain and social-emotional development, and relations to school and life achievement in urban contexts. She is currently also PI for a school-based intervention study of the role of students' social-emotional competencies in academic success, funded by the Templeton Foundation via the UPenn Imagination Institute. She is PI on a study of the neural and psychosocial correlates of mindsets in low-SES adolescents from two cultural groups, funded by the Raikes Foundation via the Stanford Mindsets Scholars Network. Immordino-Yang collaborates with ABC Unified School District, Manhattan Beach USD, Cerritos College, Rowland USD, and Los Angeles USD in her work. She serves as scientific adviser to several Los Angeles schools/districts.

Bena Kallick, Ph.D is the Co-Director of Institute for Habits of Mind and Program Director for Eduplanet21. She is a well-known consultant providing services to school districts, state departments of education, professional organizations, and public agencies throughout the United States and abroad. Some of her written work includes: Assessment in the Learning Organization (ASCD, 1998) , the Habits of Mind series (ASCD, 2000), Strategies for Self-Directed Learning (Corwin Press, 2004) , Learning and Leading with Habits of Mind (ASCD, 2008), *Habits of Mind Across the Curriculum* (ASCD, 2009), *Dispositions:* Reframing Teaching and Learning (Corwin,2014) (all co-authored with Arthur Costa), and Using Curriculum Mapping and Assessment to Improve Student Learning (Corwin Press, 2009, (co-authored with Jeff Colosimo). Her works have been translated into Dutch, Chinese, Spanish, Italian, Hebrew, and Arabic. Her new book, Students at the Center: Personalized Learning with Habits of Mind, co-authored with Allison Zmuda, will be published by ASCD in January, 2017. Her work with Dr. Art Costa led to the development of the Institute for Habits of Mind (www.instituteforhabitsofmind.com), an international institute dedicated to transforming schools into places where thinking and Habits of Mind are taught, practiced, valued and have become infused into the culture of the school and community. She and Art Costa have an online course using the EduPlanet21 platform. Eduplanet21 is a company dedicated to online Professional Learning and Curriculum

Development based on the Understanding by Design® Framework. Kallick's teaching appointments have included Yale University School of Organization and Management, University of Massachusetts Center for Creative and Critical Thinking, and Union Graduate School. She was formerly on the Boards of the Apple Foundation, Jobs for the Future, Weston Woods Institute, and Communities for Learning.

Dr. David Perkins is the Carl H. Pforzheimer, Jr., Research Professor of Teaching and Learning at the Harvard Graduate School of Education, recently retired from the Senior Faculty. He has conducted long-term programs of research and development in the areas of teaching and learning for understanding, creativity, problem-solving and reasoning in the arts, sciences, and everyday life. He has also studied the role of educational technologies in teaching and learning and has designed learning structures and strategies in organizations to facilitate personal and organizational understanding and intelligence. David Perkins received his Ph.D. in mathematics and artificial intelligence from the Massachusetts Institute of Technology in 1970. As a graduate student he also was a founding member of Harvard Project Zero at the Harvard Graduate School of Education. He co-directed Project Zero for nearly 30 years, and now serves as senior co-director on its steering committee. His most recent book, published by Jossey-Bass in Fall 2014, is Future Wise: Educating our Children for a Changing World. His Making Learning Whole (Jossey-Bass, 2008) shares an approach to organizing learning around full meaningful endeavors. He is the author of The Mind's Best Work on creativity (Harvard University Press, 1981), The Eureka Effect on creativity (Norton, 2001), Smart Schools on pedagogy and school development (The Free Press, 1992), Outsmarting IQ on intelligence and its cultivation (The Free Press, 1995), Knowledge as Design on teaching and learning for understanding (Erlbaum, 1986), The Intelligent Eye on learning to think through the arts (Getty, 1994), King Arthur's Round Table: How Collaborative Conversations Create Smart Organizations (Wiley, 2003), and has co-authored and co-edited several other books, as well as publishing many articles.

Adam Strom is the Director of Re-Imagining Migration. a new organization created to foster understanding and the successful inclusion of migrant youth across the globe. Re-Imagining Migration provides resources and training to educators to equip them to engage the children of migration and their peers to learn from one another in reflective learning environments.
The educational resources developed under Strom's direction have been used in tens of thousands of classrooms and experienced by millions of students around the world including Stories of Identity: Religion, Migration, and Belonging in a Changing World and What Do We Do with a Difference? France and The Debate Over Headscarves in Schools, Identity, and Belonging in a Changing Great Britain, and the viewer's guide to I Learn America. Before joining helping to found ReImagining Migration, Strom was the Director of Scholarship and Innovation at Facing History and Ourselves.

Featured Speakers

Donna Kim-Brand works internationally teaching, coaching and facilitating visionary senior leaders, entrepreneurial business owners, teachers and students to develop and apply 'Game Changer Thinking'. This includes skills in thinking, learning and creativity (TLC) designed to help articulate, implement and manifest their goals from the vantage point of Evolutionary Thought Leader in their personal life, business, education and society. She is also creator of WiseUpforWork.com, one of a series of member sites being created to support 'learning what you need to get what you want', FamilyBrainGym.com, MindfulMovesBookandDvd.com and WomenWiseandFree.com. Donna is also Legacy Strategist & Facet Manager for her original concepts of 'Living Legacy' , 'Masterpiece in the Making' and 'Kaleidoscopic Living', all expressions of 'Creative Living and Giving' which you can experience in her workshops and coaching. She also founded StepbyStepWorldPeace.com and is a spokesperson for AmbassadorsForWorldPeace.org, having worked closely with the late founder, Jigme Norbu. Donna has authored 'The FORCE of Creative Collaboration: 5 Dynamics that Cultivate a Creative Culture', 'Beginners Guide to Mental Fitness and Training Your Brain with Thinking, Learning and Creativity Tools', 'Creative Mindset A to Z : 26 Ways to Become a Creative Hotshot' and 'Bags of Creativity: 40 Creativity Tools for Your Creative Journey'. 'Family Brain Gym: 30 Transformational Tools for a Better Life at Work, Home and School' and 'Mindful Moves: 31 Ways to Stretch Your Body and Mind' were co-authored with Richard Israel.

Dr. Fred Burton is Associate Professor of Teacher Education at Ashland University in Ohio. For over 40 years he has taught in university graduate schools all the way up to kindergarten! His entire career has focused on living out the principles of the progressive education era beginning with his work as an elementary teacher studying at the Mountain View Center in Boulder, Colorado with the late David Hawkins. For thirteen years, he was the principal of Wickliffe Progressive Elementary School, one of the few progressive public elementary schools in the United States today. He has worked in partnership with Project Zero in the Harvard Graduate School of Education as Director of the Ohio Visible Learning Project. Dr. Burton is the Visiting Education Scholar at the Columbus Museum of Art. Although he has published various articles and given talks on what he has learned about the integrated curriculum and school culture, he believes his experience as a guitarist in a "classic rock" jam band has taught him a great deal about the value of group learning and improvisation in education. It's also gotten him a *lot* of free food and drinks.

Edward P. Clapp, Ed.D. is a principal investigator at Project Zero where he is a co-director of the Agency *by* Design (A*b*D) initiative—an investigation of the promises, practices, and pedagogies of maker-centered learning—and the Creating Communities of Innovation initiative—a research study geared towards developing educational innovations amongst a network of schools in the United Arab Emirates. Edward's current research interests include creativity and innovation, maker-centered learning, design thinking, and contemporary approaches to arts teaching and learning. In addition to his work as an educational researcher, Edward is also a Lecturer on Education at the Harvard Graduate School of Education. Edward's most recent books include Participatory Creativity: Introducing Access and Equity to the Creative Classroom *(2016, Routledge) and* Maker-Centered Learning: Empowering Young People to Shape their Worlds *(2016, Jossey-Bass).*

Guy Claxton is a cognitive scientist specializing in the expandability of our mental powers. He is the author of many books including Hare Brain: Tortoise Mind*,* Wise Up: The Challenge of Lifelong Learning*, and* Intelligence in the Flesh: Why Your Mind Needs Your Body Much More Than It Thinks. Guy's bestseller What's the Point of School? was highly praised by Harvard Professors Howard Gardner and David Perkins, creativity guru Sir Ken Robinson and neuroscientist Baroness Susan Greenfield. Guy is the founder and author of The Learning Power Approach, a global influence on education which draws together practical methods of teaching that lead to high levels of achievement through the development of useful, general qualities of mind. Professor Carol Dweck called his co-authored book The Learning Powered School *'*superb, innovative and important'. She said, 'These schools will turn out not just high achievers but great all-round learners and leaders.' Guy's work has influenced youngsters' lives throughout the UK as well as in, for example, Ireland, Poland, Singapore, Indonesia, Australia, New Zealand, Argentina, Brazil, Chile and now the USA. Guy has an MA in the Natural Sciences from Cambridge and a doctorate in Cognitive Science from Oxford. He is a Fellow of the British Psychological Society, the Academy of the Social Sciences and the Royal Society of Arts. He has been Professor of the Learning Sciences at Bristol University, Co-Director of the Centre for Real-World Learning at Winchester University, and is currently Visiting Professor of Education at King's College London.

Montserrat Del Pozo, Bachelor of Arts (Philosophy and Letters), Superior Audiovisual Technician, master's in psychology and Family Management. Graduate of the Institute for the Achievement of Human Potential (Philadelphia. USA). Graduate of National Center for Teaching Thinking Newton Centre, Universidad de Massachusetts, USA She participated in the three-year program on Thinking-Based Learning offered by the National Center for Teaching Thinking, USA, at Colegio Montserrat, 2007-2011, and received certification for her innovative application and use of these ideas at Colegio Montserrat. She has participated in multiple courses at Harvard Project Zero, at the Key Learning Community in USA, at Reggio Emilia (Italy) and at the ICOT 200 in Sweden. She has participated and been a speaker at numerous conferences and courses in Spain and Latin America and has written several articles in journals:" Padres y Maestros", " Cuadernos de Pedagogía", " Aula", " Magisterio". Currently working as a trainer of trainers in Spain, Venezuela, Colombia, Brazil and Cameroon. Montserrat del Pozo is considered the leader of innovation and change in the Spanish Educational world. Director of Educational Television Channel THINK1.TV. Superior General of the Missionary Daughters of the Holy Family of Nazareth. Educational Innovation Award in 2010 and 2014.

Brunoe Della Chiesa originally a linguist, Bruno della Chiesa is of Italian, French and German descent and describes himself as an "engaged cosmopolitan". He founded and led between 1999 and 2008, within OECD's Center for Educational Research and Innovation, the project "Brain Research and Learning Sciences" and is thus considered one of the main founders of educational neuroscience. Since 2008, he teaches at Harvard University, and has established theories on the "motivational vortex" and on the "tesseracts in the brain". His work on "promoting and raising global awareness" links (educational) neuroscience, (language) didactics, (socio) linguistics, (international) policy, and (philosophy of) ethics.

Stephanie Doscher is Director of Florida International University's (FIU) Global Learning for Global Citizenship initiative, recognized by the Institute of International Education as winner of the 2016 Heiskell Award for Internationalizing the Campus. Stephanie also serves as Program

Evaluator for FIU's Title VI-funded Kimberly Green Latin American and Caribbean National Resource Center. She holds an Ed.D. in Educational Leadership and Administration from FIU, an M.Ed. in Secondary Education from Western Washington University, and a B.A. in History from Emory University. Stephanie's work focuses primarily on organizational leadership, professional development, and integrative curricular and co-curricular design to enable global learning for all. Her forthcoming book, Making Global Learning Universal: Promoting Inclusion and Success for All Students (Stylus, July 2018), co-authored with Hilary Landorf and Jaffus Hardrick, presents a research-based definition for global learning and a comprehensive model for engaging all students in global learning. Other recent publications include, "Universal Global Learning, Inclusive Excellence, and Higher Education's Greater Purposes" in AAC&*U's* Peer Review (Winter 2018) and "Defining Global Learning at Florida International University" in AAC&U's *Diversity & Democracy* (Summer 2015).

ERSKINE S. DOTTIN – was born in the salubrious climes of the West Indian island of Barbados and came to the USA in 1970. He is now Professor Emeritus, and Frost Professor in the School of Education and Human Development, College of Arts, Sciences and Education, Florida International University, Miami, Florida. He received his bachelor's degree (in Physical Education, 1973) and master's degree (in Educational Leadership, 1974) from the University of West Florida, and his Doctor of Philosophy (in Educational Policy Analysis and Social Foundations of Education, 1976) from Miami University of Ohio. He served on the faculty at the University of West Florida from 1977 to 1992, and a member of the faculty in the College of Education (now School of Education) at Florida International University from 1992 until 2015. He was awarded the College of Education's Frost Professorship during the 2009-2010 academic year and used that professorship to organize the first ever Faculty Learning Community on Habits of Mind in the College of Education and the University. He also served as a Fulbright Scholar at Rivers State University of Science and Technology in Port Harcourt, Nigeria from 1988 to 1989. He was one of the founders of the Florida Foundations of Education and Policy Studies Society and served as its President from 1986-1991. He is a member of the Phi Kappa Phi Scholastic Honor Society, and his research interests are in the areas of humanistic education, the use of case methods and dispositions as habits of mind in teacher education. He has been included in the Who's Who in American Education and in Who's Who in the World publications. He is a past president of both the Southeast Philosophy of Education Society, and the Council for Social Foundations of Education (formerly the Council of Learned Societies in Education) and served as the latter's representative on the Unit Accreditation Board of the National Council for Accreditation of Teacher Education (now the Council for Accreditation of Educator Preparation). He was instrumental in the NCATE Standards Committee's work on the conceptual framework. He brought his accreditation expertise to Florida International University in 1992 and used it to help the College of Education move from being judged by NCATE Examiners as failing all NCATE Standards to receiving full accreditation status, with all standards met, in 1996 and to its receiving a national award from the Association of Colleges for Teacher Education (AACTE). His articles have appeared in Teaching and Teacher Education, the Journal of Teacher Education, the Journal of Educational Opportunity, Educational Studies Journal, the Journal of Student-Centered Learning, Teacher Education Quarterly, the Journal of Humanistic Education, Educational Foundations, College Student Journal, the Florida Journal of Teacher Education, Holistic Education Review, and the Florida Association of Teacher Educators E-Journal. He is the author of Developing a Conceptual Framework: The Stimulation for Coherence and Continuous Improvement in Teacher Education; Creating a Professional

Community Through Means-Ends Connections to Facilitate the Acquisition of Moral Dispositions: Developing, Living, and Evaluating a Conceptual Framework in Teacher Education, and Dispositions as Habits of Mind: Making Professional Conduct More Intelligent. He has co-authored Thinking About Education: Philosophical Issues and Perspectives; Teaching as Enhancing Human Effectiveness; Enhancing Effective Thinking and Problem Solving in Teacher Education Candidates and In-Service Professional Educators; Bringing Out the Best in Human Effectiveness: Lessons for Educators from an Upward Bound Project, and Structuring Learning Environments in Teacher Education to Elicit Dispositions as Habits of Mind: Strategies Used and Lessons Learned.

Liz Dawes Duraisingh has been associated with Project Zero since 2003, when she began working as a research assistant on the Interdisciplinary Studies Project. After taking time out to complete her doctorate, she returned to Project Zero and became a Principal Investigator in 2014. With Carrie James and Shari Tishman, Liz co-directs Out of Eden Learn, an innovative online learning community that promotes cross-cultural inquiry and exchange among young people around the world, in collaboration with Pulitzer Prize-winning journalist Paul Salopek. Liz also co-directs Creating Communities of Innovation with Edward Clapp. This project supports inquiry-driven professional development for teachers, with the goal of promoting innovative practices in schools. To this end, Project Zero is developing an initial teacher network across seven GEMS Education schools in the United Arab Emirates that variously follow American, British, Indian, and International Baccalaureate curriculums. Liz additionally serves as Lecturer on Education at HGSE, teaching the introductory qualitative research course to incoming Ph.D. students. She was previously a middle and high school history teacher for eight years, working in both England and Australia. She has a B.A. in History and French from Oxford University, a Post Graduate Certificate of Education from the Institute of Education, University of London, and an Ed.M. and Ed.D. from HGSE. Her dissertation won the 2013 Larry Metcalf Exemplary Dissertation Award from the National Council for the Social Studies.

Tina Grotzer is a member of the faculty of education at the Harvard Graduate School of Education, a Principal Research Scientist at Project Zero, and a faculty member at the Center for Health and the Global Environment at the Harvard School of Public Health. Her research identifies ways in which understandings about the nature of causality impact our ability to deal with complexity in our world. It has four dominant strands: 1) How reasoning about causal complexity interacts with our decisions in the everyday world; 2) How causal understanding develops in supported contexts; 3) How causal understanding interacts with science learning (with the goal of developing curriculum to support deep understanding); and 4) the public understanding of science given the nature of science, the nature of causal complexity and the architecture of the human mind. Tina directs the Causal Learning in a Complex World Research Lab. Her work is funded by the National Science Foundation (NSF). She was awarded a Career Award from NSF in 2009 and a Presidential Early Career Award for Scientists and Engineers (PECASE) from President Obama in 2011. She is a Co-PI with Chris Dede on the EcoXPT and EcoMOBILE Project, funded by NSF (an extension of the earlier EcoMUVE Project funded by the Institute of Education Sciences (IES)), the goal of which is to teach the complex causal dynamics of ecosystems to middle school students. Tina was a program coordinator and teacher for 14 years, in the Arlington Public Schools, MA and at Poughkeepsie Day School, a Pre-K-12 school committed to child study and developing learner-centered programs. She received her doctorate and her master's from Harvard University. She holds a B.A. in Developmental Psychology from

Vassar College, having transferred from Dutchess Community College with support from Dean Colton Johnson through a program he was developing to build bridges for underprivileged community college students (for which she is eternally grateful).
http://www.pz.harvard.edu/who-we-are/people/tina-grotzer#sthash.Gva12Sog.dpuf

Robert H. Hacker
Bob serves as the Director of StartUP FIU, the University's initiative to support student, faculty, alumni and community exploration and development of scalable ventures in social and traditional entrepreneurship. Bob joined Florida International University (FIU) in 2004 and teaches traditional and social entrepreneurship in the Honors College. He has also taught social entrepreneurship at MIT Sloan (7 years) and the University of Miami (2 years) and is on the national faculty for the Goldman Sachs 10,000 Small Businesses program. His industry experience includes serving as the CFO of One Laptop per Child, an international education project that started at MIT. He also built a billion dollar public company in Indonesia in seven years and provided strategy consulting to Fortune 500 Japanese companies for ten years. He is the author of two books on entrepreneurship and a frequent speaker on social entrepreneurship.

Prof. Yoram Harpaz is the head of the principals' training department in Beit Belr College in Israel. He was a high school teacher for history and philosophy, a journalist, a researcher and implementer in The Branco Weiss Institute for the Development of Thinking, and the head of Mandel School for Educational Leadership. He published a few books and many articles on the aims of education, teaching and learning, and the promotion of good thinking. His book Teaching and Learning in a Community of Thinking (Springer, 2014) suggests a model of an Intel-Lect School (the model was published for Intel company) which is focused on cultivating good thinking.

David Hyerle received his doctorate from UC Berkeley with continuing studies as an Exchange Scholar for two years at the Harvard School of Education. He is an international leader in the field of thinking skills development, critical reflection, and 21st century learning. David may be best known as the developer of the Thinking Maps® model that is a dynamic, student-centered language. Presently, David is Co-Director of Thinking Schools International, a consulting group working around the world to share an integrated approach to educational transformation in places such as Ethiopia, Norway, Brazil, the UK and Malaysia. In the U.S., David is co-director of the Designs for Thinking consulting group and founder of Thinking Foundation, a nonprofit organization focused on research on thinking, leading and learning.

Dr. Hilary Landorf is founding Director of the Office of Global Learning Initiatives at Florida International University. The Office oversees FIU's university-wide initiative, Global Learning for Global Citizenship, winner of the Institute of International Education's 2016 Heiskell Award for Internationalizing the Campus. Hilary also serves as Executive Director of the Comparative and International Education Society. She is an Associate Professor in FIU's School of Education and Human Development and leader of its Master of Science degree program in International and Intercultural Education. She holds a Ph.D. in international education from New York University, an M.A. from the University of Virginia, and a B.A. from Stanford University. Hilary's expertise centers on visioning, developing, designing, and implementing the policies and practices of global learning efforts in higher education. She writes, consults, and presents internationally on integrating global learning in K-20 educational settings. Her recent publications include "Defining

Global Learning at Florida International University" in AAC&U's Diversity and Democracy, "Global Learning for Global Citizenship" in Human Development and Capabilities: Reimagining the University of the 21st Century, and "Education for Sustainable Human Development: Towards a Definition" in Theory and Research in Education. Her forthcoming book, co-authored with Dr. Stephanie Doscher and Dr. Jaffus Hardrick, is titled Making Global Learning Universal: Promoting Inclusion and Success for All Students

AeioTU's Executive Director, **Maria Adelaida López Carrasquilla**, is a well-known Colombian artist, and an expert in the Reggio Emilia philosophy. She has worked in aeioTU for the last 9 years making an impact in the lives of more than 144.100 children, improving the knowledge and abilities of more than 9.400 educators, and influencing the upbringing practices of more than 261.000 families. She was the Pedagogical Director in this organization from 2008 to 2016, period in which she lead the creation of the aeioTU´s Educational Experience, the pedagogical model used in these educational centers. This model was nominated for the WISE award, which recognizes innovative projects that can have a major impact on global education. Within this model, María Adelaida led the development of aeioTU´s pedagogical curriculum, a set of pedagogical instruments designed to help teachers implement the aeioTU Educational Experience with quality, clarity and coherence. It represents the materialization of aeioTU´s many years of investigation and experience with different communities, a reflection of the effort made in order to share this experience and the knowledge acquired with Colombia and the entire world. As the Pedagogical Director, María Adelaida also led aeioTU´s relationship with Reggio Children, which is enriched by the fact that aeioTU belongs to the Reggio Chlidren International Network. This is a community created to maintain an international dialogue with the aim to support the identity and work of Reggio Children and The Loris Malaguzzi International Center. María Adelaida has been a university professor, guest artist and speaker, and a member and collaborator of national associations for early childhood in the United States. She graduated in Plastic Arts from the Universidad Nacional de Colombia, and obtained her master's in arts at the Pennsylvania arts academy. She has participated in different workshops and seminars about art, education and the Reggio Emilia Philosophy, which took place in different institutions including the United Way Center for Excellence in Early Education, Harvard University, Loris Malaguzzi International Center, Massachusetts University, and the North American Reggio Emilia Alliance, among others. She was an adviser at United Way Center for Excellence for four years and a founding member of the Visible Thinking Miami – Action Research Group for Early Childhood Education. As an artist she has been exhibiting her artwork national and internationally for more than twenty years, and she has been able to develop an artistic body of work that has won awards and mentions in national art contexts. Her work has been covered in numerous publications and is part of the Banco de la Republica collection, the Art Museum in Medellin, and the Museum in Antioquia among others.

Dr. Flavia Iuspa is an instructor and program director of the MSCI Jamaica and MSCI Online Programs in the Department of Teaching and Learning. Before joining the School of Education and Human Development, she was the program manager at the College of Business (COB) directing the COB's off-shore programs. Her teaching and research interests are embedded in her International and Intercultural Education specialization area within T&L, which include: 1) internationalization efforts in higher education institutions, 2) development of global perspective/global competences in students and teachers, and 3) internationalization practices in curriculum and instruction. Her research has been presented at AERA and CIES national

conferences. Dr. Iuspa also serves as co-chair of the International Conference of Thinking 2018 Miami.

Carol McGuinness is Professor of Psychology and now works in the School of Education at Queen's University Belfast in Northern Ireland. Her research focuses on the role of the metacognitive features of classroom talk. The major influence of her work can be seen in the Thinking Skills and Personal Capabilities Framework which is now a statutory requirement in the Northern Ireland Curriculum. She hosted the15th International Conference on Thinking in Belfast in June, 2011. She is the author of the influential report "From Thinking skills to Thinking Classrooms". Her research evaluated the impact of the methodology ACTS in primary school, for three years. She has been a consultant in the development of different curriculums at a national level and in pedagogy. Most recently she has worked with the British council and the Ministry of education in Thailand, to implement the project ACTS in Thailand

Ewan McIntosh Leading projects around the world for clients in education and industry, Ewan is the passionate and energizing tour de force behind NoTosh. A highly regarded keynote speaker at events around the world, he's also the author of How To Come Up With Great Ideas and Actually Make Them Happen and regularly writes about learning on his blog edu.blogs.com.
NoTosh is a global consultancy with a passion for learning and a conviction that innovation and creativity can change the way people think, the way they learn and the way they work – as individuals, teams, organizations and communities. "As a French and German high school teacher in Scotland back in the 1990s, I wanted to find new ways to help students engage with my subjects – I felt strongly that technology was both critical to this and underused in the classroom, so my classes were among the first in Europe to podcast and blog as part of their daily learning.
"From here, it was a reasonably logical step to become National Advisor on Learning and Technology Futures for the Scottish Government … although joining Channel 4 as their Digital Commissioner in 2008 was a step in a different direction. "But it was at Channel 4, that I became fascinated by the strategies and tactics that my creative colleagues were using to create imaginative and truly engaging digital services for young people. "Could I take this insight and make it work in an education setting? Yes, I reckoned

Carlos Montúfar is an Ecuadorian physicist who has dedicated his life to education. He earned his Ph.D. in Physics at Notre Dame. A firm believer in the Liberal Arts he cofounded Universidad San Francisco de Quito-USFQ, a private university that has grown in just 29 years to be the leading higher education institution in Ecuador. USFQ with over 8000 students and close to 400 full time faculty now offers degrees in all fields including medicine, law, architecture and engineering. In 1995 he headed the foundation of Colegio Menor, a private PK-12 school in Quito. At present the School (Advanced Ed Accredited) has over 1600 students and has recently established a similar school in Guayaquil, the largest city in Ecuador. The unforeseen success of these institutions lies on quality faculty, a liberal arts curriculum based on the founding principles of "goodness, beauty and truth" that Carlos cultivates in the faculty.
Karin Morrison is committed to education and her career has included teaching from preschool to postgraduate levels, leadership and senior executive positions. At Bialik College she was Director of the Rosenkranz Centre for Excellence and Achievement in Education and the initiator and in school leader of projects including the first Cultures of Thinking project. This project was developed in collaboration with Project Zero at the Harvard Graduate School of Education. Reggio Emilia has been, and is, a continual source of inspiration for her. As inaugural Director of the

Development Centre at Independent Schools Victoria (ISV), she coordinated the seminar program for professional learning of educators at all levels in the 220 member schools of ISV and introduced new and innovative learning opportunities. These include initiating and working on projects at ISV in collaboration with Project Zero, including Leading Learning that Matters – a new project for accomplished school leaders, and was also instrumental in introducing the work of the Feuerstein Institute and establishing the first Authorized Training Centre in Australia for this renowned organization, and introducing to, and supporting several projects in many Australian schools. She also highly values her experiences as an ICOT convener and being a member of the ICOT Standing Committee, a small group of people who enable the sharing of thinking, wonderful ideas and practical experiences of people throughout the world to provide accessible learning opportunities at multi-disciplinary international gatherings to a wide variety of participants. Karin is a lifelong learner, more recently inspired by Dream a Dream too, and now as an independent consultant has the freedom to fulfil her commitment to helping individuals of all ages, abilities, backgrounds, and organizations, in moving forward, fostering open-mindsets to new ideas and intrinsic motivation to think deeply and broadly, learn, explore, develop understanding and take constructive action.

Sandra Parks is a published author of young adult books. Published credits of Sandra Parks include Building Thinking Skills- Critical Thinking skills for reading, writing, math, science (Level 1(Grades 2-3) (Building Thinking Skills), Building Thinking Skills (Teacher's Manual). Co-Author, thirty-eight books on instruction to improve students' thinking, including the Thinking Skills & Key Concepts series, the Building Thinking Skills series, Organizing Thinking, Organizing My Learning, Learning On Purpose, and Infusing Critical and Creative Thinking into Elementary Instruction. Critical Thinking Company, Pacific Grove, CA (1981- 2015) Curriculum consultant to school districts on thinking instruction and/or gifted and talented education in 40 states, Virgin Islands, and two Canadian provinces (1977-2015) In-service instructor and curriculum consultant, Project Bright Idea, North Carolina Department of Public Instruction and Duke University (2000- 2015) Founding Co-director, National Center for Teaching Thinking, Newton, MA Wrote teacher training manuals, organized three summer institutes, organized and marketed regional workshops, program development consulting for the Ministry of Education of Malaysia, hosted the 1994 International Conference on Thinking, Massachusetts Institute of Technology, Cambridge, MA (1991-1995). Adjunct instructor, gifted education and/or instruction to improve students' thinking, University of North Florida (1982-86), University of Miami (1988-89), University of Massachusetts (1989-1990), Instituto Polytechnico, Monterrey, Mexico (1989), University of East Anglia, Norwich, England (1994), University of Alaska, Anchorage, AL (1979), Indiana State University, Terre Haute, IN (1979) Gifted education teacher, Julington Creek School, Fruit Cove, FL (1982) Federal grant reviewer, United States Department of Education, Office of Gifted and Talented (1979-1980) Co-authored the USOE grant to fund the Indiana Department of Instruction Gifted/Talented program. Project Director, Title IV-C innovative program, Indiana State University Laboratory School and Vigo County School Corporation (1977-1979).

For **Kynan Robinson**, every day is a performance. Not only is he an eight-album trombonist and record- label owner, but from his ten years as a classroom teacher, and a further decade developing multi-million-dollar businesses, he brings a unique perspective to NoTosh clients. He has driven some of Australia's fastest growing education technology firms. He is masterful at valuing the individual voice within the collective and pushing teams to put their most important

user at the center of their thinking. “From my roots in music, to teaching in school classrooms, nothing gives me more pleasure than creating the space for people to thrive and grow. “So many businesses are hierarchical, when they don’t have to be. But I make a point of working with individuals to take more responsibility for the team’s work. It all starts with learning how to share things in Plain English, how to trust each other, how to take risks without individuals feeling that they’re jeopardizing their own career. “Whether you’re in a sales team or a board room, the impact of switching to this way of thinking is life-changing, business- changing. You help people on the ground become leaders, not just delivering on their job but developing fresh ideas that become the lifeblood of the organization. It doesn’t matter if you’re a school or a multi-million-dollar business – the principle is same.”

Alise Shafer Ivey is the Executive Director of the Pedagogical Institute and the founder of Evergreen Community School. She has worked with schools throughout the US and abroad including China, New Zealand, Nepal, Israel, Peru, Australia and Korea. She is a frequent lecturer on early childhood education and has taught Child Development at both UCLA Extension and Santa Monica College. She is a contributing author in the book, Teaching and Learning: Collaborative Exploration of the Reggio Emilia Approach and a TEDx Sunset Park speaker.

Dr. Robert Swartz. Robert Swartz is Director of the National Center for Teaching Thinking, USA, with branch offices in Spain and Chile. He received his doctorate from Harvard University in 1963 and is an emeritus faculty member at the University of Massachusetts at Boston (retired in 2002), where he was chairman of the Philosophy Department and founded the master’s program on Critical and Creative Thinking. He has worked extensively over the past thirty years with teachers, schools, school districts, and colleges internationally in staff-development projects on restructuring curriculum and instruction by infusing critical and creative thinking into content teaching. The countries he has worked in on thinking-based projects include the USA, the UK, Spain, Chile, Israel, New Zealand, Canada, Singapore, Malaysia, China (Hong Kong), Australia, Argentina, Venezuela, Saudi Arabia, Jordan, the United Arab Emirates, and Cyprus. He is the lead developer of the Thinking-Based Learning project, a multi-year project in which a large number of schools have undertaken to do a thorough infusion of critical and creative thinking into content instruction across their whole curriculum. He has been a co-presenter at conferences with David Perkins, Art Costa, Rebecca Reagan, and Carol McGuinness. His writing includes a book on Teaching Thinking; Issues and Approaches, co-authored with David Perkins (1989), and a series of 5 lesson design handbooks, some of which have been translated into Arabic, on Infusing Critical and Creative Thinking into Content Instruction, published in the 1990s and early 2000s. These have been co-authored by a number of educational practitioners, K-12. His publications also include a large number of articles about teaching and assessing thinking. His most recent work, of which he is the lead author of a team of five, including Art Costa, Bena Kallick, Barry Beyer, and Rebecca Reagan, is Thinking-Based Learning, published in 2007, reprinted in 2010, and translated into Spanish in 2013. In addition, Dr. Swartz has acted as a thinking skill testing consultant with the National Assessment of Educational Progress in the USA, and, with Carol McGuinness, of Queen’s University, in Belfast, Northern Ireland, as the co- author of a book on teaching thinking in the International Baccalaureat Program. He is presently a member of the organizing committee of the International Conference on Thinking (ICOT). In 2014 he delivered a series of lectures on the importance of teaching thinking throughout Spain and plans to do a similar lecture series in

Chile. He is in the process of developing an on-line course on TBL in Spanish, to be followed by one in English.

Dr. Angela K. Salmon is Associate Professor and Director of the Early Childhood Program in the Teaching and Learning Department at Florida International University, founder of the Visible Thinking South Florida initiative. She is Habits of Mind Certified and Consultant. Her long-standing partnership with Project Zero at Harvard University and Institute Habits of Mind has evolved into numerous research initiatives, national and international lectures, and publications. Her research interests in the interplay between cognition, language and literacy development led to research in areas like children's theory of mind, habits of mind, executive functions, metacognition, language and literacy development, teacher's discourse in the classroom. Her research draws from teachers' action research initiatives that she coaches. Dr. Salmon's work has been featured in the USA, Australia, New Zealand, Spain, Ecuador, Colombia, Costa Rica, Puerto Rico, Dominican Republic, Panama, and other countries. She was invited as "Thinker in Residence" by the Independent Schools of Victoria in Melbourne Australia. She is currently chairing the 18th International Conference on Thinking.

Vishal Talreja co-founded Dream a Dream (www.dreamadream.org) along with 11 others. Dream a Dream is a 17-year old professional organization that impacts the lives of 100,000 young people from vulnerable backgrounds through the active support of over 2500 volunteers. Dream a Dream is acknowledged as an innovator in life Skills development amongst young people from urban slum communities, creating innovative ways for community volunteering and setting very high-standards of transparency, accountability and impact. In 2015, Dream a Dream was recognized amongst 10 Champions in the world that are "Re-imagine Learning through Play" in the 21st century by Ashoka and Lego Foundation. Dream a Dream has also been recognized as the Winner of the Outstanding Annual Report Awards; Amongst 8 Regional Finalists at the Apeejay India Volunteer Awards 2011; Winner of the silver award at the Global Sports Forum Barcelona; Awarded the Football For Hope Award from FIFA to support our Dream Life Skills through Sport Program; Runner-up of the Japanese Award for Most Innovative Development Project.
Vishal has co-authored a paper along with Dr. David Pearson and Dr. Fiona Kennedy titled, "The Life Skills Assessment Scale: Measuring the life skills of disadvantaged children in the developing world" and published in Social Behavior and Personality: An international journal, Volume 42, No 2 (2014). Vishal is an Ashoka Fellow (www.ashoka.org), an Eisenhower Fellow and sits on Boards of Unltd India and India Cares Foundation. Vishal has been recognized as an "Architect of the Future" by the Waldzell Institut in Austria. He is also an advisor and mentor to The YP Foundation and Reap Benefit and is deeply committed to mentoring start-up NGOs and young social entrepreneurs. Vishal believes that if we can re-imagine learning to develop empathy, creative thinking, problem solving and collaborative working skills amongst young people, they will be able to overcome adversity and flourish in this fast-changing world.

Shari Tishman is a Lecturer at Harvard Graduate School of Education and a Senior Research Associate at Harvard Project Zero, where she recently served as Director. Her research focuses on the development of thinking and understanding, the role of close observation in learning, and learning in and through the arts. At Project Zero, she currently co-directs Out of Eden Learn, a digital cultural exchange currently being used in over 1000 classrooms worldwide. Past notable projects include Agency by Design, a project that investigates the promises, practices, and pedagogies of maker-centered learning; Visible Thinking, a dispositional approach to thinking

that foregrounds the use of thinking routines, and Artful Thinking, a related approach that emphasizes the development of thinking dispositions through looking at art. The author of numerous books and articles, her current publications focus on the theme of slow looking.

Guest Speakers

Natalie Belli is a humanities teacher in Marblehead Massachusetts where she integrates Project Zero practices and initiatives into her classroom learning. She is currently using Culture of Thinking principles to guide her students' learning in digital citizenship in an online learning platform called Out of Eden Learn. Natalie has rewritten her curriculum to explore the complexity of identity and community and how many factors that shape individual identities have shaped the identities of past and present cultures. Additionally, her students' engagement prompted her to establish The Vagabonding Club, a multi-age club where students slow down to explore global literature, preview international films, and interview community members to gain deeper understandings which transcend time and place. Natalie has presented learning at Harvard Project Zero Institutes and Visible Thinking conferences in the USA, Europe, and Africa. Her practice is featured in Ron Ritchhart's book, Creating Cultures of Thinking and with HGSE Project Zero and National Geographic Out of Eden Learn

Lane Clark has a well-earned reputation as an expert in enabling and empowering teachers and schools to design and deliver rigorous, engaging curriculum through powerful pedagogy. Over the last 20 years she has spent six months every year 'on the road', working directly with schools and districts, equipping educators with the tools and strategies required to re-imagine teaching and learning and promoting deep thinking and deep learning for all students. At last count, Lane has worked with more than 100 000 educators, in 19 countries, across five continents. She has developed a suite of thinking and learning tools including an inquiry learning model (the think!nQ model) which mirrors the 'real life' process of learning; two thinking frameworks (the thinkbox and thinktower) that explicitly demonstrate for learners, the relationship between thinking skills and thinking tools so that they can take agency over their own thinking. Lane has created nine micro learning process models, that include decision making, problem solving, authoring and designing/making; and she has developed a suite of additional thinking tools that guide deliberate, strategic and visible skill development in the areas of relating, hypothesizing, inferencing, generalizing, analyzing and evaluating.
Lane's approach is currently explored in both undergraduate and graduate university courses in four countries. Her first book (Where Thinking and Learning Meet) is a required text for a master's course on the teaching of thinking and learning at Amsterdam University. Lane has written (and teaches) a master's level course on thinking and learning for the University of Zaragoza in Spain. She is the author of two books: 'Where Thinking and Learning Meet' and 'Where Assessment Meets Thinking and Learning' and is in the process of writing her third book, 'Deep Thinking for Deep Learning'.

Mark Borchelt is an Associate Professor of Dance at Utah Valley University. He was the Director of Dance at the Interlochen Arts Academy, and has also served on faculty at Southern Methodist University, Cornish College of the Arts, and the University of Utah from which he holds a BS Degree in Psychology and a MFA in Ballet. His notable professional career gave him the opportunity to work with an array of dance luminaries as well as perform many classical and contemporary dance master works. A distinguished pedagogue, consultant, and master teacher, Mr. Borchelt has taught and lectured internationally. His choreography has been produced with acclaim in both professional and academic venues. During the summers, he has been a long-time faculty member for the Arts and Passion Driven Learning and Project Zero Classroom at the Harvard University Graduate School of Education.

Leontxo García is a Spanish chess lecturer, presenter, commentator and journalist since 1983. He was a semi-professional player (1975-1983). He has lectured on chess and its educational and social values in more than 25 countries to more than 20.000 teachers.
He produces a daily chess column, a weekly video, a weekly blog and many stories for El Pais (the leading newspaper and website in Spanish, with more than 18 million readers). He has been working for different radio program and presented more than 100 TV programs since 1986. He produced, with Garry Kasparov, the series La Pasión del Ajedrez (The Passion for Chess; 64 magazines and 25 videos; 1998-1999). Leontxo ran Jaque magazine (1991-2001). He has been awarded with the Medal of Merit by the Spanish Government and included in the International Chess Federation (FIDE) Gold Book. He was a lecturer at the ICOT 2015. His book Ajedrez y Ciencia, pasiones mezcladas (about chess and science, 2013) is already on its sixth edition.

Andy Gilbert is the developer of the acclaimed Go M.A.D.® Results Framework and Thinking System used worldwide by major corporations and nearly 2 million people. Since 1997 when leading a research team to study how people naturally think in a solution focused way when they "Make A Difference", Andy has gained over 20 years' experience in studying peak performance, written 21 books, including his best-selling "Go MAD – The Art of Making A Difference" and produced 327 audio/video programs. Andy has designed and facilitated over 2000 workshops for senior management teams in 37 countries and is working towards training 1000 Community Coaches in his local city and surrounding area. With his fun, pragmatic and inspiring style, Andy is a popular conference speaker about Solution Focused Thinking. He believes in engaging every audience member and creating valuable Light Bulb Moments. He also has a big vision. By 18th May 2023, Andy pledges "to help 100 million people have a Light Bulb Moment" – a breakthrough in thinking that carries value – a moment of clarity, a new idea, or an important realization.
See more at: https://www.gomadthinking.com/about/our-story/

Linor, L. Hadar (Ph.D) is a Senior Lecturer (Assistant Professor) at Beit-Berl College, in Israel. Her research focuses on the study of pedagogies, the implementation of 21st century pedagogies in school contexts, teachers' and teacher educators' experience with the application of 21century pedagogies, and professional learning of teachers and teacher educators implementing pedagogic innovation. Over the years she has worked with numerous teachers, leading teachers, teacher educators, and program developers on the development and application of 21st century pedagogies. Her work with teachers and teacher educators on the development of students' thinking has been published in many papers. Her multiyear project in which she supported teacher educators learning how to infuse thinking education into their courses has been summarized recently in a book, published by Routledge.

Bengt Lennartsson main interest has for a couple of decades been the process where the combined understanding and experience from diverse sectors and disciplines are needed to handle new and complex situations and problems. This interest emerged from a national research program with case studies of leading industrial development teams. There were indications that a major success factor for these teams was the early establishment of a shared understanding among the team members of what to do and why. This was the background why Bengt was awarded the role as convener of the 13th ICOT in Norrköping 2007, after he had attended the

ICOTs in Harrowgate 2002, Phoenix 2003, and Melbourne 2005. He is now member of the ICOT Standing Committee, and he has attended all ICOTs since 2002. From 2011 one of his main missions has been as the organizer and licensee for TEDxNorrköping events. TED's mottos "spreading ideas worth spreading" and "no fee to speakers" are not very far from those of ICOT.
Bengt Lennartsson received his MS in Electrical and Electronics Engineering and his PhD in Microwave Theory from Chalmers University of Technology. He was appointed as Assistant Professor in Electronics and Computer Engineering at Luleå University of Technology, Associate Professor in Computer Science at Linköping University, and there also Department Chairman of Computer and Information Science Department. He was engaged in the establishment of the new Campus Norrköping. For three years this was also combined with an appointment as commuting Department Chairman for Department of Systems Engineering at Luleå University of Technology. He is now Professor Emeritus of Software Engineering at Linköping University.

Silvia Lopez Angel, M.Ed. is the founder and director of Babidibu Preschool in Bogota, Colombia where she created the Pedagogical Impacts as the cornerstone of the curriculum. She graduated Magna Cum Laude from Pine Manor College with a B.A. in Psychology and holds a master's Degree in Education focusing on Curriculum and Instruction in Early Childhood from Concordia University. She has Post Graduate Certificates in "School for Parent's" from Javeriana University, and "The Science of Happiness" from Berkley University. She also holds a certificate in Thinking Based Learning from the National Center for Teaching Thinking, in the US. Her interest focuses on redefining the congruency and essence of education and on cultivating environments where children grow happily and acquire tools for life. She is also engaged in providing powerful opportunities for enhancing high -level thinking and understanding. Yearly, she attends Project Zero Summer Institutes at the Harvard Graduate School of Education, where in 2013 was nominated as a fellow of PZ Classroom. She has adopted Project Zero ideas providing the pedagogical underpinning of the school's curriculum particularly "Teaching for Understanding", "Educating for Global Competence," and "Making Thinking Visible." As a passionate practitioner of PZ's ideas, she has presented internationally at conferences, most of them organized by CASIE and Project Zero. She is a member of Visible Thinking South Florida and serves as an international consultant for Preschool curriculum. Silvia is the co-creator and director of Mini Reporteros con el Mundo en Mente, a Global Competency project and blog that interconnects Spanish-speaking Preschools from different countries. Silvia and the BaBidiBu community has adopted a Children's Foundation called Arauquita helping some of the city's poorest children with their education. She is the proud mother of Manuela and Juan Diego.

Kiriaki Melliou is a kindergarten educator with sufficient teaching experience in low income and refugee-hosting areas in Piraeus, Greece. She holds a master's degree in Educational Leadership and she is currently a doctoral student at the University of Western Macedonia (Greece). In 2012, Shari Tishman introduced her to Angela Salmon who became member of her doctoral committee. Under Dr. Salmon, she focused her research on the relationship between technology and thinking, based on the Project Zero ideas. Kiriaki is the first Greek educator who joined the PZ Out of Eden Learn online learning community and she was featured in the second "glimpses" video from within the Out of Eden Learn Classrooms. https://www.youtube.com/watch?v=woJHHhaTsaU&t=65s Also, she is the founder of the Out of Eden Learn Teachers of Greece official Facebook community.
Part of her research work has been published in many papers and presented in several international conferences including the IV and V Visible Thinking conferences in Miami.

Ana Perez Saitua has a degree in Philosophy, specializing in Philology, from Deusto University. She has been a Professor of languages (Spanish, French and English) in all educational levels for both the public-school system and the government subsidized school system, the Official School of Languages and for Professional Training. She was the Director of SEASKA, a nursery where they promote and encourage Early Education and the trilingual Language Scheme that was recognized by the Ministry of Education of the Basque Government as a unique innovation project taking place in the schools of the COAS Educational Group (2001). Since 2004, Ana has held the position of Education Coordinator for the COAS Educational Group, where, among other tasks, she drives and energizes the Multilingual Project of this school group, making it one of the first centers of the Basque Country to develop and implement this linguistic model. Ana is the organizer of the teacher training courses of COAS and Director of 11 editions of the annual Symposium of Teachers of COAS. The strategic relationship between language and thinking led her to become interested in Teaching for Understanding, meaningful learning, Visible Thinking and Multiple Intelligences and for this reason, she attended Project Zero summer courses at Harvard University. Ana was a delegate at ICOT-2011 (Belfast, Ireland) and at ICOT-2013 (Wellington, New Zealand). At ICOT-2013, she was given the task of co-organizing, in the name of the COAS Educational Group, ICOT-2015 in Bilbao, of which she is Co-Director

Paula Pogre Doctor (CUM LAUDE) by Autonomous University of Madrid. Graduate and Professor in Educational Sciences, graduated from the National University of Buenos Aires (UBA) Argentina. He obtained the DEA (Diploma of Advanced Studies and Research Sufficiency) at the University of Seville. For more than 30 years it has divided its activity, developing research, teaching and management. She is a researcher at the National University of General Sarmiento, National University of Tierra del Fuego and Director of the Support Program for the Education Sector of MERCOSUR (PASEM). She serves as an international consultant of the Ministry of Education in Peru, and of the Council of Training in Education of Uruguay. She has also been a consultant to the Ministry of Education of Ecuador and Nicaragua. International consultant in charge of project of curricular revision and strengthening of university teaching in universities of different countries: UISEK, Chile; Rafael Landívar University, Guatemala; University of the Frontier UFRO, Temuco, Chile among others. Between 1999 and 2010 she has been a consultant for IIPE- UNESCO Buenos Aires and UNESCO-OREALC. Member of the technical team of the Regional Program of Policies for the Teaching Profession and Academic Coordinator of the International Course of Policies for the Teaching Profession UNESCO-OREALC. She has been a speaker at International Conferences in Brazil, Chile, Colombia, Costa Rica, United States, Ecuador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay and Venezuela.Adviser of research teams and management of education, art and technology programs. She directed the collection Networks in Education of Editorial Paidós. She has published as author and coauthor several books and articles with refereed academic journals of different countries of America and in Spain. Among his books from 2000 onwards in authorship, co-authorship and / or participation are: Teaching Training Institutions as centers of Pedagogical Innovation. (2001). Ed Ditch. Schools of the Future II How schools that innovate are planned. (2002) Ed. Papers; Schools that teach to think. (2004) Editorial Papers; Train teachers, a multidisciplinary proposal, (2005) .Ed Papers .; Teaching for Understanding, the importance of reflection and action in the process of teaching and learning. (2005) Hoper publisher. Brazil, El Proyart, a shared way of doing school (2006) UNGS, Innovative Models in Initial Teacher Education (2006) UNESCO, New Masters for Latin

America. (2007) Morata, Madrid; Form Teachers for Equity (2007) PROPOSE- INFD, Train Teachers for Equity II (2010) in Teseo Buenos Aires, Teach to Understand. Experiences and proposals for higher education (2012) Teseo, Buenos Aires, Indicators of equity in access to knowledge in teacher education (2014) PROPOSE INFD; Teaching to Understand II (2014) EDUVIM, Villa María, General Didactics and Specific Didactics the complexity of their relationships at the higher level (2014) Thinking about teaching at the Higher Level in regional key in Higher Education in comparative and regional perspective.) FACSO – Udelar – UFSCAR, Network Experiences, Advances and Challenges for Higher Education (2016) REUN.NEU and collaborated, among many others, in the book Multiple Intelligences arround the word. (2009) under the coordination of Howard Gardner et al and published by Jossey Bass, San Francisco, USA. Since 1994 she has been involved in the Zero Project at Harvard University, participating in her activities both in the United States (USA) and in several countries in Latin America. From 1996 onwards he participated, as faculty of 15 editions of the Project Zero Summer Institute in Cambridge, and as fellow of two editions of Future of Learning Summer Institute 2012 and 2013). In this area he is a founding member of L @ titud-Harvard Project Zero. Latin American Initiative towards Understanding and Development – Initiative for Understanding and Development in Latin America directing since 2001 the activities of L @ titud nodo sur.

Dr. Herbert P. Ricardo spent a decade working in healthcare administration, developing and structuring existing companies for maximum efficiency and productivity. He currently teaches organizational behavior and management at Indian River State College and global trade and commerce at Czech University of Life Sciences Prague. His fields of expertise include international entrepreneurship, organizational culture, and management through the lens of psychology, the leaders and employees within organizations. He has consulted for several organizations including law enforcement dealing with officer stress and community policing.
Dr. Ricardo, has lectured on the holistic approach to work, its value to the individual, the organization and community as a whole. His latest book Balance: Work Culture in the 21stCentury, how work defines us and shapes our society, is his latest contribution to the field

Valerie York-Zimmerman has been a teacher and tireless advocate for Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy in South Florida since 1998 and 2002, respectively. Valerie received both her training and certification from the Center for Mindfulness at the University of Massachusetts where that work was pioneered by Dr. Jon Kabat-Zinn in 1979. She is one of only two CFM Certified MBSR Teachers in the state of Florida at this time. Ms. York-Zimmerman is also affiliated with the prestigious Professional Training Institute in the Center for Mindfulness at the University of California San Diego
After years of ongoing study and teaching her IJ-MBSR classes to adults, Valerie envisioned expanding these life-affirming principles to children. Convinced the most effective way to reach children was by training their teachers, Valerie embarked on this daunting task with indefatigable energy and focus:

- She created, developed, and taught the Mindful Teachers Training Program, also authored Mindful Teachers Training Program Manual, a useful reference and guide for educators.
- In 2011 Ms. York-Zimmerman and her husband Leonard A. Zimmerman, M.D., founded Mindful Kids Miami (MKM), a non-profit organization that brings the skills of mindfulness to children, grades Pre-K through 12, throughout Miami-Dade. From 2011

– 2015, she led the work of that organization in a number of capacities — as its Executive Director, President of the Board, Senior Teacher and Trainer.

- In 2015 Valerie obtained approval of a path-finding pilot project between Mindful Kids Miami and Miami-Dade County Public Schools, providing mindfulness training to hundreds of teachers and school counselors, who implemented the principles in their classrooms and schools. In just one year, results were remarkable: enhanced academic and social-emotional learning and improved student behavior. The program has tremendous potential for improving both school success and personal wellness of children for generations to come.
- Perhaps one of the most impressive measures of the impact of Valerie's mindfulness work in the South Florida community is the fact that she was nominated May of 2016 as one of three finalists for the Miami Herald South Florida Visionary Awards in Education

Full Proposals

Effective and Affective Leadership in a Thinking Classroom

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Abstract

This paper discusses the different roles teachers should take up as leaders in a thinking classroom. It focuses on the change of paradigm from mastering traditional skills based on academic and technical knowledge to a more complex set of other skills which involve aspects such as empathy, communication, emotional intelligence, among others, to become an effective and affective leader.

Introduction

In the last few years, there has been a growing interest in how developing thinking skills enhances students` learning so that they are better prepared for an unknown future. In this regard, David Perkins, in his talk at the International Conference of Education and Technology organized by Educared, stated that: "… For a long time, in most educational settings, we have educated for the known, for the established knowledge, for the established skills, for the established routine, and, for a long time, that has been enough. But, we face a very complicated world today. (…) We face a world where the old pattern does not do so well. (…) Educating for the unknown means that what today´s children learn needs to prepare them with great flexibility for a world and for personal lives that may go in different directions." This new conception of education demands a different approach to students and classes which involves a change of paradigm in teachers` role: From traditional skills to a set of definitely more complex skills such as empathy, emotions management, stress control, communication skills among others are essential for effective and affective leadership. This paper aims at presenting some of the different abilities and skills needed together with strategies to develop effective and affective leadership in a thinking classroom. The remainder of the paper is organized into three sections: In the Conceptual Framework section, we explore

some of the relevant literature in connection to the different roles teachers can take up in order to generate a genuine thinking classroom. We will present the surveys and interviews carried out in a bilingual school located in Argentina together with their results in the Methodology and Analysis section. Finally, the conclusion section includes a summary of the results of this work.

Conceptual Framework

In the 1900s, Domingo Faustino Sarmiento became President of Argentina, and he turned to be the most representative figure of Education in our country. He created schools and libraries. He also brought American and European educators to work at the schools he created. This is how the educational system in Argentina emerged. In those times, it was enough to know the subject matter you were teaching to be considered a good teacher. Nowadays, traditional skills based academic and technical knowledge are no longer the one and only requisite for teachers to be in front of a group of students. Others, definitely more complex skills are also needed, especially when what we want to achieve is a thinking classroom. Skills such as empathy, emotions management, stress control, communication skills among others are essential for effective and affective leadership. Unfortunately, these skills are not part of the teacher's training curriculum in our country, but they are must- have possessions for teachers if they want to mark a significant difference in their students in a thinking classroom. This is certainly a change of paradigm for teachers' roles in the classroom: Our modern society demands a different approach to students and classes. It is evident that teachers will have to adapt their teaching style to suit these new demands.

Organizations have a structure which is expressed through the hierarchical roles their members perform. It is this normative view of structures (White, van der Horst & Laughner, 2008) the one which concentrates on what should be done within an organization, paying special attention to the rational aspects of the matter. Schools are considered organizations since they are conformed by interrelated individuals who consider themselves part of the institution (White et al., 2008). At an organizational level, discussions have been carried out on issues such as whether there is an inborn or natural capacity to lead or an acquired and developed leading role (Curtis, 2006). Much research has been also done on the difference between a boss and a leader and the importance of certain personality traits, introducing intuition and individuality in the management arena (White et al., 2008).

In the last decades, the world has gone through a number of changes that have created a substantial standpoint in many aspects of life. Technology and the Internet are definitely clear examples of these innovations which have changed most organizations' lives. Children have also changed. They grow up with a Smartphone in hand and communicate in real time with messages and emoticons and they have no memory of a once disconnected world. Social networks are a way of life. However, schools do not seem to reflect these changes so dramatically. In fact, schools seem to be stuck in Sarmiento's times. Educators talk about preparing students for interacting with a globalized world, for facing challenges with creativity, for taking up opportunities, but little has been done to modify practices inside the classrooms.

The changes mentioned require a transformation from the adults in charge of education. Teachers need to become more than teachers with academic skills, knowledgeable on an area. They need to become coherent and determined leaders, with interpersonal and intrapersonal skills which will help others – those they are leading – develop their full potential.

In a globalized scenario, the demand of professionals that lead school staff has also enlarged. Generally, candidates are recruited from within the organization (Johnson, 2009) but little attention is paid to their training or development in the field of management. For instance, Maxwell (2005) claims that the only thing worse than training employees and losing them is not to train them and keep them. Beyond the irony involved in his words, a good leader definitely needs academic expertise to exploit each member's potential, at an institutional or classroom level.

However, once assigned a leading role, either as a teacher or as a Head, there are a number of aspects to learn among which soft skills (Lewin, 2015) also play a major role. Groups respond to a manager (note that here teachers are also considered managers of their group of students) with clear objectives and knowledge in the area, but will certainly demand other leading capacities, such as being able to create a relationship of trust, respect and support with the working team. As Wong and Law (2002) state: "Leaders needed to play different roles at different times, and more importantly, good leaders have the ability to select the right roles for the situation" (p. 245).

According to Maxwell (2005), "Leadership is more disposition than position—influence others from wherever you are" (Section II). The aim of the leader should be to obtain the best results from his team, not to get personal praise. The team should follow him out of respect and trust, not fear.

He also points out that "any leader who wants to be effective in his leadership should pursuit to influence others through inspiration" (Maxwell, 2011). The ideas presented on leadership show some of the type of skills teachers need in order to lead a XXI century class.

So far, we have reviewed relevant literature in connection to leadership and how assuming a leader position involves much more than intellectual and technical knowledge. In the next section, we will explore the skills needed for effective leadership in a thinking classroom.

Methodology and Analysis

This section focuses on the skills needed for effective leadership in a thinking classroom at management and teacher level at schools. As stated before, assuming a leader position implies developing core capacities referring to intellectual and technical knowledge, but also skills related to dispositions, intention and motivation. During the exploration phase, teachers and managers have been interviewed. Researchers have also spent time with the participants in their own environment that is the classroom itself.

Considering the change of paradigm proposed above, it became necessary to carry out this research, which includes surveys and interviews which would provide feedback on these basic questions:

1. What gaps exist in both knowledge and ability of the current teachers in our school to carry out their jobs as teacher-leaders in a thinking classroom now?
2. What gaps exist in both knowledge and ability of the current teachers in the school to carry out their jobs as teacher-leaders in a thinking classroom in the future?

In order to get some answers to these questions, analytical skills have been implemented. Special consideration has been taken as to the selection of the methods for analysis and processing information, these issues under consideration being extremely subjective. Otherwise, the whole process could become biased.

Areas of inquiry

According to McDonough & Mc Donough (1997) “questionnaires may contain only one kind of question or a mix. It is usual for the majority of questions to be answered by ticking a box or circling an alternative to enable easier count”. The structure of the survey proposed in Appendix 1 is a combination of different question types used to get information needed to know where teachers stand in the continuum between teachers and leaders. There are scaled statements for teachers to measure their own view of themselves and also open ended questions which have contributed to a more detailed perspective on their positions. Appendix 2 explains how to score answers provided by teachers in Appendix 1. A personal interview with teachers has also been carried out during this phase of planning and pre-course (Appendix 3).

These surveys have been carried out at a primary bilingual school, located in Canning, in the south of Great Buenos Aires, Argentina. There are 60 teachers in total who are in charge of the different groups of students (from Year 1 up to Year 6). It is a school in constant search for new methods, approaches, and ideas. Six years ago, the school, at kindergarten and primary level, started working along the lines of Project Zero and Visible Thinking. Some years later, the school decided to work along the lines of the Teaching for Understanding framework in its all levels: From nursery to secondary. Along the years the shift has gone from focusing on a prescriptive curriculum which defined the content to teach to a descriptive one, aiming at the acquisition of certain competences which will make students more autonomous and better equipped for future life.

For practical purposes, this research has been carried out following these steps:

- Collecting relevant information about a set of learners’ (teachers, in this case) common purpose(s)
- Interpreting the data so that choices and decisions could be made about defining objectives and principles for decision making at an institutional level.

Results from the surveys and interviews carried out show that teachers at this school rank creativity and cooperative work as two essential skills to be developed (see figure 1). The answers to the first part of the survey indicate that these two skills are highlighted first in the ranking of skills required by a class leader. They claim to have learned them from more experienced teachers and Heads at this same school. The result also shows that they are satisfied with the way they have acquired these skills. Following these, two other skills which are mentioned as well are:

Communication skills and flexibility. It is evident that when it comes to these last two leadership skills mentioned, teachers at this school do not seem to be satisfied (see figure 2). The answers are testimony of a rating below the average expected. It is concluded then, that most teachers feel the need to work on them.

Ranking of skills to become a leader in the XXI class
1. Creativity 2. Cooperative work 3. Communication skills 4. Flexibility 5. Time management 6. Taking opportunities 7. Feedback

In Figure 1 teachers have ranked the most important skills to be an effective and affective leader, 1 being the highest.

When the time comes for considering aspects to improve, an important percentage of teachers, more than half the team acknowledges that in order to become effective leaders, they still need to develop some essential aspects such as managing time and giving equal opportunities for every student. Both aspects directly aim at personalised attention and recognition of individual needs, not only related to grading of content and knowledge. Social and emotional needs, handling of difficulties and negotiation skills have also been mentioned as issues which they care for superficially but would like to attend more professionally (see figure 2). It is evident in their answers to the interviews that these are areas in which they show discontent in their performance.

Another issue teachers suggest for further reflection is giving feedback to students, in a formal and systematised way. It can be assumed by their sayings in the interviews that they would like to count with protocols to address students one by one in certain instances of assessment (see figure 2).

Skills	Level of satisfaction
1. Creativity 2. Cooperative work	1. High 80% 2. High 85%

3. Communication skills	3. Low 45%
4. Flexibility	4. Low 45%
5. Time management	5. Very low 30%
6. Taking opportunities	6. Very low 30%
7. Feedback	7. Very low 25%

Figure 2 shows the level of satisfaction in connection to each of the skills ranked as very important to be an effective and affective leader.

These findings, then, have allowed the discovery of gaps relating to current job descriptions and possible gaps assuming some form of future professional development. They have also been used to design a course with the aim of introducing the necessary skills to become effective managers (Lewis, 2007) at a classroom level, considering that some of these skills require intellectual ability and technical know-how while others depend upon attributes that indicate high level of emotional intelligence (Goleman, Boyatzis & Anne McKee, 2013). However, it should also be noted, that the main limitation of these findings is that the interviews and surveys were carried out in one single school with a group of sixty teachers. Future work which focuses on different school contexts is still required.

Conclusion

In this paper we have tried to show that being a teacher in a thinking classroom involves much more than academic and technical knowledge. In order to do so, we surveyed and interviewed a group of teachers who work at a bilingual school in Argentina. The results showed that teachers feel aspects such as empathy, communication skills and emotional intelligence are more important to be an effective and affective leader. This information can be used to recruit new teachers and to design a professional development path at school.

NOTES:

(1) Part of this material has been extracted from Gabriela Díaz´s thesis project presented at CAECE University to get her Bachelor´s Degree in Teaching English.

(2) The course designed by authors is available upon request.

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Appendix 1: Needs Analysis

Teachers' Survey

For each of the questions listed below, rate yourself on the scale shown below, with 5 being *Almost Always True* and 1 being *Almost Never True* by circling the number that you feel most closely represents your feelings about the task.

- Almost Always True — 5
- Frequently True — 4
- Occasionally True — 3
- Seldom True — 2
- Almost Never True — 1

1.	I enjoy communicating with others.	1 2 3 4 5
2.	I am honest and fair.	1 2 3 4 5
3.	I make decisions with input from others.	1 2 3 4 5
4.	My actions are consistent.	1 2 3 4 5
5.	I give my partners the information they need to do their tasks.	1 2 3 4 5
6.	I listen to feedback and ask questions.	1 2 3 4 5
7.	I provide feedback and ask questions to students	1 2 3 4 5

8.	I show loyalty to the school and team members.	1 2 3 4 5
9.	I create an atmosphere of growth.	1 2 3 4 5
10.	I have wide visibility.	1 2 3 4 5
11.	I give praise and recognition to my students	1 2 3 4 5
12.	I criticize constructively and address problems.	1 2 3 4 5
13.	I develop action plans to help students.	1 2 3 4 5
14.	I have a vision on where we are going and set long term goals.	1 2 3 4 5
15.	I set objectives and follow them through to completion.	1 2 3 4 5
16.	I display tolerance and flexibility.	1 2 3 4 5
17.	I treat students and colleagues with respect and dignity.	1 2 3 4 5
18.	I accept ownership for team decisions.	1 2 3 4 5
19.	I set guidelines for how others are to treat one another.	1 2 3 4 5
20.	I determine resources, material, and supply requirements for my class.	1 2 3 4 5
21.	I can respond to a parent who is upset with me or someone else in the organization.	1 2 3 4 5

22	I have counseled students who have personal problems (family, health, with friends).	1 2 3 4 5
23.	I react to situations in which the quality of a student's work goes into a decline.	1 2 3 4 5
24.	I deal with students who have learning issues.	1 2 3 4 5
25.	I reward students for good performances.	1 2 3 4 5
26.	I conduct formal training for external examinations.	1 2 3 4 5
27.	I can make a presentation to a group of peers and/or seniors.	1 2 3 4 5
28.	I am a good learner.	1 2 3 4 5
29.	I know how to influence people and get support.	1 2 3 4 5
30.	I like to talk to people and I am a great listener.	1 2 3 4 5
	TOTAL	

What are your strengths as a leader of your class?

……

What are your opportunities for growth as a leader of your class?

……

Thanks!

Appendix 2: Needs Analysis Scores

Scoring

Total each of the five columns and then add the five columns together for your final score. The maximum score is 150 while the minimum score is 30.

There are no right or wrong answers. This survey is designed to show the areas you need to improve on.

The table below provides a general guideline of where you stand.

- 100 and above – this teacher is on her your way to becoming a leader.
- 50– 100 this teacher still needs to grow as a leader
- 49 and below – this teacher needs to develop leadership skills.

Appendix 3: Personal Interview with teachers

1. What makes, in your opinion, an effective leader of a class? Which skills do you consider essential?
2. What balance would you give of social and emotional skills and knowledge of content area?
3. Of the skills mentioned, which do you consider your strength? Which do you need to work on or develop?

THE RELATIONSHIP BETWEEN DISTRICT CONCERT BAND MUSIC PERFORMANCE ASSESSMENT PARTICIPATION AND STUDENT ACHIEVEMENT IN MIAMI-DADE COUNTY PUBLIC MIDDLE SCHOOLS

A Research Panel Proposal

by

Arthur James Napoleon Scavella

Since the implementation and achievement score pressures of the No Child Left Behind Act of 2001, elective course offerings such as music have been drastically reduced, especially in the middle school setting. Historically, middle schools across the country exhibit the largest instance of an achievement gap when a student transitions from elementary to middle school and school administrators are increasingly charged with the responsibility of raising their school's student achievement scores. A great deal of correlational research has shown a positive correlation between music education in school and students' overall academic achievement.

This study examined the correlation between those middle school students that participated in the District Concert Band Music Performance Assessment (MPA) versus those middle school students that did not regarding their achievement scores on the 2016 English language arts (ELA) and mathematics subtests of the Florida Standards Assessments (FSA). In order to examine the above correlation, the following research questions emerged:

1. Is there a correlation between a middle school student's District Concert Band MPA participation and FSA ELA and Mathematics achievement scores?

Further research was also conducted by answering the following two sub-questions:

2. For the middle school students that did participate in the District Concert Band MPA, is there a correlation between ELA and Mathematics achievement scores and the level of music performed?

3. For the middle school students that did participate in the District Concert Band MPA, is there a correlation between ELA and Mathematics achievement scores and their band's overall rating received?

The theoretical framework of this study was undergirded by Howard Gardner's theory of multiple intelligences. Gardner's theory of multiple intelligences presented nine intelligences; one of the nine intelligences of the theory is music. Music intelligence, according to his theory, runs in an almost structural parallel to linguistic and mathematical intelligences; these two intelligences are constantly assessed on standardized examinations. This structural parallel could suggest that music can contribute to the positive overall academic environment and student achievement within a school.

The researcher used an independent samples *t*-test for the collection of the study's data. The results from four Miami-Dade County Public Middle Schools indicated that there was a positive, statistically significant difference between both the ELA and mathematics achievement scores of those students that participated in the MPA and those that did not. There was also a positive, statistically significant difference between both the ELA and mathematics achievement scores of those students that participated in the MPA and the level of music their band performed. However, there was not a statistically significant difference between both the ELA and mathematics achievement scores of those students that performed at the MPA and the final overall rating that their band received.

School administrators are charged with the responsibility of ensuring that effective programs are instituted in their schools so their students can be successful. The results of this quantitative non-experimental ex post facto study could provide administrators additional research-based evidence suggesting that band on the middle-school level, which is a branch of music education, could be a program to include in the school's curriculum because it might positively contribute to the school's ELA and mathematics achievement and academic culture. Additional research can also be conducted to observe the effects of music study on student achievement for students of all grade levels and

socioeconomics. This would lead school administrators to continue practicing the notion of educating the whole child while making administrative decisions, which should be the sine qua non of education.

A THINKING SCHOOL'S JOURNEY TO ACCREDITATION: A SOUTH AFRICAN TEACHER'S PERSPECTIVE.

Michaela A.B. Carr

Roedean School (S.A.)

A THINKING SCHOOL'S JOURNEY TO ACCREDITATION: A SOUTH AFRICAN TEACHER'S PERSPECTIVE. 2

Abstract

As an intermediate phase teacher and member of the thinking skills Drive Team at Roedean, an independent girls' school in Johannesburg, South Africa, grades 0 to 12, I aim to share the journey of our school in the implementation of a thinking skills programme, and the effects these changes are having on myself and my students.

The programme started in 2009. In 2015, the junior school was accredited as a Thinking School by the University of Exeter in the United Kingdom. The academic staff received training in Habits of Mind, thinking hats, and Thinking Maps. Teachers attended workshops and networked with schools which have thinking skills programmes. This workshop will allow participants to

follow and question my role in this journey. I will use slides to share areas of best practice and areas that are challenging.

I used to think that I could only teach "clever" children. When I saw that the language of thinking and the tools for making thinking could be made visible, I realized I had let down some students. I wanted to become the teacher I wish I had had. The thinking skills programme empowered me to do this.

In retrospect, one could have started the programme with the Carol Dweck's growth mindset (2008) rationale, thus empowering both teachers and students to take risks in the classroom

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without fear. Reading broadly about neuroscience, academic language, and the books by the authors who first wrote about Habits of Mind: Costa and Kallick (2008); Thinking Maps: Hyerle (1995), and thinking hats: de Bono (1985), provided the personal engagement necessary to deepen my understanding of how the concepts could fit together and support thinking. Dweck's: "Mindset" (2013) and Zwiers: "Building Academic Language" (2012) were most helpful in reaching the school's very diverse community, especially one in which English is not necessarily a mother tongue. We also make use of Anderson and Krathwohl's "Taxonomy for Learning" (2001) to clarify thinking verbs.

I devised a visible framework in which to combine Habits of Mind and a thinking tool or two in my teaching without having to do much paperwork for evidence. This involved inexpensively redesigning my classroom by mounting 6 whiteboards on the walls. Integration of I-Pads and the boards provided the best reward to monitor cognition, the recording of evidence, and the development of academic language on the part of the students.

The roundtable discussion will include slides to show how I integrate thinking skills, one chunk at a time. It will also demonstrate how, by providing the tools and the content, the students are getting better at connecting the dots simply because they now have some visible structures to make informed choices. Lastly, as parents are coming into contact with the thinking skills programme, they have a better understanding of the value of thinking skills programme and the work required towards achieving Advanced Accreditation as a thinking school.

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Acquiring Understanding:

From the Inner School Environment to the Outer Unknown World

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Abstract

What are essential life-skills for success in school and in life, now and in the emerging future? Nowadays, we seek to promote in our students a sense of autonomy that will allow them to acquire transferable expertise to new scenarios. However, it still seems difficult to integrate and assess a practice based on understanding if we do not think of ourselves as potential learners within the same community of learning. The traditional apprenticeship that used to govern the classrooms is now being replaced for a practice that involves critical thinkers able to interact with the information in order to communicate successfully. Nowadays, our society demands a teaching-learning process where creativity, innovation and communication skills become the main goals in our role as educators. As we implement thinking skills in our teaching, students might become better inquirers and active participants in their learning experiences through a continuous process of establishing connections and reassigning them to the current situation they are experiencing. In order to develop a culture of thinking, we, as responsible educators, have to head ourselves towards an environment of constant assessment and feedback, an environment that strengthens the bond with the here and now. A culture of deep thinking must be experienced by educational leaders themselves in order to be shared with each and every member of the school. How do we develop mindfulness and thinking dispositions to learn? Every teacher needs to develop a set of thinking dispositions that they are going to share later on with the community of learners. In this

development of a new culture, the environment and the language as well as the educators' expectations and commitment will play a crucial part. Teachers, as mentors need to experience every element comprised in the culture so that they become models of the ongoing process of acquiring understanding. This proposal aims at developing an understanding of the importance of an ongoing process of learning that focuses on how the dispositions and the cultural forces interact in a culture in development. The notions of collaborative learning, communication and assessment are going to be present in order to emphasize the idea that we are educating for real understanding and that principle has to be present in the way we build and assess knowledge cooperatively. Nowadays, students are well acquainted with the fact that knowledge and thinking are close together and cannot be considered as two isolated terms when it comes to learning. It is now our turn as educators to experience how the approach to learning has evolved over time and how a culture is built with the collaborative work of each of its members.

Keywords: life-skills, understanding, dispositions, language, collaborative learning

Acquiring Understanding: From the Inner School Environment to the Outer Unknown World

Are we constructing an environment of learning where every member of the school community develops a set of dispositions towards deep thinking or are we just applying a set of tools in order to make them reproduce what they think automatically? In our path towards creating an environment of real learning, it is of crucial importance to rethink the aspects we believe will be key elements in the developing culture. As we wonder about our role within our own community of learning, we have to prepare ourselves to embrace the notion of real purposeful learning and become aware that this knowledge can only be attained if we train our dispositions towards learning.

Conceptual framework

Project Zero´s research on Teaching for Understanding invites teachers all around the world to experience the notion of understanding through a framework that identifies the main elements that should be considered in order to promote deep learning.

Researchers from Project Zero encourage every educator to think of the most significant skills for their students to acquire and to prepare their learners to be able to develop their dispositions to learn so that they acquire those skills and be able to transfer them to any situation in life.

David Perkins, principal investigator of Project Zero, in his recent book Future Wise: Educating our Children for a Changing World (2014); mentions the Twenty- First- Century skills and analyses their importance in our everyday teaching-learning experience. From the long list of themes that arose from the thirteenth International Conference of Thinking, this paper puts special emphasis on the power of empathy, collaboration and communication as the themes that encompass the thinking dispositions that will promote a flexible mind.

The Eight Cultural Forces, introduced by Ron Ritchhart (2015), principal investigator of Project Zero, will be analyzed in a particular community of learning, in order to describe its own development towards a Culture of Understanding.

Our Journey towards Understanding

In my own experience as a teacher and a coach, I have started my path towards deep learning through implementing thinking routines not only with my students, but also with the group of teachers I have worked with. It has been an incredible experience of collaborative learning as I put into practice each tool and became able to share what I had explored in the Harvard Programs I had attended with my colleagues.

As I gained knowledge and refined my skills through training, I started perceiving the vast repertoire of thinking tools and notions that coexist and interact in our classrooms and the crucial importance of *making them yours* during your learning experience.

We, as educators, have to walk our own path of deep understanding and become aware of our students' needs during their journey towards learning. As we become part of the classroom culture, we also become part of a collaborative team that is acquiring a new shared language. Ron Ritchhart (2015) states "Enculturation is a process of gradually internalizing the messages and values, the story being told, that we repeatedly experience through interaction with the external, social environment." (p. 20).

In order to be part of this process of enculturation described, each member of the culture needs to experience every element of the developing philosophy so as to acquire the whole set of values and beliefs that it comprises and be able to transfer them to new scenarios in the everyday life.

I found collaboration and communication as the essential working basis for our school culture to flourish. As I implemented each tool in the classroom, I realized of the crucial role of teachers as the main cultural references in this process. The starting point to create a Culture of Deep Thinking in our community was to understand the importance of becoming flexible and respectful of each other´s pace in acquiring understanding so that teachers could become familiar with each element that constitutes a thinking culture and were able to transmit it to their learners.

I revisited our school project to organize it in accord with the Eight Cultural Forces introduced by Ron Ritchhart (2015). I thought of the different projects we developed throughout the year and how we could conduct them in depth in order to attain real understanding.

During the process, I got acquainted with the fact that *Language* was the guiding force that would lead not only to the acquisition of the other set of forces, but also to the attainment of the thinking dispositions that would promote deep learning among the educators first and then the students.

A shared language of thinking had to be present in our *expectations*, our everyday *interactions*, and our role as *models* of the developing culture. It also had to be reflected in our *environment* of learning and finally it had to become visible through every performance of understanding that each member of the culture implemented in the classrooms and any other shared settings of learning.

Sharing the Same Language

In his book Cultures of Thinking: The 8 Forces We Must Master To Truly Transform our Schools, Ron Ritchhart (2015) introduces the notion of *states* as one of the categories that name the kind of mental movements we do when we think and he also emphasizes the idea that there are different categories to identify our thinking movements and make them visible. As I started analyzing the crucial importance of sharing a common language, I connected this category of states of language with the concept of *thinking dispositions* to learn and I realized of the close correspondence between both terms. Sharing a common language means that we need to acquire that language first and it can only be developed when you experience it at your own pace and according to your dispositional preparation.

Here is where real communication, empathy and collaboration became the main themes in our process of enculturation. Each teacher with his/her own unit at his/her own pace. *Making it yours* became the key to acquire a shared *Language*. This is how this cultural force became accessible for each professional of education in our community of learning.

We devoted a term of the school year to rethink the kind of questions we were asking our students in order to attain deep understanding. In analyzing their way of inquiring, each teacher developed a set of questions that would promote a new type of thinking. They asked questions that comprised the four categories of thinking introduced by Ron Ritchhart (2015) in Creating Cultures of Thinking, p.69 .

I started holding individual meetings with teachers, where we discussed their units of work and the best way to develop this force of *Language* in their performances for understanding. Each teacher adapted the kind of questions and the type of performances to their own experiences.

- **Teacher of Science: She applied questions** that encouraged both the students and the teacher to think beyond the expected answers and to listen to each other and the connections that arise from that kind of language and interactions. In order to make it more effective, she worked on the routine *creative questions* so that students get engaged in the topics discussed.
- **Teacher of literature: Becoming a character.** She connected the topics discussed to situations and themes students were familiar with, so in this way they got involved in the subject and it was easier to engage them in different ways of thinking. When learning literature, students could become reporters that interviewed one of the characters or they could take part in a conflict. In order to make it more effective, she mentioned dramatizing the novel they read. She encouraged students to develop not only their communicative skills, but also their empathy towards other people´s feelings and perspectives.

- **Teacher of Environmental Management: She developed a set of problem-solving tasks.** The teacher stated these kinds of tasks became performances of understanding as students developed their thinking skills. She mentioned the importance of encouraging students to generate new strategies so as to make the process of learning more effective.

As we held different meetings we went on analyzing the most effective way of refining the elements comprised in the units of work in order to keep on developing the Language. As we moved forward in this process of learning, we went on analyzing what kind of Interactions occurred in the classrooms, and started exploring different ways of sharing those interactions with the community. The school Environment became a vivid element that started reflecting not only the students' thinking, but also the teachers', as each piece of documentation showed every group story according to the dispositional view developed first by the teacher so that she can later transmitted it to the students.

As we moved forward with the development of each cultural force, every teacher gained experience on the best way of interacting with students according to their expectations as regards life skills.

Deep inquiring performances, thinking routines, topics that generate plenty of new ideas, connections established with prior experiences lived by students and teachers themselves, were just some of the essentials of the Teaching for Understanding framework that could be experienced in every class so as to attain a deeper thinking.

As we progressed towards learning, we started applying the Ladder of Feedback developed by Daniel Wilson (Wilson et al., 2005), *so as to assess each classroom practice within a collaborative community. We implemented it among teachers and we also applied it among students in order to develop a collaborative practice of self-assessment were students construct*

their learning by establishing connections and considering different perspectives. Teachers started to developed rubrics that comprised every thinking movement they wanted to assess in order to assess understanding. The management team also developed a rubric so as to keep a record of the teachers' development and was able to encourage them in their own process of learning so that they could embrace the different notions involved within the culture.

Conclusions

On the basis of my personal experience and the road already travelled, every member in a community of learning has to tread his/her own path towards acquiring those essential life-skills to succeed in life. In our community we found communication as one of the main elements in attaining deep understanding. Each teacher with his/her own unit at his/her own pace. *Making it yours* became the key to acquire not only a shared *Language,* but also the thinking dispositions every students and teacher need to learn. This is how the cultural forces became accessible to each professional of education in our community of learning.

Empathy and collaboration are main notions we truly believe as key elements in our community. Every member is a learner so, in our path towards developing a culture, teachers have experienced the process of relearning what it is to acquire real deep understanding.

Collaborative work became one of the terms relearnt and it became visible in every corridor of the school, through every piece of documentation exhibited in its walls, as well as in every human relationship. It became visible among students, among teachers and students, but above all among teachers themselves. Everybody was ready to tell and retell the new ideas connected to learning. Everyone has his/her own story of learning (Ron Richhart, 2015). The challenge is

to relearn some elements of it and be able to consider others' perspectives in order to be able to reconstruct our stories together.

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The Benefits of Teaching for Understanding: Opening to critical thinking

Cecilia Olivieri, current teacher of Secondary School at Grilli Canning College, working in the field of Literature and Language.

Nowadays, there are many factors that play a major role in the learning process for every human being, such as ethnicity, religion, language, socioeconomics, gender, family structure, and disabilities, which can all affect the way students learn. In relation to this, schools may positively or negatively influence on achieving tolerance and respect towards the other and raising awareness about diversity for the purpose of learning. As a consequence, schools must take a proactive approach towards acknowledging diversity through adopting special measures in the delivery of classroom instructions and messages to create a positive environment where students and teachers are respectful of different contexts.

Teachers can play a big role in helping students succeed through the establishment of culturally responsive classrooms. Teaching is willpower and determination, it´s inspiration and the ability to nurse students to achieve their best. What happens in care will have a tremendous impact on the child's social, emotional, and cognitive development. These interactions will influence the child's values, view of the world, perspectives on family, and connections to community. This places a tremendous responsibility in the hands of all the education system. However, the benefits are worth it. Several factors appear to be at work, such as curricula, activities and assessment. Plus, criteria for ongoing assessment need to be closely related to the understanding goals and feedback and follow up need to help students improve their performance of understanding.

A good way to achieve the goal of understanding is to work with **thinking routines** to improve performance and comprehension. For example, in a literature class the idea of putting the students in the same shoes as the characters in a story helps comprehension through empathy and closeness. Human experience and expression would be fostered and students would make better use of brain-power to analyze and connect ideas while considering other perspectives. Likewise, it is impossible to say that there is only one true story. Yet, the single story is therefore deep-seated as it is interwoven with the perpetuation of different conventions that may define certain groups. Misunderstandings and limited perspectives are universal. Misconceptions of life are reflected in our everyday lives, that is why teachers should open themselves up to **criticism and critical thinking**, so students will respond to new ideas and give feedback while broaden the scope of stories they consume about other people and cultures. The question that arises is how we develop mindfulness and thinking dispositions to learn in the classroom.

A variety of learning strategies can be used in a range of educational contexts: visible thinking includes a number of ways of making students' thinking visible to themselves, to their peers, and to the teacher, so they get more engaged by it and come to manage it better for learning and other purposes. When thinking is visible in classrooms, students are in a position to be more metacognitive, to think about their thinking, so it becomes clear that school is not about memorizing content but exploring ideas. Thus, students discover that there is not only one true story when considering other perspectives and points of view. The idea of awareness and development is bond to continuous process. Accordingly, the opportunity to do a variety of thought-provoking activities with a topic provides the students the possibility to explain, find evidence and examples, connect, generalize, apply, analogize, and represent that topic in new ways.

Students grasp knowledge, build new paradigms and capitalize on their strengths and work on their weakness at the same time.

As referenced before, a performance of understanding refers to any instance in which students use what they know in new ways. Such routine performances have importance, but they do not build understanding. For that matter, what build understanding is students working in a thoughtful way, with appropriate feedback to help them do better. As a reflection learners may ask themselves what things they understand well and what they take as evidence for their understanding.

Why is background knowledge so important?

In order to make inferences from any new piece of knowledge, students need to go back to background knowledge because the former relies on the latter. Learners need to have a foundation of knowledge about a topic and therefore it acts as a road map for students. Thus, knowledge is not just accumulating facts rather learners need to develop knowledge networks, comprised of clusters of concepts that are coherent, generative, and supportive of future learning in a domain. As we learn from reflecting on experience, there are two facets to bear in mind which are awareness of one´s own thinking and learning strategies, and actively controlling and directing learning in self- regulated ways. Hence, teachers encourage sense of purpose through peer and self- assessment with the use of rubrics and help them connect new knowledge with prior one. To learn for understanding, students need criteria, feedback, and opportunities for reflection from the beginning of and throughout any sequence of instruction or ongoing assessment.

The benefits may come in the short or long term, in baby steps or on the spot. Yet, metacognition activated allows the learner to create an interior dialogue of questions, enhances learners understand the purpose of learning, while involving and facilitating collaboration and peer assessment and self-assessment of their own performances. It is essential to gather information about the learner´s achievement to move their learning forward and improve our teaching. This way, teachers should ask themselves what it is you want your students to learn, where they are now, how you move their learning forward to close the gap between desired learning goals and student´s current understanding.

The key to provide clear, tangible, prioritized feedback relative to learning goals is that students believe effort leads to achievement, so they will be receptive to feedback. Also, it is important to separate grades from feedback and provide opportunities for students to act on that response from the teacher or peer, for example allocate class and homework time for students to respond to comments and observations and show them how they should focus on most relevant areas for improvement. As a consequence, the class exercise autonomy, enhance self- efficacy, strengthen high intrinsic motivation and display competence. Students become owners of their learning while asking themselves what they used to think and what they think now.

Together with feedback, there are different ways of approaching knowledge which can be displayed in all environments. Thinking routines are a MUST when teaching, they are patterns of action that can be integrated and used in a variety of contexts. A routine can be thought of as any procedure or process that is used repeatedly to manage and facilitate the accomplishment of specific goals or tasks. These learning routines can be simple structures, such as reading from a text and answering the questions at the end of the chapter, or they may be designed to promote students' thinking, such as asking students what they know, what they want to know, and what they have learned as part of a unit of study. To sum up, the

Visible Thinking Project is organized around a set of thinking ideals that capture naturally occurring goals, strivings, or interests that often propel our thinking.

Based on the fact that learning is a consequence of thinking, students' understanding of content, and even their memory for content, which increases when they think through the concepts and information they are studying, as fostering thinking requires making thinking visible. One clear example of routine is Think- Puzzle- Explore, which taps students' prior knowledge, but with a key difference. Teachers ask what students "think they know" rather than what they "know" which suggests possibilities and openness rather than absolutes and therefore it encourages sharing of tentative ideas. Another interesting activity is to choose a person, object or element in an image or work of art, and step inside that point of view. This thinking routine is called Step Inside "Perceive- Know- Care about". Students may take on the character of the story you've chosen and improvise a monologue, speaking in the first person, they would talk about who/what they are and what they are experiencing. Working as individuals or in small groups, it may be helpful to have students sketch out a small monologue or scene that contains some of the different people who are participants in a particular system. They can then assume the role of various people in their system, and act out a small scene, with each student portraying a different person's perspective.

There is also an additional and potential advantage of learning with thinking routines that is that students who previously believed they lacked a voice or that their ideas weren't valued, including students with learning disabilities, participate more actively and confidently. It is important to take into account that the ability to work across cultural and linguistic differences with its ambiguity and complexity is part of globalization and advances nowadays. In response to these challenges, teachers should look for ways to help their students develop better understandings. They should strive to explain clearly and look for opportunities to clarify and pose open-ended tasks such as planning an experiment or analyzing a television commercial—tasks that call for and build understanding. In short, understanding is being able to carry out a variety of performances that show students´ understanding of a topic and, at the same time, advance it.

Moreover, through generative topics, both students and teachers can explore and develop a sense of curiosity about, and appreciation of, different topics. The development of a concept-map instrument that classroom teachers can use and an analytic framework for interpreting students' responses is essential for the whole grasping of ideas and concepts. Understanding goals and performances is relevant when planning. Teachers need to design understanding performances that support the understanding goals, and that students should be engaged in those performances to show further understanding. Subsequently, after setting the throughlines, such as "Do I understand the message the text is trying to convey?" then, a net of connections is presented to generate class discussion and analysis.

What is important to have in mind is that educators now understand that changes in student outcomes must be supported by parallel changes in curriculum and instruction. However, it is apparent that many of today's teachers are caught in the midst of a change for which they may not have been professionally prepared. Many teachers were educated in classrooms where the role of the student was to memorize information and having the teachers as the center of the process of learning rather than having them as guides, facilitators or tutors. However, classrooms which nurture student understanding do possess

distinctive qualities. The work done has to have meaning or value to students beyond achieving success in school.

In conclusion, the ultimate value of authentic student work and assessment is that it enhances student engagement and motivation and it should cultivate high order thinking and problem solving. To be able to balance and acknowledge both the emotional and the cognitive components of the learning process in our students is the best way to show that we care, that we want to do things better every day in every possible way and most importantly, that we enjoy doing it.

Building Peace in early childhood by Elvira Milano

Teaching strategies to work with children in the classroom

"It is in the first six years of life that all the possibilities of humanization are developed. The childhood is then a magical place of unfolding of potentialities"

A path that starts at the initial level.

Context of the project

As every project is born of an institutional diagnosis, in this case how they were solving daily conflicts of socialization in children taking into account that they were in the process of learning and development
It was also taken into account how teachers solved these situations, what matrices they brought and what achievements, consequences or impacts on children's behavior were observed.
This work took many years of practice and reflection. We will try different strategies that were gradually ordered and can be systematized and evaluated later. Starting from room 2 to class 5.
In this institution there are children from 1½ to 5 years old inclusive of different social, cultural and diverse family formats, with a total quota of 300 students distributed in 8 classroom levels in the morning and 8 classroom level in the afternoon
Introduction
If we think that the initial level covers the period from birth from to 6/8 years and taking into account all the learning that happens there we see the importance of making the emotions visible, recognize them and that the learning of conflict resolution is crucial for the Development of proactive individuals for a society that believes that peace is possible.

It is necessary then to have in clear several concepts well understood cross this period of the educative life.

The school is understood as a place of construction of citizenship and democracy. Place of rights and responsibilities. Education must be at the service of citizens.

Only through education a people grows, progresses and fully lives their rights with dignity.
The family with its key interference in the education and upbringing of boys and girls
In the interweaving that arises from the building of authority and trust between adults involved in parenting and formal education.
Faced with the institutional question towards families: Why does your child come to the kinder garden?

To which families respond: To learn to share. To socialize, to play with others. This in 99% of the answers. In front of this a challenge begins that deserves all the effort to achieve it in the best possible way. And sharing leads us to develop a series of routines of peace and coexistence of which we are all responsible.

Challenges and definitions.
Constitutive points of coexistence and the construction of peace.

Peace is a dynamic process, of continuous construction defined not as absence of conflicts but as a space and time of sustained agreements. Then taking into account new variables, re-generate new situations of harmony.

The school constituted by teachers and managers must generate permanent peace processes, understanding for this reason that differences exist, value them, differentiate them and add them up by this organizing and directing the institution and taking care of diversity.
The school needs to foster agreements that are in permanent process of change and re-evaluation. Agreements based on the law, at the nation, jurisdiction, school, classroom level.
Agreements based on the culture of each place, the cultures of families, origins, ways of life.
From this perspective it is a work of daily construction, of a dynamic balance, often difficult.
From the normative framework, each school must have in its Institutional Educational Project, the style of institutional coexistence that must be kept in mind by all members of the educational community.

Another aspect that was mentioned before is the family.

With regard to the family "what we call family" as Isabelino Siende says in his book Complex relationships between the initial level and families, how we look at them. Many times these idyllic representations resemble numerous fairy tales, instructional reading books, stories of grandmothers during the family dessert, etc.
They resemble little, however, to the daily experience of many households, to what statistics say, who say the statistics, to the household stories that are mentioned with secrecy, to which the grandmothers sputter when they believe that nobody listens to them, to what each family hides Under the carpet as their shameful past, which is painful or judged as immoral. In these subterranean speeches, maltreatment, a patriarchy, difficult marital unions, abandonment, violent upheavals are circulating that the school often ignores while it acts on representations and not on reality.
Family relationships have often been conflicting and sometimes tortuous. Many of the conflicts of other epochs were resolved by the conquest of new modalities of relation and expression of the autonomy of each one of its members but at the same time they provoked greater instability in the bonds and broke the pacts of silence, of the intimidating ones. Has the family been lost or has it changed? Were families the same as before or have we conquered more democratic and less despotic relationships? Even more do we always talk about the same thing when we talk about families?
In schools, as in other institutions, contemporary families are also often judged in light of of a "lost paradise", the family is usually thought of in a nostalgic tango tone. "Families were the ones before" "The family has been lost" "These kids have no family." "Where are we going to end up with these families?
Conflicts such as violence and family disorders, economic conflicts form a picture that often contrasts with the symbolic representations of society in which the family appears as a place of security and affection.
Building a family climate in peace leads to multiple constructions that will gradually solidify to allow the best socialization of children. One of them is to talk about family ties of, rather than "the family of" since these denote roles, functions, etc.

Challenges of the teaching and school role

In this new century with these new families it becomes necessary to rethink the challenges of the teaching role.
Education allows subjects to develop and given new knowledge in relation to how the human being learns it becomes necessary to change the role of teachers and their way of teaching.
This sense, building bonds for peace must also be taken as an institutional and public project because, as such, the projects endow the contents with an integrated and articulated vision. Assure the students an interesting and systematic work that allows them to develop meaningful and peace-oriented learning.
The content to be taught should not be a clipping of reality only seen by the adult but rather a cut from the perspective of children's thinking and specifically a peculiar way of the child to see reality.

In the institution that I lead, specific projects on coexistence and knowledge about oneself and adapted to the ages and interrelated to each other have been carried out.

So this is me, this about me ... With different activities according to the ages and evolutionary stages.
This project allowed and allows the development of different ways of expressing feelings, differentiating them, expressing them through language and fundamentally controlling impulsivity as much as possible and encouraging communication.
So how do we approach the processes of socialization? How do we approach the daily differences, the own and conflicting situations that arise at each age? How do we overcome the disadvantages that arise in children by these incomplete psyche, which are developing in relationship with others under the same conditions? Let's not forget that that's why they are children, they are still developing skills, but they would be adults. Words that correspond to Rossana Ortegossa, psychoanalyst of children.
The starting point is then to generate better conditions and relationships between peers, to teach them to solve conflicting situations. When should and how should the teacher intervene to be really constructive for the child?
But like any educational process it is necessary to organize, plan and anticipate modes, resources to achieve the proposed objective or result. It makes sense to move towards the future. What can be prepared today of what is expected to happen tomorrow.
In this project This is me, This is about me different strategies are developed , strategies as" I see, I think and ask myself", "Put yourself in the other's place" so that in the children, the idea that there are other subjectivities present in the processes of socialization is reinforced.

"The links are not established in the void, it is in the course of the different proposals that children build their affective bonds, feelings of belonging, transforming their journey through their schooling into something challenging" Ruth Harf (1995)

What kind of competencies must a teacher have to accompany the students to face this challenge of building peace?

As for the teacher his role should be: Affective companion, support figure, a significant other and cultural mediator. Through different scaffolding, participating in mutual expressions of affection, offering corporal availability, carrying out actions together with the other children, accompanying with the word (Los Pilares de la Educación Infantil Claudia Soto, Rosa Violante).

<u>Support individual learning</u>
Make a reading of the environment
To be a facilitator of learning
See each problem or difficulty as an opportunity to create.

This is truly a learning experience.
It must produce transformation, offer opportunities for subjectivation.
Generating a new way of seeing the world is not just a passing event.
For this it is necessary to start from the educational paradigm Visualization of thought where strong emphasis is placed on thought processes:
Think to learn, think to solve problems, and think to learn to solve problems.

Through thinking routines:
What do you see, what do you think, what do you ask
Brainstorming
Put yourself in the place of the character through different resources, stories, images.

From art taking paintings as a motor for language development and student interpretation This happen in the classrooms 3, 4 and 5 relating them to what they feel, when, in what situations, etc.
In the succession of daily conflicts the following guide is used, adapting it according to age:

Reflective problem solving:
What is the problem?
Why is there a problem?
What are the possible solutions?
What would be the result with each of these solutions?
What is the best solution and why?
This resource is used either in conflicts between peers as well as is used in the format assembly that are generally performed one or two per week in the classrooms of 5 in order to elaborate situations that merit the highest possible awareness in the school group.

Another strategy that is used in all rooms (2,3,4,5 years) is the invitation to look at each order and dialogue after the conflict

Here the concept of Minimum Ceremonies appears as a socio-educational and / or key clinical methodological device and key for multiple possible interventions. That is to say a device to think and to enable alternatives of intervention nonconventional allows subjective possibilities. Author: Mercedes Minnicelli

Minimal ceremonies are not defined by size, nor by the scope of the act, it is a matter of giving small acts the character of great actions that are linked together by engendering new discursive and factual networks. The teacher asks with an appropriate tone of voice, what happened, who is involved in the situation and provides a space for the intimacy of the dialogue between both and monitors. The mutual listening and eye contact, the glances, the conversations and the gestures that produce the necessary understanding and agreement come naturally. Using reflexive guidance if necessary so that they can reflect together and find the best solution that will be their own and always under the paradigm of the common good.
Making a pause before a tensed situation that has been generated will enable us to give a turn in the way we act, will help us to see the cause of the tension and take everything some time to reflect and not respond in the easiest way as teachers, solving according to Arbitrary criteria, thus avoiding this necessary process. Listening to each other's points of view allows one to take the necessary distance from the conflict. In our case in all cases applied from room 3, the result has been 100% favorable
Rescuing the eye-contact between children in their infancy connects them with the depths of their being and enables them to the good intentions of each other.
In the 2-year-old classrooms, it is important to talk about parenting workshops with parents, these take place on several dates a year, as they are used to organize growth, limits, tantrums, eating and sleeping, waiting times, etc.
For this the teacher must communicate with clarity and precision, empathy, listening with compassion. Providing situations in the context of teaching that serve to teach students the possibility of managing, controlling and modifying themselves so that they can think differently with an effective type of thinking that analyzes, makes decisions, and argues and other actions Analytical, creative or critical. (Arthur Costa .El Aprendizaje basado en el pensamiento)

On the other hand, it is also important to keep families informed about this project, how conflict resolution is managed, to pool criteria in families and to work together.

Good teachers should know how to listen, give the opportunity to have a voice, respect the diversity of ideas, have confidence in the other, be tolerant of differences observe, observe, care and know how to take care, be calm, serene and know how to say: We solve it together , arousing the possibilities of the others looking them in the eyes.

The school leaders as enablers of the word and facilitators of listening.

Another space very rich in possibilities is the principal space of the school. From where authority is built. How do you see the direction of the school, who make it up, what role do they play, what is the imaginary, the prejudices of families in front of this space of authority so necessary for the regulation of actions within the school. The main space of the school then as a political space for peacebuilding.

Today's childhoods

What do the children of today, of the adults of today need? In short, a structuring law that can only be provided by adults who fulfill their role as adults committed to childhood, life itself.
The teacher should then be prepared to educate what it means to also tolerate uncertainty, frustration itself, with a special sensitivity that allows to signify the astonishment that the child produces each experience. The child does not know how the stimuli are organized is the teacher who should help decode them since the experience of each child is unprecedented.
Learning to relate leads us to the field of ethics and in that it is the teacher who must decide what is best in possible relationships.
That is why we are talking about building the right scene for certain conversations. A scene that has to recognize and design the teacher where, when and how to achieve the two access routes to results based on the content of the talks and the impact on the link of those who dialogue.

This intimate relationship between word and link is perhaps one of the devices that are in the secrets of good school management. Because ultimately create facilitating contexts, is to create links and where quality links are created circulate conversations, questions, ignorance, answers and others that articulate what has been fragmented. (Bernardo Blejmar. School management 2016)

The child learns and teaches another. Has a propensity to teach, creates open relationships.
Socialize what you will then test. Learning to manage one's emotions is a lifelong exercise that can be learned from a very young age.
From the possible to the likely to execute. Children should be understood with the outside and with what they feel inside

As Isabel Boschi says: I wish the emotions had precise words. But are needs preferential hearing in parenting, in the act of educating.

Reality shows us that today's childhood has a new journey and as teachers we must discover these new ways and accompany them.
It is in the game of change, which involves honoring our stories and traditions as people and professionals, but at the same time not burdening with what no longer motivates us from these stories, in this case conflict resolution to be able to continue in a constant search And relentless of new alternatives and possibilities, in function of improving our educational act.

In addition, acting with and for the family using dialogue, listening attentively, putting oneself in another's place requires clearing the prejudices that pretend to naturalize a single mode of family configuration and disdain or condemn any other configuration.
In short, to deal with the relationships between families and the school implies seeing problems that cross both institutions, leaving them to think of situations as split and seeing that they are somehow linked by the processes of social fragility (Santillán 2010)

An experience of change is a cultural opportunity.

Evidences, arguments and actions from the institutional management are evaluated. Monitoring plans and actions will be formulated, doubts, assumptions and prejudices will be clarified.
The documentation of the processes is essential as well as the records of the situations that are presented and the collection of significant events and how they were solved.
A continuous assessment that investigates and discusses progress in the aforementioned processes, difficulties and teaching conditions that facilitate or hinder this process.
Evaluation that promotes group solidarity, reflection and facilitates participation and cooperation between teachers.
Establish progress and achievements; Difficulties and obstacles in the process of acquiring communicative skills and conflict resolution. The place that the word has in its communication, strategies used.
Reorient the educational task of the teacher
Evaluate the teaching task and the institution

Conclusions and recommendations:

To reaffirm then the importance of the initial level as place of collective construction of coexistence makes this level be looked at carefully and with its due importance.
Review standardized teaching and institutional practices for conflict resolution in order to see new, stronger and more effective ways of benefiting children
It is therefore essential to guarantee access to this level of formal education regulated by the state with the greatest possible coverage so that the majority number of boys and girls can access to enjoy their fundamental rights and build that democratic space par excellence that is the school.

It is necessary to propose institutions as a space for meeting and shared research, generating healthy relationships between educators and children, educators and parents between teachers, between teachers and managers and all members of the institution, respect for the functions of each one And mutual collaboration.
To give to the minimal ceremonies the relevant space they have, to grant them the character of invention, of creators of subjectivist conditions of possibility that is sustained in the word in the daily saying, to the recession of socialization and education, recreating significant dialogues in childhood.
Living and working from ethics makes us better human beings and therefore citizens

As a closing statement:

"To ensure that things happen not only achieve goals by organizing proposals and planning actions, but also enhancing the particularities of people when they put to themselves the service of a proposal collectively which the group, as a whole, walk together to leave Institutional trails in a new challenge". (Laura Pitluk. School management 2016.)

Hyper-Awareness:
Cultivating Citizenship Through Transdisciplinary Thinking

Ashlie Latiolais

Across the United States, increasing numbers of populations are moving back to cities from suburbia and rural landscapes.[i] Therefore, more than ever, it's the utmost importance that architectural education looks closely at urbanism, architecture, and spatial relationships through a new lens. Many U.S. cities are fragile, fragmented, and as stated, developing at rapid rates. An opportunity where designers can actively participant in the future of our built environments is to embody the characteristics of a "Citizen Architect." As described by the American Institute of Architects, "the Citizen Architect uses his/her insights, talents, training, and experience to contribute meaningfully, beyond self, to the improvement of the community and human condition."[ii] These individuals "avoid thinking simplistically about complicated issues and strive to appropriately consider the rights and needs of relevant others; they recognize the complexities in developing as thinkers, and commit themselves to life-long practice toward self-improvement."[iii] Interestingly, the latter description is Linda Elder's definition of critical thinkers, not as related to architecture. This parallel depicted between architects and critical thinkers causes a reexamination of how teaching / thinking affects future city visionaries and their development in becoming Citizen Architects.

Mind & Body

When reflecting on architectural education, active participation and criticism are integral to studio methodologies and curricula. Project processes employ digital tools, hand skills, and communication – both verbal and nonverbal (within two and three-dimensional graphics) to synthesize various complexities of information. Utilizing the hand to suggest an action towards a goal or product and furthers this idea of actively participating in community. However, this participation does not reach its full potential when rooted in a single perspective. *Actively* thinking, or cognizant recognition of, calls for shared ideas – both in the physical and mental sense, where one can't exist without the other. "Every *motion* of the hand in

every one of its works carries itself through the element of thinking, every bearing of the hand bears itself in that element. All the work of the hand is rooted in thinking."[iv] To Heidegger's point, the act of the hand's movement, in a verb sense, is the departure into focusing *motion* as the key to understanding architectural space and thinking.

To understand the hand, or "body" for this context, will not only support active thinking, but also see the built environment and spatial relationships from a particular vantage. People respond to the geometry of a city and architecture. Cities have a rhythm as most eloquently described by Jane Jacobs, "although it is life, not art, we may fancifully call it the art form of the city and liken it to the dance...an intricate ballet in which the individual dancers and ensembles all have distinctive parts which miraculously reinforce each other and compose an orderly whole."[v] A recently published article in Architectural Record discusses the architecture of Lorcan O'Herlihy becoming a stage for dance, "these artists understood the building in a very, very significant way...the movement of their bodies responds to the elliptical geometries of the courtyard."[vi] Dance represents the ultimate in body awareness, therefore through the examination of dance, architects could become hyper-aware of the body in space and become better spatial thinkers while improving upon communication because of this interdisciplinary exchange. To examine dance, this data could be derived a number of ways. Simply viewing and documenting through photography or drawings is one example; motion capture tracking is the other scale of capturing motion. However, one can't analyze the body specifically, the container, or space in which they act is relevant and must be closely analyzed and documented.

Testing a Framework

A project entitled UNFOLDED was executed with the author to test, in real-time, the intersections of these disciplines, similar to the early works of Architects Herzog and De Meuron. Collaborators from architecture, dance, visual arts, and performing arts joined to create a fluid creative process. UNFOLDED investigates the idea of the dancing human body in relationship to its spatial proportions, constraints, and flux while also challenging the reciprocal role idea of architects as choreographers. The

installation included four one-inch thick steel tubing welded to create a mobile space, stretching twenty-foot wide by eight feet tall. The installation has a series of shapes, configurations and exploratory spatial options for the dancers to utilize. What arose out of the collaboration was a project that tested the relationships but also made vivid the overlap and understanding of the body in space. Since the structure was mobile, the dancers responded to the space while maintaining the agency to frame the performance in a certain way.

Intersecting Vocabularies

"Multilogical thinking occurs in defining the task at hand, determining how best to use available approaches, and devising a working meta-language. The worldview or perspective embedded in each discipline must be extracted."[vii] Intertwining dance and architecture, two typically unrelated disciplines, surfaces new prospects as tested in the above case study. The integration of the two exhibits several intersections, where language, boundaries, and roles become blurred. "The communicative competence needed for interdisciplinary work in inextricably bound up with problems of language...The number of participating disciplines and organizations will also complicate communication. In each case, though, a common language and a shared sense of what is at stake must be created."[viii] Examining language and understanding relationships are key to architectural practice. For example, understanding a piece of architecture within a larger context, or, perhaps, a client's perspective on his or hers proposed program ideas whom doesn't necessarily understand architectural terminology. In both examples, the movement, habits, paths, of the users must not be ignored.

Body awareness, movement, technique, and control are alternate readings by which the built environment can also be comprehended. From Glaser's examination of critical thinking, "...to recognize the existence (or non-existence) of logical relationships between propositions, to draw warranted conclusions and generalizations, to put to test the conclusions and generalizations at which one arrives, to reconstruct one's patterns of beliefs on the basis of wider experience, and to render accurate judgments about specific things and qualities in everyday life."[ix]

Dance illustrates each of these foci in relationship to space where architects can then act as 'Choreographers' of both formal and informal life events. As architects immerse into the role of choreographers of the built environment, they create the movement of pedestrians which also delivers an emotion. Through studying the body in dance, the architect can more specifically examine spatial relationships, and therefore, more conscious of the built environment at the scale of the body.

Resolution-Finding

Architecture could be viewed as constant problem solving; complex three-dimensional puzzles, to ultimately be articulated down to an intervention that seeks to vivify human experience and everyday habitual movement. The reverse, considered here, is that architecture is solution-focused, and perhaps, is the overlap between 'critical' thinking as it applies to 'design' thinking. Interdisciplinary exchange will be key to how this resolution-finding overlap develops and affects future architectural practice. The way in which the profession of architecture has an opportunity to advance and adapt is by rethinking methods and techniques within architectural education by altering "not only the products of research, but the very procedures."[x] As implied by Klein, when interdisciplinary practices are executed, criteria are not given or found, they are made. "They are created in an ongoing process of discovery that opens up barriers and cross-fertilizers by replacing the dichotomy of either-or with the inclusive relationship of both-and."[xi] To give back to a community, "beyond self," involves the inclusion of said community into the design process. Transdisciplinary thinking creates an environment of both inclusiveness and heightened consciousness "Citizen Architects" for the 21st Century and are resultants of productive transdisciplinary creative processes – particularly in the new frameworks between dance and architecture. In doing so, utilizing interdisciplinary practices opens opportunity while embracing potential derailments of ideas. This approach to design could be viewed as hindering to a lineage of thought, however, it's that very disruption in a process that is, in turn, the solution.

"The awakening of the intellect to the study of itself"[xii] could be a short definition for how to think and act critically. Investigating the pedagogical relationships found between dance and architecture is an

effort to engage 'technique' and the body's relationship to space as the core of both disciplines discussed. As supported by Ersoy, "the need for investigating new ways and methods to enhance awareness of spatial experiences is inevitable…collaborative studies of dance and architecture are important supports."[xiii] This leads to questioning, if ballet is the framework to many different styles of dance, what is the "ballet" of architectural education? This question, forces a critical assessment of architectural curricula as it relates to thinking and practice. The development of transdisciplinary ideas will result in more collaborative, comprehensive, and precise architectural interventions. Therefore, by establishing the concepts of dance in design thinking, the idea of the body's responsiveness and adaptability to an environment is parallel to how architecture must also possess an adaptive relevant response.

Awareness & Citizenship

Generating a now revised definition of the Citizen Architect to include the highly attuned awareness to place and habits could be described as "using his/her insights, talents, training, and experience to *interact, across disciplines inherently forcing a reexamination of self,* to the improvement of the community, *built environment, and therefore, transforming the* human condition." To cultivate citizenship, or responsibility, through transdisciplinary intersections and friction, specifically through dance and architecture, can be productive in the design process and posits an alternate lens through which to view architecture as a form of choreography. The emphasis on movement, the body, the "hand", is in response to the local disconnection caused from suburbia and global disconnect supported by the digital realm. The digital world allows for interconnectedness but immensely disconnects physicality. To refocus efforts and analysis to human interaction and motion combats the digital issue of emotionless existence into lucid awareness of being in our place in space.

Keywords: architecture, dance, transdisciplinary, citizen, environment

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Role of Stress, Stress Regulation, and Executive Function on Behavior: Similarities and Differences Between Middle Schoolers With and Without Significant Behavior Problems

Michelle Cumming

Significance

Despite mandated school-based services, students with significant emotional and behavioral problems have poor lifelong outcomes (e.g., school dropout, delinquency; Bradley, Doolittle, & Bartolotta, 2008), which may largely be linked to neurocognitive differences and stress related issues. As highlighted across multidisciplinary studies, the relationships among (a) stressors (Grant et al., 2003); (b) stress regulation (Obradovic, 2012); and (c) neurocognitive processes known as executive functions (EFs) may be key to emotional and behavioral outcomes (Shonkoff et al., 2012; Williams, Suchy, & Rau, 2009). Yet, few researchers have investigated the EF of students who receive school-based services for behavior problems (e.g., Feifer & Rattan, 2007) and none have examined the relationships among EF, school-based stressors, stress regulation, and behavioral outcomes during middle school – a period marked by high stress, active EF maturation, and risk for the onset of mental health problems and delinquency (Dahl & Gunnar, 2009; Lupien et al., 2009). The purpose of this study, therefore, is to better understand the variables that contribute to behavioral problems, and ultimately inform school-based programming.

Originality of the Work

To address the existing gap in the literature, we investigated the effects among EF, student perceived stress, stress regulation, and behavioral outcomes of 79 middle school students with significant emotional and behavioral problems and matched typical peers. This study was not only one of the few studies to investigate the EF of adolescents with significant behavior problems compared to typically developing peers (e.g., Feifer & Rattan, 2007; Pitts, 2015), but also one of the first to examine the EF and stress relationship and resulting emotional and behavioral problems within school settings. We focused on school-related academic, teacher, and peer stress, which are commonly experienced during adolescence (APA, 2014).

Research Questions

1. Do students with and without significant emotional and behavioral problems differ in their EF, perceived stress levels, stress regulation abilities, and behavioral outcomes?
2. What are the direct and indirect effects among EF, perceived stress, stress regulation, and behavioral outcomes?

Conceptual Framework

To capture the link between EF, stress, and behavioral problems, we developed a conceptual framework informed by both theory (e.g., Williams et al., 2009) and research. As shown in Figure 1, exposure to stress through environmental and interpersonal experiences influence the development of individual EF. In turn, individual EF can heighten or reduce the probability of increased exposure to stressors, as well as stress regulation abilities and behavioral outcomes. Further, stress regulation serves to either increase or decrease stress levels and further affect EF maturation, resulting in an EF-stress loop. This conceptual framework served as the foundation for our study.

Methodology

We conducted a cross-sectional field design study with 79 middle school students. Participants included 44 middle school students receiving school-based services for behavioral problems and 35 typical matched (gender, race, grade) peers. We used exact matching to weight

groups to be equal.

Data Collection and Analysis Procedures

We assessed perceived stress, stress-regulation, and behavior using multiple self-reports. Performance-based EF was measured with the National Institute of Health Toolbox. We used ANOVAs to investigate group differences, sequential regressions to examine predictive and moderating effects, and bootstrapping for mediation effects.

Implications and Conclusions

Results indicated that students with behavior problems had significantly lower EF abilities, used less effective coping strategies, and had higher stress than matched peers. Family and school stress predicted both ability to cope with stress and internalizing and externalizing behaviors, and stress regulation served as an important mediator.

This research has the potential to provide researchers and practitioners with invaluable insight into understanding and targeting the development and escalation of significant emotional and behavioral problems in schools.

Figure 1. Conceptual framework representing individual EF development, stress exposure, and stress regulation processes.

Creative thinking in math curriculum: an analytic framework

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Significance of paper to the conference themes

This paper provides a framework analyzing creative thinking (CT) in math curricula and demonstrates the application of this framework via analysis of Israeli mathematics curriculum materials (textbooks, teachers' guides, educational software and national assessment).

The paper provides insight into how curriculum materials can be used to promote student engagement with CT in mathematics. It illuminates gaps between desired thinking skills and attainment of these skills and it suggests how research can influence educational policy.

Originality

To our knowledge this is the first framework for CT analysis in mathematics curricula and the first research to use such analysis to understand how CT goals in educational policy are expressed in teaching and learning materials. .

Research questions

1. How can we construct a framework to identify and score CT in mathematics curriculum materials?
2. How can this CT framework be used to analyze mathematics curriculum materials?
3. What trends and emphases in policy and curricula can be seen through the analysis of mathematics curriculum materials?

Conceptual framework

Creative thinking has recently drawn considerable attention in education (Kwon, Park, & Park, 2006, Gallagher, Hipkins, & Zohar, 2012). In mathematics, nurturing CT is an important part of developing deep conceptual understanding (Mann, 2006; Aizikovitsh & Amit, 2010).

CT in mathematics is a multifaceted construct (Mann, 2006), which includes, for example, divergent and convergent thinking, problem finding, problem solving and self-expression (Runco, 1993) as well as seeing new relationships and making associations between techniques, ideas and areas of application

(Haylock, 1987). In addition, many posit that the essence of mathematics is thinking creatively, and not simply arriving at the right answer (Mann, 2006).

In many countries education policy includes explicit CT learning goals (Gallagher et al., 2012). Incorporating CT in curriculum materials is one possible path to encourage students to engage with it (Zohar, 2008). As a central resource for teaching and learning curriculum materials provide students with opportunities to engage with contents and skills (Houang & Schmidt, 2008).

Methodology

In this mixed-methods study we used qualitative methodology (grounded theory procedures) to construct the CT analytic framework; we used quantitative content analysis to apply the framework to Israeli mathematics curriculum materials.

Data collection and analysis procedures

The analytic procedure commenced with a literature review and in-depth interviews with six experts in mathematics. This resulted in a preliminary list of nine mathematical CT categories. In the final framework, these were combined into three CT themes: divergent, integrative and lateral thinking. The framework was validated by coding 120 items (e.g. textbooks tasks) by CT type and rating the expected level of CT in each item. Reliability was achieved via having four math experts independently code the items. We used this framework to analyze 13,086 items in the Israeli national mathematics curriculum and in teaching and learning materials that align with the curriculum.

Conclusions

Our findings demonstrate the power of this framework for analyzing CT in mathematics: While Israeli education policy includes CT goals, the opportunities for students to engage in CT provided by teaching and learning materials are limited. Within CT opportunities, the greatest focus is on integrative thinking followed by divergent thinking; opportunities for lateral thinking are the rarest. Younger students are afforded more opportunities to engage in CT.

The CT framework and its application reveal the similarities and differences between educational policy, curriculum objectives for CT in mathematics and opportunities for CT in teaching and learning materials. The CT framework can be used as a tool for decision-makers for creating and authorizing teaching and learning materials that align with CT goals.

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The "journey" of the Piraeus low-income schools in Out of Eden Learn

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Introduction

During the last years, major political and economic changes have swept through Greece. Greece's crisis has affected most aspects of peoples' lives be it jobs or salaries, and has changed living conditions dramatically. In addition, the recent influx of migrants and refugees in the Greek islands and the port of Piraeus has contributed to the generation of an increasing uncertainty among people, a sense of xenophobia and a crisis of values.

Aside from the severe problems that it has created, the current social and economic crisis has also affected the Greek education system. The city of Piraeus and its suburbs, such as Kaminia, Nikaia and Keratsini, are indicative examples of areas with schools that have become scarcely able to function. According to many teachers (Chalari, 2016) the socio-economic crisis has caused them serious personal hardship which in turn has left students and their families feeling insecure and uncertain. Furthermore, "teachers feel that the younger generation has been ruined, and has become a lost generation that doesn't have much to dream about apart from a future of austerity" (Chalari, 2016:157).

Not only the teachers, but also families who live in the low-income communities of Piraeus believe that the socio-economic crisis has a negative impact on preparing their children to thrive in a global future. In addition, the lack of self-confidence of the families with immigrant background that live in Piraeus creates a sense of inequality and an unwillingness to engage in activities related to the school. These attitudes are quite often passed on to the children. As a result, most of the kindergarten students in the low-income communities and refugee hosting areas of Piraeus exhibit anxiety and low self-esteem.

These findings underscore that despite the fact that "the success of a society relies on the global competence of its people" (Van Roekel, 2010:2), the equity in global competence education in the public kindergartens of the disadvantaged districts of Piraeus remains a daunting problem.

Global Competence

The unprecedented challenges that characterize the 21st century call for a generation of globally competent individuals. Education is the only avenue through which today's students-tomorrow's workers can attain global competence. According to OECD (2016:1) global competence includes "the acquisition of in-depth knowledge and understanding of global and intercultural issues; the ability to learn from and live with people from diverse backgrounds; and the attitudes and values necessary to interact respectfully with others". For Boix-Mansilla (2015) educating for global competence involves that students are able to:

- investigate the world
- take perspective
- communicate ideas; and
- take action.

Students become globally competent as a result of multiple skills being cultivated at a preschool age (Salmon et al, 2017). Therefore, nurturing global competencies in the early years can be seen as a cornerstone of competing successfully in our interconnected world. Salmon, Gangotena and Melliou (2017:1) suggest that "it is crucial to engage children in conversations of global significance by adjusting themes such as conflict resolution, social justice, peace, and so forth, to their age level". This of course, requires a curriculum that can help young students develop concepts that are meaningful and relevant to their life experiences.

With all these ideas and principles in mind, the authors; a university researcher and two doctoral students from the Early Childhood Education Department of the Western Macedonia University invited the teachers of the public kindergarten schools in Piraeus to join the Harvard's Project Zero's Out of Eden Learn (OOEL) online community.

Out of Eden Learn

An initiative of Project Zero at the Harvard Graduate School of Education, "Out of Eden Learn" is a free online program for students aged 3-19 that has so far served over 20.000 students in 57 countries (Out of Eden Learn, 2017). OOEL (2017) began in 2013 as an experimental collaboration with Pulitzer Prize-winning journalist and National Geographic Fellow Paul Salopek, who is currently engaged in a 21,000-mile "Out of Eden" walk on foot following the ancient pathways of human migration.

The developers of OOEL explain that "the project aims to promote cross-cultural inquiry and exchange, and situate students' work within a broader educational landscape" (OOEL White Paper, 2016:2). Through the OOEL project (2017) students and teachers are invited to:

- slow down to observe the world carefully and to listen attentively to others,
- exchange stories and perspectives about people, place, and identity; and
- reflect on how their own lives connect to bigger human stories.

Classrooms from around the world that join the project's online platform are matched into small groups or "walking parties" of a similar age but from different geographic locations to participate in a "learning journey". According to OOEL's Curriculum (Out of Eden Learn-Core Learning Journey 1, 2017) each learning journey is broken down into six different "footsteps". Each footstep begins by inviting students to investigate specific resources from the Out of Eden Walk. The second part asks students to mimic some of what Paul Salopek is doing in his journey but on a local scale. According to OOEL's Educator Guide (2015-2016) the final part of each footstep involves student-to-student communication within walking parties. When commenting, students are encouraged to utilize specific tools from the project's Dialogue Toolkit (see http://learn.outofedenwalk.com/dialogue-toolkit/). These tools serve as writing prompts and also invite students to think more deeply about their responses to other students' work.

The OOEL approach attracted interest from several kindergarten educators who teach in the low-income public schools of Piraeus, eight of whom finally, decided to enroll their classes in the project's platform. For the authors, this was the perfect scenario in which to engage teachers in action research and make an improvement in the community in which their practices were embedded.

The Study

This study draws on a one year collaborative action research that was undertaken by a university researcher and two doctoral students. The purpose of the study was twofold: firstly, to investigate the extent to which OOEL creates the space for low-income and immigrant students to become globally competent and secondly, to examine the project's potential for engaging students' families as purposeful partners in the educational process.

Specifically, the authors explored the following three research questions:

- In what ways OOEL can develop the Piraeus students' capacities to compete and collaborate successfully with students of wealthier school districts from around the world?
- How OOEL can enhance collaboration and communication between parents and teachers from culturally and linguistically diverse backgrounds?
- What is the OOEL potential for helping teachers, students and parents gain recognition for their work by a global learning community?

Collaborative action research is defined as a variety of stakeholders cooperating together to explore questions of mutual interest through cycles of action, experience and reflection, in order to develop insights into particular phenomena, create frameworks for understanding, and suggest actions which improve practice (Butt et al, 1990). Therefore, the rationale for using a collaborative action research was based on the authors' need to develop a deep understanding of the ways in which a variety of social factors (school, family and community) interact to achieve an improving change to the ability of the Piraeus low-income and immigrant kindergarten students to function productively and meet the educational challenges of the global era.

According to Bryant (1982:20) collaborative action research projects "seldom fit neatly into a single cycle of planning, action, observation and reflection and, therefore the process requires a high degree of flexibility". Based on Riel's (2010-2017) work, the authors designed the following diagram to illustrate the process of their collaborative action research through time (Fig.1).

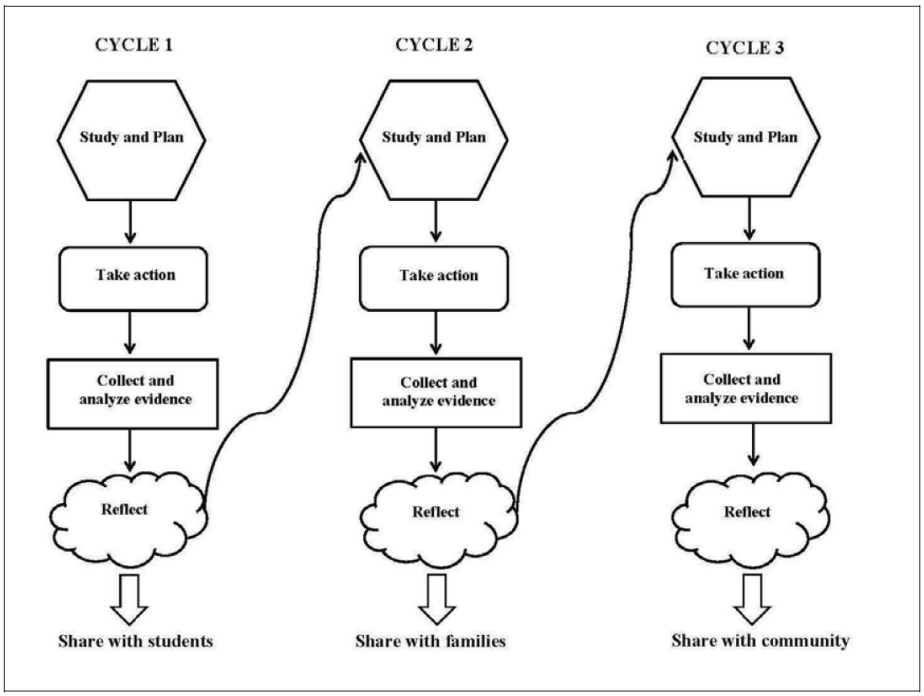

Figure 1: The process of the study's collaborative action research

Eight public kindergarten teachers agreed to the authors' invitation to become members of the research team. It is important to say that the authors had known the teachers for several years until that time and had established a close working relationship with them based upon shared values. Three of the schools where the study took place were located in Kaminia district, one in Nikaia and four in Keratsini. The total number of students in the eight kindergarten classes and percentage of student population are presented in Table 1:

Table 1: Distribution of the student population in the schools of Piraeus

Student Population	**N**	**%**
Low-income Greek students	115	61.8
Immigrant students	71	38.2
Total	186	100

The data were collected over a 12-month period during which the authors worked intensively with the teachers on constructing opportunities for developing a community of globally competent individuals through the OOEL's principles, teaching strategies and resources. The authors observed the classrooms of the participant teachers and the parents-teachers assemblies and collected information through field notes photographs audio recordings and questionnaires. In addition, the authors had seven joint meetings with teachers where they discussed their concerns and strategies as well as their understanding of the OOEL project's philosophy and

connection to the core capacities of the global competence framework. Of the 8 teachers, 5 were familiar with Project Zero's Visible Thinking approach which was an advantage for the group since "Visible Thinking involves teachers in using documentation to connect and interpret ideas and observations" (Salmon, 2010:29). This was considered as a powerful opportunity for introducing the idea of study's documentation through teachers' informal notes and action research journals. The structure of the journals reflected the process of planning, acting, observing and reflecting in order to guide teachers' practices with students and parents and make their educational theories visible. The data analysis examined both the qualitative and quantitative data that were collected and adhered to action research methodology.

Examining the OOEL impact on developing globally competent students

Analysis of students' work and teachers' journal entries indicated an increase in the development of global competence. A large number of students developed the capacity to slow down and observe their surroundings more carefully. By focusing their attention on little details (especially through the activities included in the OOEL footsteps 2, 3 and 4) students became able to identify hidden beauties in their neighborhoods which in turn increased their curiosity to investigate more closely the seemingly contrasting local contexts of their walking partners.

Students' capacity to be sensitive to multiple perspectives was mostly linked to the use of OOEL's Dialogue Toolkit. In the first meeting most of the teachers expressed a concern about students' ability to recognize the perspectives of other people. One of the teachers who seemed quite puzzled said, "*Half of my students are immigrants and they already feel stressed to share their life experiences. How can I challenge stereotypes? How can I make others be respectful of my students' perspectives when students themselves find it difficult to appreciate who they are?*" Throughout the learning journey students were encouraged to use a range of dialogue tools to interact with their peers and communicate their personal stories. The collaborative nature of this cross-cultural online exchange finally became the basis for perspective taking and bridging the gap between life in advantaged and disadvantaged communities.

Data analysis also highlighted a growth in children's ability to communicate effectively with diverse audiences even if all were only Greek speaking students. Digital storytelling was for most of the teachers an essential component to overcome the language barrier and communicate stories and ideas globally. One of the teachers wrote in her journal, "*I thought putting English words to Greek ideas would be quite challenging but now I think that digital stories can break any language barrier and convey children's message around the world*".

Finally, the OOEL experience created opportunities for students to take action in their schools and on the global stage. The research team noticed students' capacity for strengthening peer relationships which was mentioned either as an effort to make more friends in school or a willingness to become familiar with the traditions their classmates celebrate. This finding is considered to be highly significant in the case of Piraeus due to the increasing influx of immigrants into schools which still often generates behaviors among peers and staff that are associated with prejudice and bias.

Examining the OOEL impact on enhancing meaningful collaboration between families and school

Building links between diverse students is probably one of the most powerful aspects of the OOEL project. The authors considered that as a great opportunity to reach out to diverse families and develop relationships of mutual trust and respect. They suggested the idea of collaborative meetings before each "Footstep" in order for teachers to share their goals and work together with parents in an effort to transform their schools. Teachers agreed to family involvement and began to organize the goals and structure of the meetings. Aiming to actively engage all families even those who didn't speak Greek, the teachers asked several bilingual parents to become interpreters. At the beginning of every meeting the parents were introduced to OOEL's footstep's goals and they were encouraged to use Project Zero's thinking routines to deepen their understandings. After that, parents were invited to brainstorm ideas and collaborate with teachers on deciding their strategies design and discuss their action. Although initially, there was a sense of hierarchy (as a few parents assumed that their ideas were not as valid as those of the teachers or other families) soon all boundaries began to blur. According to the authors' field notes, "as the meetings continued parents felt that their contribution was valued and became more willing to work together with teachers".

After the end of the last meeting and in order to analyze data from multiple perspectives, the authors asked parents to complete a questionnaire regarding their views about the opportunities provided by OOEL for meaningful family school partnership and commitment to low-income school reform. The total number of parents was 186, of whom 162 (87%) filled out the questionnaire. Analysis of parents' responses reflected their deep appreciation of OOEL project on improving the competencies of their children (Table 2) and developing meaningful collaboration with teachers and all families (Table 3).

Table 2: Parents' views about their child's acquisition of global competencies

Through OOEL my child became able to:	**N**	**%**
develop curiosity about issues of global significance	120	74
recognize and respect their own and other's perspectives	105	64.8
communicate ideas effectively with diverse walking partners	115	70.1
take action to improve their everyday life in their schools	89	54.9

Table 3: Parents' views about collaboration with school and diverse families

After my participation in OOEL project I feel more willing to:	**N**	**%**
build collaborative relationships with teachers	162	100
engage in activities related to the school	159	98.1
express high expectations for the learning opportunities provided by low-income schools	82	50.6

trust school and staff members	146	90.1
interact with cultural and linguistic diverse families	132	81.5
build relationships of mutual trust and respect with all members of my community	68	41.9

Finally, the majority of parents (93.2%) described their involvement in action research as a very powerful experience that gave them the opportunity to have their voices heard and be engaged in matters that affect their lives in their communities.

Examining the OOEL potential for helping low-income schools gain recognition

Students received recognition from the OOEL community at various times during their learning journey and their work was featured in the project's social media accounts. The appreciation of students' efforts by a global community motivated teachers and parents to share their work within the local authorities.

The successful learning journey of the low-income and immigrant students of Piraeus in OOEL and their ability to compete and collaborate as equals with students of advantaged schools from around the world generated interest from the Mayor of Piraeus and received enthusiastic praise by the Greek media and press (Fig. 2).

Figure 2: Students' work featured in the Greek media and press

As a result, the research project was presented by the Greek national TV channels as an example of best practice for educators who are in search of powerful learning opportunities that can transform their schools.

Conclusion

Early experiences that engage children in investigating issues of global significance, recognizing diverse perspectives, communicating their ideas effectively, and taking action in their neighborhood or on the global stage create the space for becoming

global competent. Out of Eden Learn project has the potential to develop globally competent young students and prepare them to participate fully in today's and tomorrow's world. Thus, even children from lower socioeconomic background can live and compete successfully in the contemporary societies of the 21st century.

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Incorporating Fathers' Thinking: Perspectives for Improving the Literacy Learning of Primary School Students

Significance of the topic

Very few studies have examined how father-child interactions support literacy in the elementary years as well as fathers' perspectives on literacy learning (Clark, 2009), even though fathers as a role model, particularly for their sons, have been well established (e.g., Lamb, 2010). In attempts to understand why some children may not be performing as well as they could be in literacy learning, examining fathers' perspectives on ways that literacy teaching and learning in classrooms can be improved upon may provide important insight for students' school learning.

Many children struggle with reading comprehension, and "by the end of grade three, the gap in reading skills becomes too large for many children to catch up" (Biemiller, 2003, p. 332). Based on research findings over the years, educators have strongly advocated that parents read to their children as a means to support children's reading comprehension (Blachowicz & Ogle, 2008). However, it is known that mothers engage in more reading to children than do fathers (Clark & Foster, 2005). Knowing about important practices that fathers engage in at home with children and what they value for children's learning in school may provide important insight for children's learning motivation.

Methods

This study included 11 fathers of Grade 2 children (7 and 8 year-olds) in one culturally and economically diverse elementary school. It also included two Grade 2 teachers. All fathers, as well as the two teachers, participated in a 30-40 minute semi-structured interview. During individual, face-to-face interviews with the father, each was asked about the types of activities and language topics they engage in with their Grade 2 child, as well as their perspectives on

literacy learning in schools, which is the focus of the research presented here. All interviews were transcribed in entirety and qualitatively analyzed using the constant comparative method for common categories (Merriam & Tisdell, 2015). Following the category formation for father interviews, the data was descriptively compared to the analysis of two teacher interviews.

Preliminary findings

In response to the question on fathers' perspectives of how literacy at the primary school level can be improved upon, four major categories were developed: 1) increase student motivation; 2) use oral language to build writing skills; 3) incorporate out-of-school materials/sources (such as media); and 4) use more technology in teaching and learning. Several of the fathers pointed to the importance of motivating students.

Objectives and methods to engage participants

This presentation will:

- Present research on fathering and its important role in children's achievement
- Encourage participants to think about ways that fathers' perspectives and recommendations can be built upon within schools
- Present preliminary information on fathers' perspectives of learning in school and ways that teachers can support primary school learning based on these perspectives

Potential Discussion Questions:

- What are fathers' perspectives on ways that children's literacy learning in the primary school grades can be improved upon?

- What are potential ways that teachers can incorporate fathers' thinking about literacy learning into their practice?

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Exploring the role of cognition and emotions on innovation learning and performance

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Abstract

Innovation process performance has been largely understood as resulting from the interaction among strategic, contextual and procedural factors, and a team's capabilities for decision-making and performing technical tasks under uncertainty. As result, failures in innovation are often explained by the risky and uncertain nature of discovery-driven development processes. This paper summarizes our exploration about the role of individual and team's cognition and emotions on innovation learning performance. Based on an integrative review of the literature and action research, we examine the mobilization of fifteen competencies among twenty-eight stages of an innovation process with 1,176 participants of 134 innovation teams between 2013 and 2017. This analysis was performed based on knowledge about the effect 46 critical decisions, 118 types of cognitive bias, and 49 common technical mistakes along week-long experimental programs. Our results show that, regardless of industry, personal traits, gender or technical background, some specific tasks generate higher levels of frustration and types of mistakes in development teams. We identified how various cognitive and emotional limitations affect technical performance, and explored the effectiveness of preemptive actions for "troubleshooting" cognitive and emotional response under high uncertainty. We argue that project failure results from the accumulative effect of mistakes in decision-making under uncertainty, which in turn result from failures to learn and the effects of biased sense-making and inadequate response to

challenges. We propose understanding innovation as a learning process under risk and uncertainty; where complex, conflicting, inaccurate and incomplete information becomes available incrementally through mechanisms of selective search and sense-making (individual and collective). As result, cognitive biases, inertia and overload affect substantive and procedural rationality limiting a team's ability to learn and achieve superior technical results. Our results support the theoretical role and dynamics among individual and collective cognitive and emotional powers, self-esteem, personal disposition, and cognitive load across different milestones and stages of an innovation processes. We propose that, under highly uncertain and fast-pacing environments, technical tasks relying on synthesis capabilities tend to generate higher levels of frustration. Increased frustration lead to cognitive overload, thus increasing the frequency of mistakes and diminishing an individual's performance, and affecting a team's social cognition. We propose that ex-ante team configuration by explicit psychological variables and on-purpose generation of a noisy, risky and ambiguous climate reinforces the dynamics between cognition and emotions deepening significant innovation learning, positively affecting how a team represents the problem at hand, devise and manages the appropriate courses of action (process and methods) for solving it.

Keywords: innovation process, behavior, cognitive bias, failure, emotions, learning.

Significance of the topic

The relevance of innovation increased during the last decades, but our understanding about variables and dynamics for enabling innovation learning has largely focused on the effectiveness of different methods and processes (Dym, Agogino et al. 2005, Fixson 2009,

Zhang, Liang et al. 2012, Seidel and Fixson 2013). On this paper, we focus on the competencies mobilized along different innovation tasks, and the cognitive and emotional factors affecting teams' technical performance.

Originality of the work

Research about the determinants of innovation performance has focused extensively on the strategic and procedural aspects of innovation and new product development (Brown and Eisenhardt 1995, Krishnan and Ulrich 2001, Osorio 2017). Design scholars have studied the role of cognition and sense making on performance along the design process (Kolko 2010, Tracey and Hutchinson 2016, Yilmaz and Daly 2016, Yilmaz, Seifer et al. 2016). From different perspectives, there is growing research about the role of experiential learning in innovation, design and product development (Kolb 1984, Nobeoka 1995, Pisano 1996, Christianson, Farkas et al. 2008, Khanna, Guler et al. 2016). Similarly, there is increasing interest about the behavioral aspects of management, design and product development (Scholefield 1974, Cohen and Levinthal 1990, Levinthal and March 1993, Edmonson 2003, Van Merrienboer and Sweller 2005, Van den Bossche, Gijselaers et al. 2006, Lin and McDonough 2014). Management, engineering and design research, however, has lacked of an approach focusing on mobilizing capabilities for enabling innovation to happen.

Our work combines multiple perspectives for understanding how to enable meaningful innovation learning (Ausubel, Novak et al. 1968, Diaz Barriga and Hernández 2002) through a process-oriented (Vermunt 1995) approach by combining self-regulation and external regulation, sense-making and sense-giving (Albon and Jewels 2007), (Gioia and Chittipeddi 1991) lead mostly by team members (instead of mostly by a mediator). We

extend previous work on the effect of negative emotions-inducing situations (Beilock and Ramirez 2011) finding specific conditions where they enhance innovation learning involving mediated sense-making (Strike and Rerup 2016), situated cognition (Brown, Collins et al. 1989), creativity and innovation (Sawyer 2006, Sawyer 2012) and transdisciplinary processes (Vilsmaier, Engbers et al. 2015)

We studied twenty-eight superior design, innovation and engineering development processes for understanding their strengths and weaknesses in enabling innovation performance, and combined them into a meta-process we tested and refined through a decade. Based on this, we designed and refined a process-oriented team-based learning experience (i) with team configuration based in gender, psychological, educational and career-related variables (for team-oriented regulation and mutual support), (ii) focused in identifying and solving an innovation challenge relevant to each team (for enhancing relationship with context and intrinsic motivation), (iii) defined mediation techniques for creating a highly uncertain and ambiguous learning climate (for enhancing strong participants' emotional reactions) and (iv) developed a rubric for assessing the mobilization of fifteen competencies along the specific tasks of the learning path (as defined by the process). We combined them into a method for enabling innovation learning that is more significant, integrated and mobilized towards deeper learning. This method was awarded the 2015 Wharton QS Reimagine Education Award for best innovation in teaching delivery, and has shown significant effect on both learning and venture creation across more than 6,000 people in fifteen countries.

Research questions

Our research examines the role of cognition and emotions in innovation learning and performance. In this context, we examine (i) what competencies are mobilized through the different stages, steps and milestones of an innovation process?, (ii) how do emotions affect technical performance and learning through the process?, and (iii) how do individual and social sense-making play a role in this process?

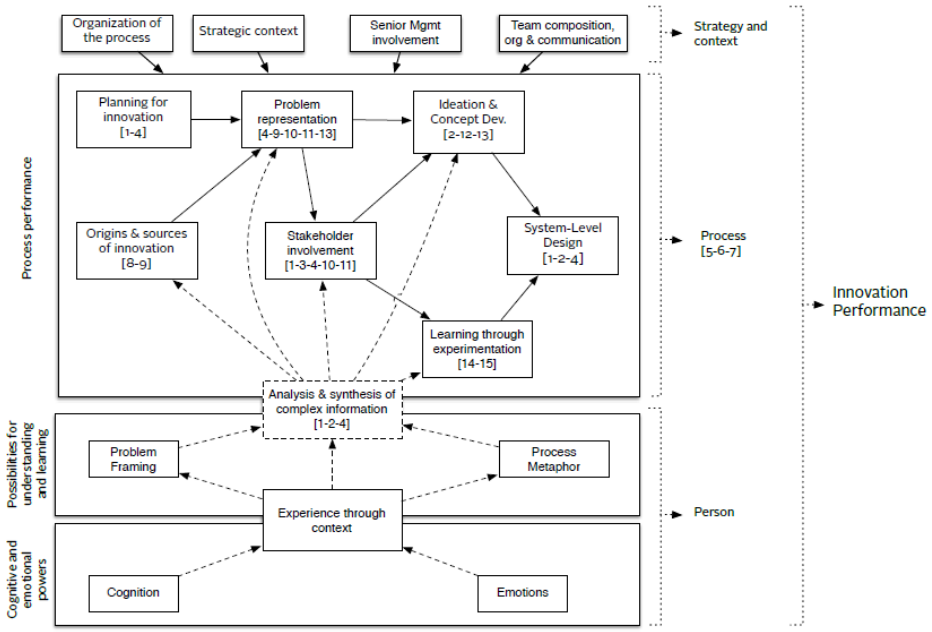
Conceptual framework

Innovation performance is largely affected by its institutionalization and formalization within an organization; its strategic and contextual factors; the way it is affected by senior management involvement; and team composition, organization and communication (see Figure 1). Our construct for understanding innovation performance include eight process-oriented dimensions (and their respective key milestones): (i) the origins and sources of innovation, (ii) planning for innovation, (iii) challenge and problem representation, (iv) stakeholder involvement during the process, (v) idea and concept generation, (vi) learning through experimentation, (vii) system-level design and execution and, an all-connecting dimension of (viii) analysis and synthesis of complex, incomplete, inconsistent and conflicting information (Osorio 2017). This last one, however, is essential, because it links innovation performance at the technical level with behavioral performance at the individual and team levels .

We propose five personal dimensions of attention: (i) cognition, (ii) emotions, and how they create (iii) experience through context, and the way in which they mediate in (iv)

problem framing and (v) process metaphor to affect the individual dimension of sense-making of complex, incomplete, inconsistent and conflicting information.

Figure 1: Conceptual framework



Source: the authors.

The strategic and procedural dimensions were taken from Osorio (2017)

Our conceptual framework in Figure 1 focuses on how people, as members of a team, learn through the mobilization of fifteen competencies along the different stages of an innovation process. Some of these competencies are common to most professional settings, but are intensified by the higher levels of risk, uncertainty and ambiguity during innovation:

1. Analysis
2. Synthesis
3. Empathy

4. Systems thinking
5. Communication
6. Team management and leadership, which leads to adaptability.
7. Management and decision-making under uncertainty, ambiguity and risk, which leads to autonomy.

The remaining eight competencies are more specific to innovation teams:

8. Identifying sources of innovation
9. Reframing and modifying understanding
10. Discovering latent needs
11. Identifying insights
12. Creating and exploring ideas
13. Creating alternative concepts and design spaces
14. Prototyping
15. Learning through failure (Testing)

As a process, innovation exhibits characteristics that make learning especially difficult: risk, ambiguity, and uncertainty. We propose that innovation learning results from being process-oriented on a project-based learning experience, individual and social sense-making, and mobilizing capabilities for completing the process' milestones following the guidelines of problem-based learning (Blumenfeld, Soloway et al. 1991, Barron, Schwartz et al. 1998, Helle, Tynjälä et al. 2006).

Methodology

Our research methodology follows the general guidelines of practical action research (Schmuck 2006). For collecting data, we built a mixed methods approach using ethnography and participatory observation (Atkinson and Hammersley 1994), an assessment rubric based on competencies engineering (Le Boterf 2011), results from experimentations in process (Langley 1999), and econometric and statistical methods for analyzing quantitative data.

We designed and refined an innovation process as result of analyzing various development approaches, and studying critical decision-making along them (Osorio and Elola 2010). In 2013, we began experimenting with development teams and collecting participants' data. A summary of the design, development and analysis of each experiment is as follows:

- Participants received readings in advance to the workshop with an overview of the process (Osorio 2010), and list of critical decision-making points in innovation (Osorio and Elola 2010). They also received two tests, one based on dispositions for risk taking and creativity (Byrd and Brown 2003), and another on thinking profiles (Puccio 2002, Puccio, Murdock et al. 2005, Wechsler, Medeiros Vendramini et al. 2012). Participants also reported data on education and professional background.
- We used this personal data to configure teams looking for heterogeneity within a team, and balance across teams. Diversity increases the knowledge base of a team, prevents premature consensus (Meyer 2017), but we extend previous work (To, Ashkanasy et al. 2017) proposing it enhances team's abilities for social cognition and emotional resilience. Each team includes eight participants so they can separate in four pairs for fieldwork-related tasks.

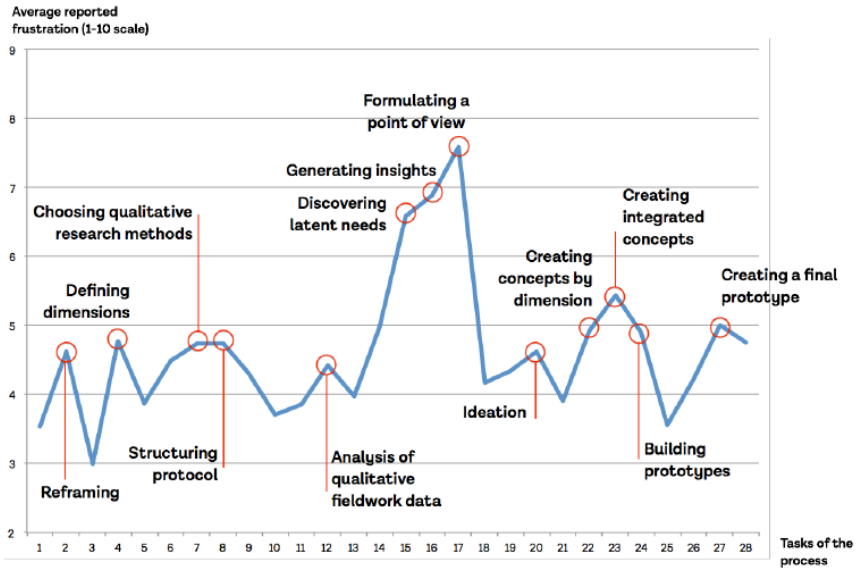
- During the workshop, the research team guided participants on methods for (i) generating a set of potential challenges to solve, choosing one and (ii) then solving it by following 28 steps of an iterative development process (See Exhibit 1). Along the week, time was divided between presentations to participants about methods and tools for accomplishing each development milestones, and teamwork time so the team could advance and solve the challenge. Each week finished by having the teams presenting a prototype to a panel of vice-presidents of their respective firm, professor of their universities, public officials, or NGOs (depending on the case).
- For creating climate of perceived risk, ambiguity and uncertainty, the research team did methodological oversight and feedback, promoting autonomy and adaptability among teams.
- Parallel to the workshop, the research team assessed the mobilization of competencies through a rubric developed by Maria Renard (See exhibit 2). The rubric associated a primary and, when needed, a secondary competency to each of the 28 tasks of the process. Each competency was assessed at group level in five stages: (i) not achieved, (ii) to be achieved, (iii) achieved, (iv) well achieved, and (v) distinguished.
- Along with this assessment, participants filled a self-administered survey about the levels of ambiguity about each task, the level of frustration for completing each task, and degree of psychological safety within their team.

Data collection and analysis

We collected data from 1176 participants, grouped into 134 teams participating from 15 workshops in five countries between 2015 and 2017 (between 2010 and 2015, we also

collected data in unstructured ways for exploratory purposes). Data collection was primarily qualitative through participatory observation via ethnographic notes and assessment of competency mobilization using an especially-design rubric (See exhibit 2) for identifying (i) the most common technical mistakes and errors during the process (see exhibit 3), (ii) the most common attitudinal mistakes along the process (see exhibit 4), and (iii) performance on competency mobilization related to each task. We collected data with personal tests *before* each workshop, and self-assessments *through the workshop* about participants' perception about the levels of ambiguity of each task, the frustration for completing it, and feeling of acceptance by team members in doing so[1].

Figure 2: Average frustration along different tasks of the innovation process



Source: the authors

[1] This was done using a 1-10 scale, where 1 signals no frustration, and 10 represents extreme frustration.

Our combined quantitative and qualitative analysis allows for complementary findings. First, frustration evolves along the process being higher on tasks associated with doing empathy-related fieldwork, and with synthesis and sense-making of qualitative data and synthesis of form (See Figure 2). Each task exhibits different levels of technical difficulty, demands different level of cognitive resources and, therefore, is associated with different cognitive load, creating different levels of frustration in achieving its development goals.

Second, the peaks in frustration in Figure 2 are associated with higher number and frequency in technical mistakes by teams along the process. As synthesis requires more cognitive resources than analysis, thus one might expect higher levels of frustration for making sense of data. The frustration for the thirteen tasks highlighted in Figure 2 lower coefficients of variation across participants. Our results with different cohorts show frustration decreases when innovation and professional experience increases, especially for tasks associated with synthesizing. Previous experience and training on innovation explains for most of a person's capacity to handle frustration during innovation. Our econometric analysis shows that, when controlling for previous experience, frustration can also be mediated by a person's disposition to tolerate risk, analytical and imaginative thinking, and group composition (See Exhibit 5).

Finally, results from experimentation show that group composition and mediated sense-making techniques can diminish the "negative" effect of "negative" emotions-inducing situations on innovation performance and, under similar conditions or risk, ambiguity and uncertainty, allow for better independent individual and collective sense-making, lower frustration and frequency of mistakes in the absence of a mediator.

Implications and conclusions

Being successful on innovation requires solving a "wicked problem" (Churchman 1967, Buchanan 1992) through a discovery, learning and development process oriented towards understanding the hidden problem at hand (Simon 1969), making sense of complex, incomplete, and inaccurate information, and discovering the best possible solution on highly risky, ambiguous and uncertain environments. Previous research shows that, in this context, success on innovation results from training and being proficient on process and methods for diminishing technical mistakes. Additionally, we propose training guided by mediated sense-making focusing on the individual and team cognitive and emotional limitations and powers for solving technical challenges. By embedding "debiasing" mechanisms (Lewandowsky, Ecker et al. 2012, Morewedge, Yoon et al. 2015) along our meta-process, we have been able to enhance the rate of success on innovation teams, diminishing behavioral mistakes that, in turn, decrease technical mistakes. We have been able to identify mediation techniques that, while focusing on behavior under high risk, ambiguity and uncertainty, have enhanced individual and team cognitive and emotional resilience. For instance, mentoring during high-frustration activities should focus on mediating sense-making, and managing emotional response to turbulent environments and, with less emphasis, on the technical aspects of the tasks. Additionally, mediation should identify and foster leadership iteration among team members, according to the technical specificity of a task, associated levels of risk and uncertainty, and team members' heterogeneity. These findings have significant implications for enhancing the performance of innovation learning, and increasing effectiveness of innovation teams.

Exhibit 1: (defi)2: phases and tasks of the process

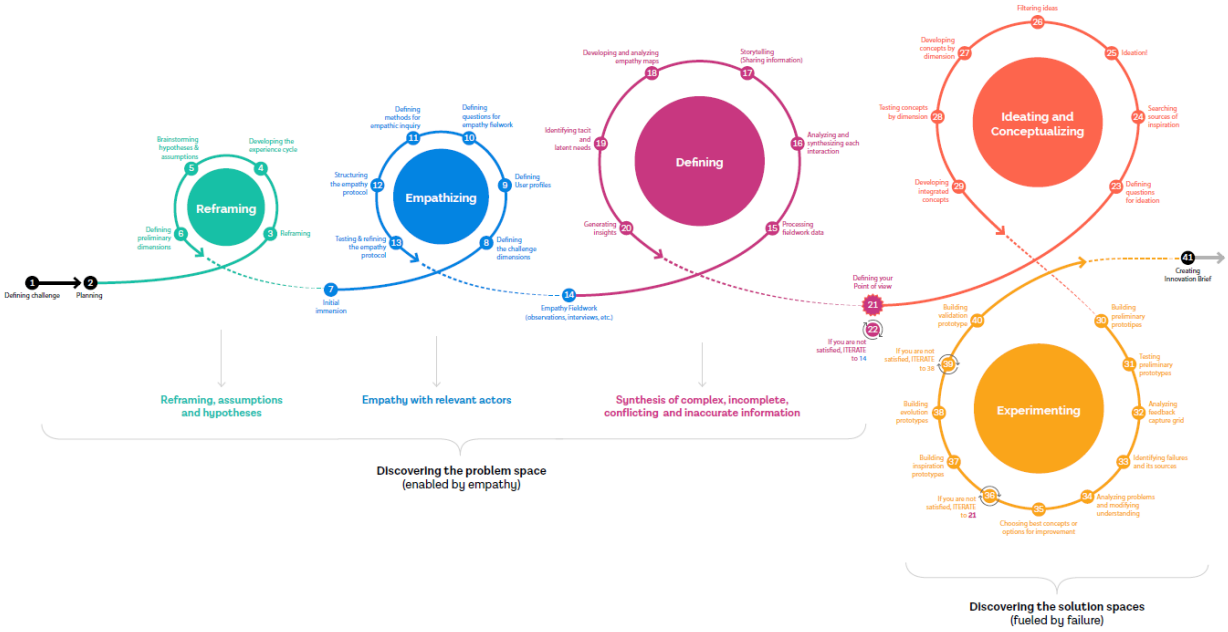


Exhibit 1: RUBRIC (FOR A ONE WEEK WORKSHOP)
EXPECTED PERFORMANCE :SUPERIOR LEVEL (4) (*)

				GROUP 1				
	TASK	**SKILL**	**SUB SKILL**	NL	PL	L	BL	D
1	Defining challenge	Ability to identify sources of innovation						
2	Reframing	Ability to reframe an modify understanding						
3	Identifying explicit needs and stakeholders	Ability to analize						
4	Defining dimensions	Ability to analize						
5	Identifying user profiles	Capacidad de empatizar	Ability to communicate					
6	Defining questions for empathy fieldwork	Capacidad de empatizar	Ability to communicate					
7	Defining methods for empathic inquiry	Capacidad de empatizar	Ability to communicate					
8	Structuring the empathy protocol	Capacidad de empatizar	Ability to communicate					
9	Testing & refining the empathy protocol	Ability to analize						
10	Empathy fieldwork (obervations, interviews, exploration)	Ability to empathize						
11	Processing fieldwork data	Ability to analize						
12	Analyzing and synthesizing each interaction	Ability to analize and synthesize						
13	Storytelling (sharing information)	Ability to communicate						
14	Developing and analyzing empathy maps	Ability to analize and synthesize						
15	Identifying tacit and latent needs	Ability to discover latent needs	Ability to think systemically					
16	Generating insights	Ability to think systemically	Capacidad de síntesis					
17	Defining Point of view	Ability to think systemically	Ability to synthesize					
18	Searching for sources of inspiration (and guests for the brainstorming session)	Creative ability to create and explore ideas	Ability to think systemically					
19	Defining questions for ideation	Creative ability to create and explore ideas	Ability to analize					
20	Ideation	Creative ability to create and explore ideas						
21	Filtering ideas	Creative ability to generate and explore ideas						
22	Developing concepts by dimension	Creative ability to generate alternative concepts and design spaces	Ability to synthesize					
23	Developing integrated concepts	Creative ability to generate alternative concepts and design spaces	Ability to think systemically					
24	Building three preliminary prototipes	Ability to prototype, test and learn through failure						
25	Testing preliminary prototypes	Ability to prototype, test and learn through failure						
26	Analyzing problems and modifying understanding. Choosing the best concept or option.	Ability to learn through failure	Ability to analize					
27	Developing the final solution	Ability to formulate an innovation						
28	Building one inspiration prototype and presenting	Ability to prototype	Ability to communicate					
				Process Stages				

		P	A&D	I&E&E
Capability to manage high levels of risk, ambiguity and uncertainty	Autonomy			
Capability to lead teams, design and change cultures	Adaptabilty			
		Comments:		

(*) **LEVELS OF PERFORMANCE** (Rigor of the assessment, defined based on the target level of proficiency required for the learning process)

BASIC (1)

The workshop is oriented to allow participants reach the levels of knowledge and comprehension defined in the course syllabus

MEDIUM (2)

The workshop is designed so participants can develop knowledge and comprehend contents defined in the syllabus, and are able to apply them cross different contexts and situations.

ADVANCED (3)

The workshop is oriented to develop competencies that require high-level cognitive processes, so participants can enhance their knowledge, comprehend and apply content, and analize innovation problems and conflicts.

SUPERIOR (4)

The workshop integrates a series of competencies that, based on the contents and learning objectives of the program, allow participants to synthezise, evaluate and create. Thus, participants will be able to use existing ideas to create new ones, propose generalizations based on data, relate knowledge from different areas, and conclude based on existing information.

CODING FOR ASSESSMENT (To be applied for a defined level of performance)

NL: Not achieved. The team does not achieve the minimum mobilization to acquire and develop competency.
PL: To be achieved. The team exhibits inconsistent mobilization, and requires further improvement to develop competency.

L: Achieved. The team achieves to mobilize the competency.
BL: Well achieved. The team mobilizes and develops the competency in a consistent way.
D: Distinguished. The team mobilizes, develops and masters the competency

Exhibit 3: Most common technical mistakes and errors during the process

Common mistakes along the whole process:

1. Tendency to solve the problem, instead of questioning and analyze challenges, problems and needs.
2. Mismanagement of development time
3. Disregard for planning development activities
4. "Process tampering" for adjusting results to the team's expectations.
5. Leapfrog or miss stages as an attempt to save time and move ahead faster than expected.
6. Divide the team to work in parallel and move ahead faster in activities that require collective teamwork.
7. Questioning and second-guessing development processes and methods based on previous experience, without deep understanding and experience about them.

Common mistakes during the reframing phase:

8. Problems to follow instructions about reframing
9. Lack of systems thinking and limitations to perceive a problem from different perspectives
10. Generate ideas to solve, instead of reframing the problem or challenge.
11. Limited identification of stakeholders involved in the problem.
12. Tendency to understand the problem from the perspective of the firm, instead of customers.
13. Difficulty to identify explicit needs

Common mistakes during the empathy phase:

14. Defining dimensions before grouping explicit needs, following anchoring on existing frameworks
15. Grouping explicit needs in groups that are neither mutually exclusive nor comprehensively exhaustive
16. Understanding groups of variables as ways to solve the problem, instead of independent variables that allow to understand the problem
17. Create personas of actors following existing stereotypes, instead of theoretical personas
18. Using quantitative reasoning to the application of qualitative research (especially with respect to sampling).
19. Relying too much on interviewing research methods.
20. Designing a research protocol without including observation and exploration techniques.
21. Tendency not to inquire when confronted to obvious and previously known answers.

Common mistakes during the definition phase:

22. Inadequate transcription and analysis of interview, photographs and fieldwork notes
23. Summarizing findings per "type of interviewee", instead of doing it for each interaction with a relevant user
24. Tendency to favor identification of explicit or observable needs for over tacit or latent needs.
25. Tendency to confound new information with insights

26. Tendency to "summarize" instead of synthesize information, and groups of needs.
27. Tendency to generate a point of view that summarizes, instead of synthesizing findings.

Common mistakes during the ideation and conceptualization phase:
28. Not transforming the findings of point of view in ideation questions
29. Following methods for ideation in inadequate or incomplete ways.
30. Rejecting ideas for considering them "not applicable", "impossible", "too expensive" or "without merit"
31. Being unable to create competitive concepts for each dimension of design.
32. Being unable to synthesize attributes of solution in a form that follows function.

Common mistakes during the experimentation phase:
33. Dysfunctional experimental design
34. Creating prototypes with different levels of resolution that will induce bias during testing
35. Testing with an attitude of persuading during fieldwork, instead of finding what doesn't work
36. Rejecting feedback from users that is opposite to beliefs, definitions or preconceptions of the team.
37. Focusing too much on prototyping "the thing" instead of prototyping "the experience" of interaction.
38. Limitations on planning the tests.
39. Choosing a "winner" prototype, instead of analyzing feedback from all prototypes and synthesize them in order to integrate how to solve problems, capturing best features, solving doubts, etc.

Exhibit 4: Most common behavioral mistakes and errors during the process

1. Limited tolerance to frustration
2. Mismanagement of anxiety
3. Lack of collaboration and compromise with the team
4. Limited tolerance to risk, ambiguity and uncertainty
5. Limited proactivity to change
6. Limited adaptive leadership, when confronted to limitations and change
7. Limitations in abstract thinking

Exhibit 5: Summary tables of regression analysis

Dep Var.	Average (Std. Dev)	Model 1	Model 2	Model 3	Definition
Dep. Variable Frustration	4.20 (1.38)				
DispRiskT	172.25 (18.10)	-.011299** (.00329)	-.010405** (.00334)	-.002237 (.005930)	Disposition for tolerating risk
DispCreat	156.10 (22.03)	.00625* (.00256)	.007835* (.002768)	.003738 (.004727)	Disposition for being creative
Analytical	61.02 (7.79)		-.015997* (.006548)	-.018152* (.008610)	Attitude for analytical thinking
Implementer	55.15 (8.69)		.004072 (.006242)	.001436 (.007795)	Attitude towards implementation
Collaborator	62.36 (9.22)		-.001625 (.00581)	-.002449 (.00719)	Attitude towards collaboration
Imaginative	61.75 (9.17)		-.014873* (.00632)	-.016544* (.008231)	Attitude for imaginative thinking
Acceptance by team	8.42 (1.51)			-.220855** (.050101)	Feeling of acceptance by your team
Constant		5.1635** (.41763)	6.5326** (1.1595)	7.98646** (1.06743)	

Robust standard errors. * statistically significant at 5%, ** statistically significant at 1%

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Program at a Glance

Wednesday May 16 / Miércoles 17 de Mayo
8:30 AM – 8:30 PM

Wednesday/Miércoles		
8:30 AM-12:00 PM		Registration
12:00-5:00 PM	Thinkovators/Design Thinking Marc Pavillion	
5:15-6:00 PM	Opening Ceremony ***Ocean Bank Convocation Center***	
6:00 -7:00 PM	Opening Plenary David Perkins ***Ocean Bank Convocation Center***	
7:00 -7:45 PM	Habits of Mind Musical ***Ocean Bank Convocation Center***	
8:00 -9:00 PM	Opening Reception ***College of Law Atrium***	

MORNING SESSIONS / SESIONES DE LA MAÑANA			
	Thursday 17	Friday 18	Saturday 19
8:30-9:00 AM	Welcome and Announcements	Welcome and Announcements **Christopher Evans**	Welcome and Announcements
9:00-10:00 AM	**Mary Helen Immordino-Yang**	**Arthur Costa and Bena Kallick**	**Temple Grandin** Keynote
10:00-10:30 AM	Coffee Break & walk time Sponsored by City of Doral	Coffee Break & walk time Sponsored by Key Biscayne Communicate Foundation	Coffee Break & walk time Co-Sponsored by FIU Global Learning Office
10:30-11:30 AM	**Featured Presenters** Shari Tishman Maria Adelaida Lopez Alice Shafer Rafi Feuerstein **Featured Workshops** Lane Clark Ewan McIntosh and Kynan Robinson	**Featured Presenters** Guy Claxton Robert Hacker Tina Grotzer Hilary Landorf and Stephanie Doscher **Featured Workshops** Robert Swartz Ma. Ximena Barrera and Patricia León	**Featured Presenters** Edward Clapp Karin Morrison Sandra Parks Carlos Montúfar Featured Workshops Guy Claxton Carol McGuinness
11:45AM -12:45 PM	Breakout Sessions (Guest Speakers) 15 Rooms, 2 Poster Session rooms	Breakout Sessions (Guest Speakers) 15 Rooms, 2 Poster Session rooms	Breakout Sessions (1 Guest Speakers) 15 Rooms, 2 Poster Session rooms
12:45-2:00 PM	Lunch Break	Lunch Break	Lunch Break

AFTERNOON SESSIONS / PRESENTACIONES DE LA TARDE			
	Thursday 17	Friday 18	Saturday 19
2:00-3:00 PM	Veronica Boix Mansilla Arena	Howard Gardner Arena	Adam Strom Arena
3:00-3:15 PM	Walk time	Walk time	Walk time
3:15-4:15 PM	**Featured Presenters** Ewan Mcintosh Yoram Harpaz Erskine Dottin Vishal Talreja **Featured Workshops** Guy Claxton Leontxo Garcia, Adriana Salazar, Lorena García	**Featured Presenters** Kynan Robinson Fred Burton David Hyerle Veronica Boix-Mansilla David Perkins Shari Tishman, Laura Jane Linck Karin Morrison Angela Salmon (Traducción simultánea) **Featured Workshop** Art Costa and Bena Kallick	**Featured Presenters** Liz Dawes Duraisingh Donna Kim Brand Carol McGuinness Flavia Iuspa **Featured Workshop** Robert Swartz
4:15-4:45 PM	Coffee Break & walk time Sponsored by Go MAD Thinking	Coffee Break & walk time	Coffee Break & walk time
4:45-5:45 PM	Breakout Sessions	Breakout Sessions	Breakout Sessions
7:00-9:00 PM	Night Out at CityPlace in Doral		

Sunday 20 / Domingo 20	
9:00-10:00 AM	**Bruno Della Chiesa** **Robert Swartz** **Madre Montserrate Del Pozo**
10:00-10:30 AM	Coffee Break & walk time
10:30-11:00 AM	Thinknovators Presentations
11:00-11:20 PM	David Perkins Closing Plenary
12:00 noon	Closing Remarks

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