Unpacking Creativity:
Culture, Innovation, and Motivation
in Global Contexts

edited by
Fredricka K. Reisman, PhD, Professor Emeritus, Drexel University, USA

Commentary:
James C. Kaufman, PhD

Knowledge, Innovation & Enterprise Conference-World Education Fellowship 5th Centenary Anniversary Lecture, 25-27 July, 2023, Madrid, Spain

Thematic Sections/Tracks:

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Including teaching & (e-)learning in primary, secondary and higher education, knowledge-education, knowledge management, comparative knowledge, indigenous knowledge, Knowledge transfer partnerships, knowledge utilisation, intellectual property, library & information, Knowledge and technology

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Including business innovation, ICT/technology innovation including big data, analytics and deep learning, and management/organisation innovation and open innovation

Creativity

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*There will be **opportunities to publish papers** in the KIE Conference publications—**2023 Creativity book and** conference edition of the **International Journal of Knowledge, Innovation and Entrepreneurship, Volume XI 2023**—see www.ijkie.org*

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Editor

Fredricka Reisman, PhD

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Creativity Book Volume IX
KIE Publications, London

Dedication

Family of every contributor in this book

Contents

Contents

CONTRIBUTORS

Foreword

James Ogunleye, PhD

James Ogunleye chairs KIE Conference and Creativity Books Project, which was launched at the London edition of the Conference in September 2013. The KIE annual creativity volume enters its 10th year and eleventh book in 2023. James has a dual research interests in business and technology, and education. He is a professor of innovation and enterprise and directs, among other concurrent positions, the activities of AIM London, and the AIM Centre for Innovation and Enterprise (see https://www.acadim.org/people/ for this aspect of his work). In addition to his extensive experience in teaching and research in further and higher education in the UK and internationally, he has significant experience of successful grants proposal writing (over £3.5M to date). Recently, 2019-2022, he was a co-facilitator of a series of train-the-trainer R&D Capacity Building, Leading & Development Workshops for 1,800 tenured senior African academics (full professors, directors and administrators of research)—aimed largely to foster a culture of innovation in tertiary institutions. He has a significant experience in supervising and examining doctoral students and chairing viva voce examinations; he has also acted as a director of research and graduate studies with responsibility for dozens of PhD students. He is an expert research projects scrutineer and evaluator for the European Union's research framework programmes.

Education is the other half of his dual research interests. Along with colleague Prof Gordon Ade-Ojo, of the University of Greenwich UK, where he once worked, he co-edits *International Journal of Multidisciplinary Studies*, edits the 102 year-old *New Era in Education,* the official journal of the World Education Fellowship; and serves as General Editor for the *Studies in Comparative Education, Science and Technology*. Prof Ogunleye is a fellow of the Royal Society of Arts (full name: the Royal Society for the Encouragement of Arts, Manufactures and Commerce), one of the United Kingdom's oldest royal societies founded in 1754. The RSA sets out to 'harness the curiosity, creativity and courage of our community to realise change'—exactly what the KIE Creativity Books Project seeks to achieve.

Editor
Fredricka Reisman, PhD

Fredricka Reisman, PhD, Emerita Professor, is founder of Drexel University's School of Education. Dr. Reisman currently serves as Co-Director of the Drexel/Torrance Center while continuing to teach in the School's Creativity & Innovation programs, which she created, and to chair and serve on dissertation committees for doctoral students interested in the Creativity & Innovation concentration.

Dr. Reisman received her PhD in Mathematics Education from Syracuse University. Prior to Drexel, Dr. Reisman served as Professor and Chair of the Division of Elementary Education at the University of Georgia; a

grades 3 and 5 elementary, middle school, high school mathematics teacher in New York State; and a mathematics education instructor at Syracuse University.

Dr. Reisman has been awarded over $14,800,000 private and government grants to support her research and teacher ed projects and has served as evaluator on funded engineering projects and numerous Pennsylvania and New York State university teacher certification programs. She has created several books, contributions to books, journal publications, and assessments that focus on mathematics learning and teaching and creativity applications including a 2021 co-authored book published by Routledge entitled Using Creativity to Address Dyslexia, Dysgraphia, and Dyscalculia: Assessment and Techniques. She has served since 2013 and continues as editor for the 2022 Knowledge, Innovation & Enterprise (KIE) international creativity focused organization conference book.

Dr. Reisman was awarded the New Millennium Foundation Technology Award, the national 2002 Champion of Creativity Award by the American Creativity Association (ACA), and was the recipient of the 2017 National Association for Gifted Children E. Paul Torrance Award. She was honored in Spring 2020 by Drexel where the university-wide faculty creativity award has been renamed the "Freddie Reisman Faculty Scholarly and Creative Activity Awards".

Dr. Reisman is Director of the Freddie Reisman Center for Translational Research in Creativity and Motivation (FRC) created in 2022 by a Drexel major donor. The FRC seeks to reduce the disconnect between research and practice including focus upon instructors' knowledge of and beliefs about creative learners and thus eliminate misunderstandings that stifle rather than nourish creative learners.

Chapter 1

Gayle Byock

Gayle has utilized the arts and creative thinking to contribute to organizational change throughout her career. She has taught junior high, high school, community college, and university, women entering the working world, veterans reentering American society, adults becoming drug counselors and many other groups. Before retiring from UCLA after 20 years, she led initiatives to address the University of California's responsibilities as a land-grant institution by creatively designing inter-institutional relationships with Los Angeles communities through mutually beneficial research projects, designed and directed the Transfer Alliance Program (TAP) to strengthen the academic relationships with California community colleges, and identified linkage projects through inter-institutional faculty digital initiatives as the first chair of the Applications Committee of CENIC (Corporation for Network Education Initiatives in California, founded 1997). Within the campus, she was the founding assistant dean of the School of Public Policy and Social Research, which reorganized some campus departments and professional schools to better coordinate research within Los Angeles. This focus continued in her role as UCLA's Assistant Vice Chancellor of Research by linking faculty from diverse departments, such as the arts and engineering, and streamlining

the contract and grant and technology transfer processes. Post -UCLA, she started a new career specializing in creativity and humanistic psychology, focusing on how poetry provides a vehicle to dig into oneself to explore what resides under consciousness. Along the way, she has written and published white papers, articles, and poetry. High points were as assistant editor of a book of contemporary poems in the mythic tradition, teaching in Appalachia and learning the dulcimer, and her time spent with poet Elizabeth Bishop at Harvard University. Creativity was at the core of these endeavors and continues in her work with the Global Creativity Initiative (GCI).

Bonnie Cramond, PhD

Bonnie Cramond is a professor emeritus and former director of the Torrance Center for Creativity and Talent Development at the University of Georgia. She has been on the board of several national and international organizations and of several journals related to creativity and giftedness. The former editor of the *Journal of Secondary Gifted Education*, she has numerous publications and has been a TEDX speaker as well as a speaker around the world. Her research has focused on the assessment and nurturance of creativity. Named one of six national "Thought Leaders" by the Innovation Collaborative, she has received awards and honors from the National Association for Gifted Children: the Future Problem Solving Program International; American Creativity Association; South African Creativity Foundation; Japanese Creativity Association; American Institute of Innovation & Entrepreneurship; International Conference on Knowledge, Innovation, and Enterprise; National Society for the Gifted and Talented; Georgia Association for Gifted Children; and University of Georgia.

Larry Keiser, PhD

Larry Keiser is Program Director of the Creativity & Innovation degree and certificate program, Co-Director of the Freddie Reisman Center for Translational Research in Creativity and Motivation (FRC), and Assistant Clinical Profess in Drexel University's School of Education. Larry's current research centers on creativity, motivation, and entrepreneurship, investigating individual and group creativity levels and workplaces (K-16 education, corporate, and business), particularly how education leaders' and corporate/business leaders' creativity mindsets relate to the entrepreneurial mindset. Larry presents nationally and internationally, served on the Board of the American Creativity Association, and has chaired the E.P. Torrance International Roundtable on Creative Thinking and the Kaufman Family Research Symposium for the KIE (Knowledge, Innovation, and Enterprise) International Conference for the last several years. He has been funded upwards of $23M over the previous 20 years from the US and PA Departments of Education, NSF, and private foundations and organizations in collaboration with other Drexel faculty and external partners to design and implement educational partnerships. These projects include designing/implementing national and regional school/district partnerships in support of alternative preparation pathways for K-12 teachers; professional development activities for improving pre-service and in-service teachers' STEM content knowledge and pedagogy; designing/ implementing school leadership improvement programs; better integrating

appropriate technology into PreK-16 teaching and learning processes; and promoting creativity and innovation in schools, the workplace and in life.

Elisabeth Morney

Elisabeth Morney is an experienced television editor, director, producer with a demonstrated history of working in the broadcast media industry, with a Doctor of Art (A.D.) education in progress focused in Film & Television and Creativity & Innovation from Aalto University, Finland. She is an international speaker on creativity, co-ordinator of the GCI - the Global Creativity Initiative, and director of the Aalto Creativity Symposium in 2021.

Ruth Richards, PhD

Dr. Ruth Richards, educational psychologist and psychiatrist, taught for 25 years at Saybrook University in Creativity Studies, and Consciousness, Spirituality, and Integrative Health, holding offices including Faculty Co-Chair. She is now Professor Emerita with Saybrook and also serves as Associated Distinguished Professor at the California Institute of Integral Studies in San Francisco, CA.

Dr. Richards is a Fellow with the American Psychological Association (APA) in Divs. 10, 32, and 48, and a member of Div. 34. She has published numerous articles, edited/written four books on *everyday creativity* (or the "originality of everyday life")*,* and received the Rudolf Arnheim Award from Div. 10 APA for Outstanding Lifetime Achievement in Psychology and the Arts. Her work spans education, clinical areas, social action, spirituality, aesthetics and awareness, and importance of chaos and complexity theories in areas including our dynamic identity, interconnection, and ongoing evolution in a challenged world.

Dr. Richards was delighted to be selected as a "trailblazer" for the KIE 2021 creativity book (F. Reisman, Ed.) where Gayle Byock wrote a beautiful chapter on Dr. Richards' work. She and Byock and others, with the sponsorship and vision of Mark Runco, Drexel Colleagues, Freddie Reisman and Larry Keiser, forerunner Bonnie Cramond, and Elisabeth Morney and colleagues from Aalto University in Finland, helped start the new international CGI, Global Creativity Initiative. It will help unite creators across cultures, while sharing through electronic archiving and other means the rich diversity of global creativity, in its many multicultural manifestations, across individuals and cultures, meanwhile honoring the universal creative potential that unites us all. We can be inspired globally, both to engage our own deepest creative possibilities and to more deeply appreciate each other.

Dr. Richards' recent book (Palgrave Macmillan, 2018; paperback, 2019), *Everyday Creativity and the Healthy Mind: Dynamic New Paths for Self and Society,* won a Silver Nautilus Award ("Better books for a better world"). She also has a new edited book (2022), from Oxford University Press with two coeditors: Schuldberg, D., Richards, R., & Guisinger, S., (Eds.), *Chaos and Nonlinear Psychology: Keys to Creativity in Mind and Life.* She is on the editorial boards of the Creativity Research Journal and the Journal of Humanistic Psychology. Earlier, Dr. Richards was Principal Investigator at McLean Hospital and Harvard Medical School, working with Dennis Kinney and others, on development and validation of the *Lifetime Creativ-*

11

ity Scales (written up by Daniel Goleman in *The New York Times,* while highlighting new health-related findings on risk for bipolar spectrum disorders based on personal/family history). The encouraging results showed an everyday creative "compensatory advantage" among *better* functioning relatives, with implications for relative wellbeing rather than illness. The schizophrenia spectrum showed initial suggestions of "compensatory advantage." There are many roads to creativity, most typically about health— with overall implications for greater presence, awareness, vision, openness, lowered defensiveness, and innovative potential in an endangered age. Dr. Richards sees dynamic creative living as central to advancement of individuals and cultures, and to a new *worldview and view of self-in-world*. For more information see www.DrRuthRichards.com.

Rob Swigart, PhD

Dr. Rob Swigart has published novels, short stories, poetry, a cult classic interactive computer novel, Portal, now being reimagined for virtual reality. He's a former academic, coauthor of a business book. In previous lives he's been a journalist, technical writer, futurist, and writer in residence at Çatalhöyük, a Neolithic heritage site in central Anatolia. His latest book, Mixed Harvest: Stories from the Human Past won a 2020 Golden Nautilus award.

Chapter 2

Chris Wilson (Senior Teaching Fellow), Aston University, UK
Chris Wilson is based in the Education Team at Aston University in the UK and has research interests in creativity, education, mental health and wellbeing, and project management. Professionally recognized as Principal Fellow by Advance HE, Chris remains active in the classroom working with students and staff to develop teaching and learning and is a member of the Advisory Board for the Freddie Reisman Center for Translational Research in Creativity and Motivation based in the Drexel University School of Education, Philadelphia. c.j.wilson@aston.ac.uk

Chapter 3

William O. Fogarty

William O. Fogarty is a practitioner and researcher in the field of applied creativity, with the mission to facilitate positive personal and societal change. Having graduated with their Master's Degree in Creative Studies from SUNY Buffalo State, William is an expert facilitator and researcher in the field of Creative Problem Solving. They are committed to studying, developing, and implementing applied creativity, well-being, and post traumatic growth programming and tools such as Freeing Writing, Taking Flight, and Micro Moments. They are an Independent Researcher, *Freddie Reisman Center for Translational Research in Creativity and Motivation,* Content Associate, Playstorming LLC. *Fogarty wfog35@gmail.com.*

Jeremy Brewster
Jeremy Brewster is both an educator and a researcher who is dedicated to leveraging his positions to facilitate the betterment of individuals, communities, and nations. Currently, his work involves the application of creativity as a catalyst for post traumatic growth. Jeremy has an M.S. in Multidisciplinary Studies with concentrations in Social-Emotional Learning, Cultural Studies, and Creativity & Change Leadership from *SUNY Buffalo State;* Independent Researcher, *Freddie Reisman Center for Translational Research in Creativity and Motivation,* Middle School Teacher, *Eagle Hill Middle School.* Email: *brewstj01@mail.buffalostate.edu*

Chapter 4

Sreemali Herath, **PhD,** University of Manitoba
Sreemali Herath is Assistant Professor in the Faculty of Education at the University of Manitoba, Canada. Her research includes post-conflict reconciliation, arts-based approaches to identity and language teaching research, critical approaches to teacher education and narrative inquiry. She works with pre-service and inservice teachers. Sreemali.Herath@umanitoba.ca

Antoinette Gagné, PhD, University of Toronto
Antoinette Gagné has been a professor at the University of Toronto, Canada, since 1989. Her research has focused on teacher education for diversity and inclusion in various contexts as well as the experiences of newcomers and their families in Canadian schools and university-level plurilingual students. antoinette.gagne@utoronto.ca

Marlon Valencia, PhD, York University, Canada
Marlon Valencia is Assistant Professor, ESL Program Director, and Coordinator for the Certificate of Teaching English as an International Language at Glendon College, York University, Canada. His research interests include multiliteracies, visual ethnography, language policy, experiential learning as well as the intersection between creativity, imagination and teachers' or language learners' identities. mvalen@glendon.yorku.ca

Chapter 5

Pete Ophoven, Bellevue College, Washington, USA
Pete Ophoven has been teaching problem solving strategies, project management and business marketing at Bellevue College since 2015. A recent graduate from Drexel University Master's in Creativity and Innovation. He is the founder of the "Everyday Creativity" project and completed his autoethnography of Everyday Creativity studying the effects of creativity practices everyday for thirty days. Pete recently presented his work at the 2021 KIE Conference.Pete is passionate about evangelizing the creative potential in all people. He just recently completed a three-part workshop at Bellevue College in cultivating creativity in the classroom. He is currently a member of the advisory board for the Freddie Reisman Center for Translational Research in Creativity and Motivation. Pete is the founder and co-owner of Right Brain Tech Sup-

port, Inc. an information systems consulting company specializing in strategic IT development. He is married with 2 children (parenting being one of the greatest of creative expressions) and lives in Seattle Washington. pete@peteophoven.com

Chapter 6

Marcello Messina, PhD
Marcello Messina is a Sicilian composer and academic based in João Pessoa, Paraíba, Brazil. He holds a PhD in composition from the University of Leeds (UK), and is currently Professor Visitante Estrangeiro at the Universidade Federal da Paraíba. He has been recipient of the Endeavour Research Fellowship at Macquarie University, Sydney, Australia, and of the PNPD/Capes post-doctoral bursary at the Universidade Federal do Acre, Brazil. He writes about music, cultural studies, race, gender, film and media studies, etc. His articles appeared on *Contemporary Music Review*, *Leonardo, JICMS, JDMI*, *PORTAL, New Readings*, *Comparative Critical Studies, INSAM*. His music and scores are published by the University of York Music Press, Map Editions, Da Vinci and Huddersfield Contemporary Records. H-index: 6.

Carlos Mario Gómez Mejía
Carlos Mario Gómez Mejía is a Colombian double bass player residing in Brazil. In 2016 entered the *Sinfónica Municipal de João Pessoa* (OSMJP) and has work as double bass instructor at the project *Ação social pela música* (ASPM-JP). Since 2019 is coursing a Phd in musicology under the orientation of Marcello Messina, with a scholarship offered by the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES), also is part of the *Núcleo Amazônico de Investigação Musical* (NAP) since 2020.

Ivan Eiji Simurra, PhD
Ivan Eiji Simurra is a composer and researcher, performs electronic manipulations in Pop Music (DJ). PhD by the Institute of Arts-UNICAMP with emphasis on Creative Processes, under the guidance of J natas Manzolli, with funding from FAPESP and CAPES-FAPESP. Master in Creative Processes at UNICAMP, under the guidance of Silvio Ferraz, with funding CAPES-FAPESP and Bacharel in Music Composition respectively. Professor of Harmony, Theory, Structuring and Musical Composition, he develops projects related to the composition of instrumental music, science, technology and musical analysis with the assistance of the computer. He participated in various festivals, masterclasses and workshops. He is currently a postdoc researcher in the Department of Computation of the Institute of Mathematics and Statistics - IME / USP under the supervision of Prof. Dr. Marcelo Gomes de Queiroz. He won prizes for his compositions during the Biennial of Contemporary Brazilian Music-FUNARTE and at the III International Music Composition Competition in Tomsk / Russia. In addition, his works were performed in Brazil, Argentina, Chile, United States, Israel and Russia

Damián Keller, DMA

Damián Keller is an Associate Professor at the Federal University of Acre and at the Federal University of Paraíba, Brazil. Member and founder of the Amazon Center for Music Research (Núcleo Amazônico de Pesquisa Musical), he is also a cofounder of the international research network Ubiquitous Music Group (g-ubimus). He has coedited over twenty volumes in various fields (e.g., Journal of New Music Research, Computer Music Journal, Journal of Digital Media, Journal of Cases in Information Technology) and coauthored several books: Ubiquitous Music (Springer 2014), Ubiquitous Music Ecologies (Routledge 2020), Applications of Ubiquitous Music (ANPPOM Press 2018) and Musical Creation and Technologies (ANPPOM Press 2010). He has published over 200 articles, including contributions in music, interaction design, education and philosophy. His current h and i10 indexes are 22 and 56.

Marcos Célio Filho

Marcos Célio Filho, Amazon Center for Music Research (NAP), Federal University of Paraíba (Brazil).

Luzilei Aliel

Luzilei Aliel, Amazon Center for Music Research (NAP), University of São Paulo (Brazil).

Chapter 7

David H. Cropley, PhD, Centre for Change and Complexity in Learning (C3L), University of South Australia

Dr David Cropley is the Professor of Engineering Innovation at the University of South Australia. He joined the School of Engineering at the South Australian Institute of Technology (SAIT) in 1990, after serving for four years in the United Kingdom's Royal Navy, including a deployment to the Arabian Gulf in 1988. His research interests lie in the measurement of product creativity; measuring innovation capacity in organizations, creativity in schools and education, creativity and innovation in terrorism and crime, and the nexus of creative problem-solving and engineering. Dr Cropley is author of four books including Creativity in Engineering: Novel Solutions to Complex Problems (Academic Press, 2015); The Psychology of Innovation in Organizations (Cambridge University Press, 2015); Creativity and Crime: A Psychological Analysis (Cambridge University Press, 2013). Email: david.cropley@unisa.edu.au

Chapter 8

Jessica J. Stephens, PhD candidate, University of Texas at Arlington, USA

Jessica Stephens focuses on the connection between diverse cultural experiences and creativity as a PhD candidate in the Experimental Psychology program at the University of Texas at Arlington, USA. Ms. Stephens currently holds two Master of Science degrees in Psychology. Ms.

Stephens has published six works and has served as instructor of record for nine distinctive psychology courses, including *Psychology of Gender and Culture* and *Psychology of Behavior and Motivation*. Ms. Stephens received an award for teaching effectiveness in 2017 at Texas A&M University at Kingsville. Additionally, Ms. Stephens has served as an undergraduate psychology program coordinator and a dual-enrollment program coordinator for Texas A& M University at Kingsville.

Chapter 9

Mel Falck

Mel Falck resides in the mountains of western North Carolina with his fiance, son, and dog and cat children. He finds solace in the wind as it moves through the mountain corridors and forest canopy. He longs for freedom from institutional and administrative constriction and boredom through arts-based learning activities and engagement with nature and the wild sensuous self(ves). Mel teaches art and has a part time counseling practice, both of which feeds his soul and encourages his hope for bold, free, healing, fulfilling, and creative adventures.

Peaches Hash, EdD

Peaches Hash is a lecturer of Rhetoric and Writing Studies within the Department of English, Appalachian State University, North Carolina, and an instructor for Johns Hopkins University's Center for Talented Youth. Her current research interests include arts-based research, gifted education, and composition studies. Some of her recent publications can be found in the *Journal of Multimodal Rhetorics*, *Teaching English in the Two-Year College*, *Impacting Education*, and *Double Helix*.

Vachel Miller, EdD

Vachel Miller is a Professor in the Department of Leadership and Educational Studies at Appalachian State University, North Carolina, and he directs the Doctoral Program in Educational Leadership at Appalachian. In 2015-16, Vachel lived with his family in Bahir Dar, Ethiopia as a Fulbright Scholar. He is the editor of a book on *Apocalyptic Leadership in Education*. He has a lifelong interest in international education and issues of pedagogical innovation, organizational change, and leadership.

Heather Thorp

Heather Thorp received a Doctorate in Educational Leadership with a concentration in Expressive Arts Leadership, Education, and Inquiry from Appalachian State University, North Carolina. Her research includes Expressive Arts Based Research and Process Oriented Arts Based Pedagogy. Her interests are in the intersections of creativity, sacredness, and social and environmental justice. She resides in the Southern Appalachian Mountains in Western North Carolina where she seeks to build individual and community resilience in and amongst nature.

Chapter 10

Macarena-Paz Celume
Dr. Macarena-Paz (Mathilde) Celume is an associated researcher at the Laboratoire de Psychologie et d'Ergonomie Appliquées (LaPEA) and at the Learning Planet Institute (former CRI) in France. She teaches at Université de Paris in Psychology, Learning Sciences, and Artistic Creation where she mentors and supervises Master's dissertations on topics related to pedagogy and curriculum, innovation in education, arts, and the development of social, cognitive, and emotional competencies in the context of training or educational programs. She is also Chief Research Officer and co-founder of the start-up BE Beyond Education focused on the development of 21st-century competencies in children and adolescents. Website: www.beyondeducation.tech

Chapter 11

David Castañeda
David Castañeda is an experienced instructional designer, producer, and project manager. He is a doctoral student at Drexel University studying creativity and innovation in the context of educational leadership. His research interests involve the sociology of networks and networked individualism and the impact of their intersection with education, identity, and community. He has been a leader in the field of online education for over a decade and is affiliated with Education Development Center and Moravian University. david.castaneda@drexel.edu

Chapter 12

Susan R. Koff, EdD, Steinhardt School of Culture, Education, and Human Development, New York University
Susan R. Koff is a Clinical Professor in the Dance Education Program at NYU/Steinhardt. Past positions include: the Kinesiology and Curriculum and Instruction faculties at Louisiana State University in Baton Rouge; coordinator of the Dance and Dance Education Program at Teachers College, Columbia University, a masters degree program preparing students for pK-12 New York State Dance Certification; and faculty positions at the University of Denver, Pennsylvania State University and at the Jerusalem Rubin Academy of Music and Dance in Israel. Currently at NYU she is chair of TEC (Teacher Education Council) which successfully achieved recent AAQEP 7-year accreditation for all certification teacher education programs. All of Dr. Koff's academic and service activities are in the area of Dance Education, both within the United States, and in the International arena, including AERA. She currently serves as the Past Chair of the Board for Dance and the Child International (daCi). As a Fulbright Scholarship recipient, Dr. Koff assisted with the development of Dance Education Curriculum at the National School for Contemporary Dance, Copenhagen, Denmark. Publications are in the Journal of Dance Education, Research in Dance Education, and Child-

hood Education. She recently published *Dance Education, A Redefinition* through Methuen/Bloomsbury, London.

Chapter 13

John Bredin
John Bredin is an author, scholar, TV host, performance artist, and educational leader. As the scion of celebrated actress Blanche Walsh (a pioneer of early Broadway and Hollywood) he continues to nurture his family's cultural legacy. A doctoral student at Drexel University, his research looks at the civic role of entertainment in a democracy. His previous essays have appeared in the *NY Press*, *Brooklyn Rail, Evergreen Review*, and *Huffington Post*.

Chapter 14

Heinz Neethling
Heinz Neethling is a global management consultant specializing in organization development. He has worked with multi-nationals on four continents for over a decade, focusing on strategy and cultural change. He is the COO of the Applied Creativity Institute, providing cutting-edge creativity programs for higher education and individual practitioners, and is a Lecturer at da Vinci University in South Africa. Having earned his master's degree in Leadership Studies, he is approaching his final year in his PhD studies in Leadership at the University of Southern Maine. His research focuses on leadership effectiveness in recognizing and contributing to organizational wellness.

Tara Grey Coste, PhD
Dr. Tara Grey Coste is a Professor of Leadership and Organizational Studies at the University of Southern Maine. Her research focuses on creativity and innovation in multicultural, multinational environments, with a particular emphasis on work in larger corporate enterprises and communities in Africa and Asia. Most recently, she is concentrating her attention on how ancestral belief systems drive modern behavior and The Montagu Project, a multi-decade global leadership lab in South Africa. Her work aims to refine the training processes that enhance creativity in teams and to provide professionals tools that will allow them to enhance their global leadership abilities.

Kobus Neethling, PhD
Dr. Kobus Neethling is an internationally renowned leader in the fields of whole brain thinking and creative behavior. After doing post-doctoral work with Dr. Paul Torrance, he developed the Neethling Brain Instruments, a battery of whole brain assessment tools used in more than 80 countries across the world. With over 80 books and 9 television series under his belt, Dr. Neethling is a go-to-expert for guidance on how to maximize potential through the optimization of the entire brain. Deeply committed to improving the human condition, he worked with Nelson Mandela to train his office staff in creative behavior and cognitive power and is the Founder and President of the South African Creativity Foundation.

Chapter 15

Alysha (Aly) Friesen Meloche

Alysha Meloche is a current Assistant Professor of Practice at the Villanova University School of business. She teaches Creativity and Innovation courses for graduate and undergraduate students. Alysha researches and practices teaching for creativity. She uses her background in the arts and design thinking to help students gain inspiration for new ideas, learn to communicate their ideas effectively (and aesthetically), and take the first steps towards bringing their ideas to life. Her strong background in design thinking and human centered design also informs her research, in which she utilizes participatory methods to ensure that participants' voices are represented accurately and fairly. Her contributions to creativity research are focused on making our understanding of creativity more culturally responsive and socially just.

Rebecca Clothey, PhD

Rebecca Clothey is the interim department head in Drexel University's Department of Global Studies and Modern Languages and an associate professor of education. Her current research on maintenance and transmission of Uyghur culture spans several countries, including China, the United States and Turkey, where she was a visiting scholar in 2018-19. Uyghurs are an ethnic group indigenous to China's northwestern-most Xinjiang Uyghur Autonomous Region, where she was a visiting scholar in the fall of 2014. Prior to completing her PhD at the University of Pittsburgh, she was selected by the U.S. State Department to conduct elections training for the Organization for Security and Cooperation in Europe (OSCE): Mission to Bosnia-Herzegovina in Sarajevo. Dr. Clothey has been awarded two Fulbright Fellowships for her research, one to China and one to Uzbekistan, a Spencer Fellowship to study community-based schools in Argentina, and an ARIT-NEH Fellowship to study cultural transmission among the Uyghur diaspora in Turkey.

Chapter 16

Mahmudul Hasan Laskar, PhD

Dr. Mahmudul Hasan Laskar has been working as Assistant Professor in the Department of Sociology, University of Science and Technology, Meghalaya, India. He is the founding Executive Member of the Research Committee "Digital Sociology", Indian Sociological Society. He is associated with the working group of the International Sociological Association__ 'Sociology on Local Global Relations'. His research areas are Digital Sociology, social stratification, environmental sociology, social well-being, culture industry and consumer culture. He has published several books and journal papers. His one of the recent co-edited book is "Sociology of Social Media", published by ABS Books, Delhi, India, 2021. His recent paper "Westernization of Musical culture and Cultural Stratification in India's North East: Role of Western music on the Consumption of Music among Youth", has been published in the Youth and Globalization Journal, BRILL. His one of upcoming publications is on Happiness in India (in a Web of Science indexed journal).

Laskar is also a regular reviewer of the Journals "International Sociology" (Sage Publication) and Frontier Sociology. He is the Guest Managing Editor of the Russian Journal _ Scientific Result, Sociology and Management. He is the Editor of the Blog__ Sociological Study (sociologicalstudy. blogspot.com). Laskar is founder and creator of the YouTube Channel "Sociology for Life".

Ankita Sharma

Ankita Sharma is a student of MA Sociology at the Department of Sociology, University of Science and Technology Meghalaya, India. She is a member of the Research Committee__ Digital Sociology of the Indian Sociological Society. Sharma is working in the research group of M Hasan Laskar as a researcher. She has been working on sociological issues such as Happiness, Quality of life and Digital Sociology. Her paper on quality of life is accepted in the Russian Journal: Scientific Result: Sociology and Management. Sharma also acts as a moderator of the Segment "Sociological Talk" on the YouTube Channel (youtube.com/channel/UCT3zndFNJxVeKe3lCgwgpRQ).

Chapter 17

James C. Kaufman, PhD

James C. Kaufman, is a Professor of Educational Psychology at the Neag School of Education at the University of Connecticut, USA. He has written or edited more than 50 books. These include *The Creativity Advantage* (2023, Cambridge), the *Cambridge Handbook of Creativity* (2nd Ed., 2019; with his mentor, Robert Sternberg)*, and *Creativity Lessons from Musical Theatre Characters* (Routledge, forthcoming, with composer Dana P. Rowe), as well as books with his wife, Allison, on animal creativity and pseudoscience and a book about terrible baseball pitchers with his father, Alan.

Mei Zheng

Mei Zheng is a PhD student of Educational Psychology at the Neag School of Education at the University of Connecticut, USA. Her research focuses on people's implicit beliefs about creativity and cross-cultural differences. She is also interested in the discrepancy between how laypersons and scholars understand creativity and how it influences their creativity.

CULTURE, CREATIVITY, INNOVATION AND MOTIVATION IN GLOBAL CONTEXTS

How does culture impact creativity? How does innovation impact creativity? And how does motivation impact creativity?

Cultures are a set of beliefs, norms and values that people hold or share. Cultures fuse traditions, languages, behaviours, attitudes, norms, and principles (Birukou, et al., 2013), passed down from one generation to the next. Culture impacts creativity to a great degree.

First, the traditional backgrounds from where individuals come and the values they hold influence *how* creativity is perceived.

Second, cultures impact creativity depending on whether a society is individualist or collectivist; *how* individuals from either of these cultural dimensions (Hofstede, 2011) understand or manifest creativity, and *what* they consider as 'products' of creativity. The collectivist East cultures emphasise appropriateness and usefulness whereas the individualistic West cultures emphasise novelty and originality (Niu, 2019; Niu & Sternberg, 2002).

Third, cultures impact creativity not only by *how* creativity is measured but also the cultural acceptability of the metrics of measurement (Lubart, 1999; Shao, et al., 2019).

Creativity is ultimately cultural context-specific (Chua, Roth & Lemoine, 2015), and a function of the environment—an 'outside elements that press in on or constraints [individuals], helping or hindering their creative manifestations' (Skaggs, 2014, p.5).

Innovation culture is a function of the environment that supports or encourages ideas creation and implementations. According to Hofstede (2001), 'innovation culture is to be understood in terms of attitudes towards innovation, technology, exchange of knowledge, entrepreneurial activities, business, uncertainty and related behavior and historical trajectories'. How then does innovation impact creativity? Creativity sits at the heart of innovation. The seeds of creativity are sown—and blossom—when novels and creative ideas are generated while innovation results from the implementations of these ideas (see Ogunleye & Tankeh, 2006; Tankeh & Ogunleye, 2007).

And how does motivation impact creativity? Motivation in a workplace context can be extrinsic or intrinsic or both but the degree to which any of these forms of motivation impact individual employee creativity varies significantly. The intrinsic form of motivation has the greatest bearing on creativity, according to Amabile (1999): 'people will be most creative when they feel motivated primarily by the interest, satisfaction, and challenge of the work itself—and not by external pressures'.

The global cultural context for creativity and innovation is about understanding cross border creativity and innovation as well as the *approaches* to collaborative creativity. It is about *how* people think creatively or innovative in a global setting (Chua, Roth & Lemoine, 2015). This volume, *Unpacking Creativity: Culture, Innovation, and Motivation in Global Contexts*,

the tenth in the series, speaks to this discourse in every respect.

A big thank you to Dr Fredrica Reisman for her hard work in editing this book and also to all the authors and co-authors in creating time from their very busy schedules to contribute to the volume.

Enjoy.

James Ogunleye, PhD, FRSA
Chairman, KIE Conference & KIE Creativity Books Project

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EDITOR'S NOTE TO READER

You may want to begin reading this book with the last chapter by James C. Kaufman and Mei Zheng. Professor Kaufman's chapter serves both as an in depth synthesis of the book's content as well as provides an advance organizer for helping you select which chapters you wish to read first. The range and depth of creativity and expertise exhibited by the book's authors should provide you with a pleasant reading journey. At least, I hope so.

Fredricka Reisman, Editor

CHAPTER ONE

GLOBAL CREATIVITY INITIATIVE (GCI) AND ITS RELATIONSHIP TO THIS BOOK

GAYLE BYOCK
ELISABETH MORNEY
RUTH RICHARDS
ROB SWIGART
BONNIE CRAMOND
LARRY KEISER

Abstract

Chapter 1 describes an international creativity-focused organization, entitled *Global Creativity Initiative (GCI) that* serves the worldwide creativity communities. This chapter gives GCI the opportunity to broadcast its emerging existence and contribution for creativity researchers and practitioners around the world to have a vehicle for conversation, collaboration, possibly triggering new creativity research, etc. The chapter delineates the GCI reason for its creation, mission, proposed activities and goal of providing a venue for creativity researchers and practitioners globally. The GCI will allow trailblazers in creativity, innovation and/or motivation to communicate their ideas, and encourage translation of their ideas for the benefit of end users including teachers and corporate trainers.

What is GCI?

Our Global Creativity Initiative is an *emerging* international organization whose purpose is to seek, archive, celebrate, and share global examples of creativity and innovation and their motivations. We hope to amaze and stimulate people around the globe—and later, perhaps share some of their creations. Anyone can explore here—including people new to "creativity." Archived materials will take many forms, written, visual, and more—including live interviews, presentations, events, curricula, proposals, new research and applications, and whatever else may intrigue, e.g., videos of creators creating! We foresee a broad audience of many ages and backgrounds across diverse countries, cultures, vocations and avocations, interests, including those who are just curious.

Why Do This?

We *all* can learn more deeply to understand that we, too, have an enormous potential to create and innovate - it is our human birthright, whether for day-

to-day concerns or in more official or specialized areas. We *all* can also find more to appreciate and embrace in the richly diverse activities of humanity across cultures. We can be inspired ourselves and can also come to know the visions of others and other cultures more deeply.

Explorations can spark ever more new insights, projects, and collaborations around the world. They can also change *us* where we, too, become the creators, more aware and engaged in a multicultural world. The GCI is, in fact, a "learning initiative" with exploration and change built in. We want to be open, adventurous and surprised. GCI hopes to find horizons yet unexplored and to inspire users' own efforts in turn, along with their own openness, through the cross-cultural beauty and breadth of global activity.

May we also appreciate our complex globe and ways to enlarge our horizons *together through GCI*, a two-way street where you can stay in touch in varied ways. *Our deeper intentions include a world more actively and creatively engaged and its diverse people more engaged with each other.*

Is GCI Really Necessary?

We already have many journals and resources for international sharing; why do we need something more? New ideas may come from anywhere. They can benefit anyone—but, notably, only if people have access. Let us not count too fully on even the best books or journals! There is much out there we might never even encounter; the concern here is not just the academic world but people of all ages and involvements. We are talking, too, about our *universal creativity,* not just the arts or sciences (traditional creative areas) or people whose work has won social recognition or eminence (which some would-be creators believe is required for their creations to "count").

Furthermore, not everything valuable is even recorded. Let us also look for actualizations, modifications, or other unusual, or lesser-known uses of wisdom or identify developments in promising preliminary stages, such as one might find in the GCI. Note, too, that motivation is a crucial addition to creativity and innovation—and is another realm to explore. Willingness to create, mindfully break with others and change a status quo, can involve certain risks, joys, and pleasures. Drivers include important internal and external forces, needs, intentions, and values. You, the readers, may add to this endeavor as well as read about it. You are invited to be in touch for various reasons, e.g., if you see the possibility of contributing personally or wish to gain access to the GCI archives currently under construction. Below one finds (a) a brief rationale and (b) the GCI Mission Statement, including further detail on its initial priorities.

Rationale

The GCI scope has greatly expanded around the nature and prevalence of what we call human creativity (e.g., Sawyer, 2009); so, too, has related research (Villanova & Pina E Cuna 2020). Product criteria (e.g., Richards, 2018, see Kaufman & Beghetto, 2009; Runco & Jaeger, 2012) favor new outcomes (at times, just to the creator) and are also meaningful, useful, or effective. Creativity is increasingly seen as a potential to be developed in every-

one, of potential use anywhere, and not just in traditional fields of study (Byock, 2021). Some, of course, have said this all along and have tried to help—while also showing us that IQ doesn't explain it and that creative thinking assessments can (remarkably) predict or diagnose creative strengths, motivation, and achievements that have an effect *decades* later (Cramond, Matthews-Morgan, Bandalos, & Zuo, 2005; Reisman, Keiser, & Otti, 2016; Torrance & Shaughnessy, 1998).

Yet too many people still say, "I am not creative!" They mean it, and they think creativity is for a special group they can never join. Yet creativity, when viewed as our *human birthright,* can help us discover what we are living *for.* Our creative focus can be anything—starting a business, counseling a friend, creating a campaign, cooking a gourmet meal, landscaping the yard, doing a science experiment, or writing that novel.

For some of us who have spent years as educators, either in creativity studies or in applying creative methods to diverse enterprises, we are *alarmed by* the number of people who either (a) do not realize they have this *universal* human potential or (b) do not know there are people and resources to help them develop this potential. This sad situation represents, to some of us, a major *disability*—a bit like being unable to read. The situation is similar in the area of innovation—this is not just for big and successful business enterprises or hugely talented entrepreneurs with startups.

Regarding motivation, at times, our inner drive to "take that risk" (either facing the outside *status quo* or our long-held beliefs) can be enriched by qualities such as mindful awareness, openness, non-defensiveness, empathy, and more (Bohart, Shapiro, & Byock, in press; Richards, 2018). It is vital, for example, in a cutting-edge business and with groups, to have administrative support for creative risk-taking and a safe and engaging environment (Morney, 2022). It also matters greatly what time, place, ethnicity, culture, and cultural expectations exist as a larger container (Henrich, 2020; Swigart, 2020). Our motivation to create can draw broadly from who we are and what we value. (Reisman, Keiser, Westphal, & Hammrich, in press).

Who Can Use The Archived GCI Material?

The GCI will serve a diversity of people. Preschool teachers, for example, may take on many creative challenges, while lacking access to the latest research. We can reach these teachers, but they can contribute to GCI as well. We can learn a lot from preschool teachers about children's social and emotional development—among other things. Another example is a group of seniors meeting to look at issues of aging (and COVID). The GCI can also be of value to people with serious mental health problems, all the worse in the many war-torn parts of the globe, who want new ways to connect, to trust again, to heal. Trauma is rampant, as are all the adjustments and difficulties of escape from danger, relocation, and immigration. The GCI is concerned not just with individuals but with larger trends that can help meet and change societal needs. A GCI major goal is to provide people and resources to enhance a more creative life.

Turning the Camera Around - Who is Creating and How?

As students of "creativity," we are also concerned with the creators them-selves, with the creative person, their creative process, and their (complex) interaction with the environment, which some call environmental press (see also Rhodes, 1961). The focus on creativity at the individual level has inter-estingly been a priority for the humanistic study of *self-actualizing people* and has also shown links to mind-body health (Richards, 2018). Could a crea-tive path also be a road to global health? There is promise, but the outcome is not guaranteed. Creativity can also have a "dark side" (e.g., Cropley, Cropley, Kaufman, & Runco, 2010). Yet social and individual good are among the many *possibilities* we can creatively imagine and hope to realize (Glaveanu, 2021). All else being equal, we can see this GCI initiative for creativity and innovation—allied with prosocial values and motivations—as able to benefit individuals and society and, going beyond, to all beings, the health of our entire biosphere and our planet.

A More Expansive Holistic View

We are highly interdependent and live in systems we can't always predict. We are all part of a vast interconnected and dynamic set of systems that can profoundly affect one another and help to determine who we are and what we will do tomorrow.

      The result of overlooking a complex systems view can lead to prob-lems —witness our climate catastrophe. The social sciences are now becom-ing more aware of the importance of chaos and complexity theories (or NDS, nonlinear dynamical systems theory) in our intimate lives as well as in the broader world with new insights for creativity as well, including the nature of the "Aha! Moment" (Guastello & Liebovitz, 2009; Schuldberg, Richards, Guisinger, 2022), Yet there are more intuitive ways to work with chaos and complexity conceptually and metaphorically, be it about our immune system, the stock market, weather, Internet, or our creative minds. No complex or technical skills are required. We can start to see the world differently and honor our part in a larger flow of life (Schuldberg, Richards, & Guisinger, 2022).

      Creativity very much involves change and surprise. Do explore this book as a whole for a fuller picture of the many flavors of creativity and inno-vation and what people can do and are doing now. We do not, however, know exactly what the needs will be in 20 years. There will surely be "change and surprise," however, in a creative cosmos that humans will be part of. What we, authors and the GCI advocates can do for now is to track and share what we discover. One indication of success may be our level of *surprise. Human creativity, by definition, results in something new.* We may further discover trends and forerunners of future events. The GCI does not try to force-fit any definition of creativity nor does it limit which aspects of daily life our creativ-ity can affect. The GCI aim is to see what is happening across many countries and life domains and identify promising possibilities for others to use and for some, perhaps, to research as well—and not just at the masters or doctoral levels, but also by preschool, K-12 and post-secondary populations.

Archiving

The GCI archiving structure, emerging over time, will index multiple facets of GCI cross-cultural entries for the convenience of diverse potential users, be they academics, students, researchers, seniors, young people, or other cohorts from a more general public. It will also highlight topics relevance for special cohorts and age groups in media, such as, videos, audios, books, manuals for users, academic papers, innovative proposals, and resources. A further index-ing of interest could involve universal, archetypal, or cross-cultural themes, for example with wellness resources or perspectives on illness, as below.

A colorful wellness example, "Forest Bathing," is noted here to show the color, international flavor, and nontraditional aspects possible (see also Li, 2018; Williams, 2017). "Forest Bathing" was instituted by the Japa-nese Ministry of Agriculture, Forestry, and Fisheries in 1982, to promote health benefits of immersion in nature. GCI will share the five steps that Li (2018) advocated to help manage anxiety, reduce stress, and improve one's health. Its later international influences included a Finnish study (see Wil-liams, 2017) built on the Japanese design, which broadened the audience, diversified the woodlands (adding urban parks), and which, while continuing some physiologic and other assessments, added restoration, vitality, and crea-tivity (*re* having ideas). To further explore factors favoring wellness in aes-thetic, calming, and expansive venues, GCI users can employ, adapt, or re-search such projects in their own ways.

Mission. The current GCI Mission Statement offers further detail on operationalization of the Global Creativity Initiative and various of its fea-tures, at this early stage.

Working Draft of GCI's Mission and Action Plan

The Global Creativity Initiative (GCI) Steering Committee identifies creativi-ty as the root and future of humanity's quality of life.

GCI Mission. We strive to share across countries and cultures di-verse innovations in creative plans and related actions and outcomes that can broaden our minds and invite new possibilities. This sharing also can create new collaboratives, novel research, and grounds for mutual understanding. We are developing a learning organization from which we can all learn.

GCI's Goal. The GCI goals are to i) design a shared hub of diverse representations of creativity as practiced worldwide and ii) to help spark crea-tive activity in a range of ways—individual, community, national and interna-tional—in both new initiatives and ongoing projects

A Shared Resource. The GCI will strive to make its resources available at little or no cost. Thus, individuals, organizations, education insti-tutions, programs, centers for teens and seniors, corporations, non-profits, and more across diverse nations can benefit from accessing a resource center to which some users may also later contribute. For contributors, resources can be donated in a non-exclusive way—no contributor need to give up any rights. A recent example is the script/libretto for an excellent musical play (funny as well as heartbreaking) about a serious health issue and the healing power of community. Among other things, this resource could be used by

medical schools or counseling programs to enhance their learners' curricular experience.

First Global Activity: A Virtual Archive. GCI development will begin with designing a virtual archive of short films of "giants and trailblazers" in the field of creativity, as identified by "*Celebrating giants and trailblazers: A to Z of who's who in creativity research and related fields*" (Reisman, 2021), that year's annual Knowledge, Innovation, Enterprise (KIE) conference publication. The 2021 volume highlighted major figures in creativity and innovation. GCI wants to ensure that an interested public has access to many of these experts on their own work, passions, and visions of where creativity could be in 20 years. This and other parts of the GCI collection will be virtually archived at Drexel University by the Freddie Reisman Center for Translational Research in Creativity and Motivation (FRC)—a nonexclusive resource. The FRC is a research center dedicated to addressing the disconnect between teachers and other educators (e.g., principals, superintendents, college faculty, corporate trainers, business leaders, and parents) regarding knowledge of creativity and motivation, and to working to ensure that the latest findings nourish rather than stifle creative students, citizens, innovators and employees.

Over time, this activity will result in a diverse and international GCI archive at the cutting edge. Each year, key contributions and highlights can be featured at events such as the Southern Oregon University (SOU) International Creativity Conference (ICC), the Knowledge Innovation Enterprise (KIE) Conference, and others described below. Additional archive materials may include listings of journals and publications, project reports, proceedings, curricula, and selected conference offerings in diverse fields of education, management, psychology, profit- and non-profit organizations, and government to build resources globally to inform locally.

How will the GCI provide a hub for this spinning wheel of global creativity to engage the many countries and individuals "growing" the area of creativity and invention internationally? For 2022-23 we plan:

1. **Showcasing.** Highlighting current knowledge-sharing initiatives including events such as the Annual Southern Oregon University International Creativity Conference, which has drawn attendees broadly from international sources (onsite and online) and may include a GCI event in 2023 with "Video Shorts" from creative global innovation leaders or "trailblazers." Videos will be followed by live interviews with the honorees. Subsequent years might have very different themes. We have also discussed sharing through global conferences, such as the KIE Annual Meeting, and the Torrance International Roundtable presentations that could highlight different countries. KIE events also have a connection with the United Nations World Education Fellowship.

2. **Conferences.** There are also national and international conferences, such as the American Psychological Association (the USA and Canada joined by other countries) plus activities at universities around the world, including the new Radical Creativity Program at Aalto University, Finland; and Global Communications Through Creativity Publications and Networks (Runco, 2012) where GCI introductions and con-

tacts can be made. Other forms of dissemination will include open-source publications, distribution of annotated lists of valuable resources, such as books and articles, and ways one might involve the innovators themselves.

3. **New Affiliate Input**. We are expanding the GCI affiliates at several levels and in a "rolling process." With new archive contributors, we may decide jointly, on an official (but not overly time-intensive) involvement for some willing persons to join the initiative as affiliates. We will look to them with requests for further ideas, recommendations, and resources in their countries and areas of activity--professional, cultural, and popular--to fulfill certain goals. GCI will publicize its work and appreciate self-referrals, for names of potential global community members, for mailing lists, and more. Among persons who ask for archive access, we will see who, at that point, might be willing to fill out an initial questionnaire, and who might be willing to stay involved for a longer period to dialogue or even ZOOM in a group on selected issues.

Suggestions Welcome. By initiating this enterprise, we are seeking—to begin with—an exciting organization, encouraging links with other organizations and furthering our joint progress toward a better future. Questions and comments may be sent to the book editor at *freddie@drexel.edu.*

Our sincere thanks: to many, and especially to the following three creativity and innovation professionals, Mark Runco (Southern Oregon University, USA), Bonnie Cramond (Emerita Professor, University of Georgia, USA), and Elisabeth Morney (Aalto University, Finland), who helped in different ways with the initial founding of GCI. All have international connections and interests and have been involved at one time or another at the Torrance Center for Creativity and Talent Development at the University of Georgia. Both Drs. Cramond and Runco each served as Director of the Torrance Center. Elisabeth Morney served as a visiting scholar at the Center and was mentored by Dr. Cramond.

Each planted a seed for GCI through their international interests. Dr. Cramond's contribution includes sharing an outline of such a program during the University of Georgia's 2014 international conference, *Creativity and Innovation in an Interdisciplinary and Multicultural World.* Dr. Runco later founded the Southern Oregon University Annual Creativity Conference, which has included renowned creativity researchers and other global participants interested in Creativity. Elisabeth Morney, who herself has presented and has been a public television creator/director for years, initiated and organized the 2021 creativity conference in Vaasa, Finland for Aalto University. Her two keynoters were Dr. Cramond, and Dr. Ruth Richards, Emerita Professor from Saybrook University (the latter suggested by Mark Runco). Dr. Richards suggested an international collaboration to Elisabeth Morney, after seeing, in a very real sense, that it already existed.

GCI Inaugural Steering Committee:

Gayle Byock (formerly University of California, Los Angeles, USA), Bonnie Cramond (University of Georgia, USA), Larry Keiser (Drexel University,

USA), Riikka Mäkikoskela and Elisabeth Morney (Aalto University, Finland), Fredricka Reisman (Drexel University, USA), Ruth Richards (Saybrook University, USA), Mark Runco (Southern Oregon University, USA), Rob Swigart (novelist and formerly San Jose University, USA).

***Inaugural Associate Members*:**
Dee Fretwell (Southern Oregon University, USA), Kirsi Reinola (Aalto University, Finland).

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Chapter Two

THE GOLDILOCKS PRINCIPLE: CREATIVITY, CRISIS, AND EDUCATIONAL PRACTICE

CHRIS WILSON

Abstract

An English fairy tale of uncertain origins, 'The Story of the Three bears' was originally published with recorded attribution to Robert Southey (1837). Incorporating the now famous dilemmas of a protagonist confronting options either too big, too small, too hot, too cold, too hard, too soft, or just right, what is now widely known as the story of Goldilocks and the Three Bears has become a common referential analogue for 'sweet spot' circumstances or conditions. From Stephen Hawkings famous evocation to describe the narrow habitable zone of the planet earth (2010), 'the Goldilocks Principle' is widely understood as a short hand for a position between extremes—of balance, possibility, and opportunity—has been applied to subjects ranging from astrobiology to statistics, and is equally applicable to creativity.

Commonly the subject of interpretive contention and debate, creativity can be at its most unambiguous in the context of a crisis. By definition circumstances where coincidence of novelty and value are both of heightened significance and constraint, creativity under pressure and against the odds is therefore always remarkable, whilst innovation that successfully mitigates for significant threats to life or livelihoods open the realms of heroism and invariably subject to celebration, particularly when attribution is clearly defined. Crises may involve considerable uncertainty but can also provide for extraordinary clarity, and certainly represent distinctive contexts through which to consider creativity.

Covid represents a global crisis by any definition. A protracted and intersectional nexus of problems spanning all aspects of social, professional, and industrial activity, the impact is projected to be measurable in multi-generational terms. A profound test of creative capacities for individuals, organisations, and society, the pandemic presented a very particular challenge for educators and educational systems already contending with serious issues of equity, ethics, value, sustainability, staff and student wellbeing, and for universities in particular, projections of significant increases in participation, competition, accountability, and spiralling costs (OECD, 2019). Disrupting all aspects of educational practice and focussing calls for a paradigm shift of strategy and approach (UNESCO, 2020), the pandemic is arguably the most significant crisis faced by global education systems for generations.

Focusing particularly on the response and experience of global higher education systems, this chapter reflects on both what the Covid crisis reveals about creativity and the creativity of organisations more generally, and

what creativity means in the context of educational strategy. Reflecting on emergent themes, the chapter concludes by defining the Goldilocks principle of creativity as a conceptual framework for considering the creative opportunity, constraint, and interpretive value dynamic.

Introduction

Although often associated with effortlessness and eureka moments, that creativity is subject to constraint and inherently problematic is tautological. Creativity ultimately depends on problems and inhibitory factors to exist at all. Being the coincidence of novelty and utility, problems serve both to inhibit but also to inaugurate new creative potential. With appreciation and value graduating according to how profound and consequential, the utility and significance associated with all creative products, solutions, and ideas, are ultimately defined by their relationship to a problem and the context of its resolution. Whilst there are of course limits at the extremes, no lock ultimately has significance without securing access to something important, or value without difficulty and timeliness in its picking.

Crises disrupt normal patterns of creative behaviour, but ultimately elevate the value of creativity and produce new creative potential. The more profound (breadth/depth) or problematic (novelty/seriousness) the challenge, the more significant a solution. Whilst there is an enduring notion that constraints 'kill creativity', of course some form of inhibiting factor is required for creativity to occur (Rosso, 2014). Whilst extremes of fear, anxiety, or physical peril are of course inhibitory to playful thinking, there can ultimately be no ingenuity without some form of puzzle to solve. Nevertheless, there being a distinction between 'emergency' and 'crisis', (Callahan, 1994), as highlighted in the use of Mike Tyson's famous quote in the preface to Freedman's history of strategy (2015), 'Everyone has a plan 'til they get punched in the mouth'.

The global pandemic proliferated problems and challenges of creative adaptability (Orkibi, 2021) in all areas of society, at all scales of significance, and in rapid time. Emerging in Wuhan, China towards the end of December 2019, Covid-19 was identified by the World Health Organization (WHO) as a global epidemic on 31st January 2020 and later as a pandemic on the 11th March (Mofijur et al, 2021). With over half a billion confirmed cases, more than 6 million deaths (WHO, 2022a), and a total excess mortality associated directly with the pandemic of approximately 14.9 million in 2020 and 2021 (WHO, 2022b) at the time of writing, the total economic cost is calculated as being in excess of $16 Trillion, representing 15% of global GDP or $2000 for every person on earth (Yeyati and Filippini, 2021; IMF, 2021). With negative environmental impact resulting from massive quantities of plastic medical waste (Patrício Silva et al, 2021), increasing energy insecurity due to delays in infrastructure projects (Mofijur et al, 2021), and a statistically significant post-viral impact in terms of Long Covid—described as a 'medical challenge of the first order' (Lancet, 2021)—the pandemic has widened existing inequalities and increased human suffering worldwide (UN, 2020). The pandemic is a problem still being solved.

Recognising that healthcare bore the most significant brunt of the crisis, global education systems were also subject to extraordinary disruption. No institution was adequately prepared, much less for what ultimately became so protracted and widespread secondary restrictions. Indeed, it is described as having "brought many educators and education systems to the brink of collapse" (Reimers and Opertti, 2021). With a billion school age children identified within months of school closures as being at risk of falling behind, the stark reality of digital inequality means that online learning may only have been reachable by a quarter of schoolchildren worldwide (UNICEF, 2020), and the efficacy of related educational experiences suboptimal at best for those able to engage. With analysis by the World Bank predicting a risk of a loss, for students currently in full-time education, of $17 trillion of lifetime earnings at present value based on related increases in educational poverty and general under-attainment (Ahlgren et al, 2021), urgent questions are being asked and strategic direction re-thought in educational systems worldwide, as they are for all businesses and professions.

For higher education in particular, the pandemic represents an extraordinary period of activity rich with challenge and educational drama. Systematically, the pandemic drove significant work in terms of financial and contractual adjustments (Smalley, 2021), and, across Europe, North and South America, Africa and Asian universities in particular, stimulated an urgent repositioning of strategic purpose, policy, and practice (Bergan et al, 2021). All institutions have had to innovate rapidly on multiple fronts, face the challenge of supporting a generation of students in the coming years who have experienced serious disruption to their educational development, and confront a changing post-pandemic world. This has required and will continue to require new ideas.

Being the coincidence of novelty, relevance, and effectiveness (Cropley, 2011), creativity can most simply be defined as problem solving. Covid has been, and at the time of writing continues to be, a globally significant problem. This chapter therefore explores creativity through the lens of the pandemic response. With a specific focus on global higher education, consideration is given to individual, societal, and organisational creativity, and to how insights from the pandemic might inform strategic approaches in both post-pandemic recovery and redirection. Finally, the chapter concludes with consideration of a Goldilocks principle of creativity as a conceptual framework for considering the creativity and constraint dynamic.

Pandemic Creativity

Whilst profoundly disruptive, the Covid pandemic has also been a catalyst for remarkable creativity in almost every domain imaginable, and perhaps most evident in terms of the response of global medical and healthcare systems. The development of multiple efficacious vaccines in less than a year from first publication of the genetic sequence on 10th January 2020 is unprecedented scientifically (Fauci, 2021), and the global programme to administer vaccines has been equally remarkable logistically. From the first dose in December 2020, nearly 12 billion have been administered to over 66% of the world population (Richie et al, 2020).

Research and development as well as logistics and supply chains were rapidly configured and accelerated. Developing and scaling production of effective COVID tests within a matter of weeks, serious shortages of protective medical equipment were confronted by a wave of entrepreneurism, factories were set up by hospitals, and improvised solutions were found for testing of unconventionally sourced medical supplies (Hausman et al, 2021). Typical of many industrial sectors, companies such as LMVH in France rapidly converted their perfume factory towards sanitiser production (Fox, 2020), electronics companies such as Foxconn converted production lines in China for surgical masks, whilst significant parts of the fashion industry shifted production from shirts to medical clothing.

Maintaining a Coronavirus Resilience Innovation Index, research centre StartupBlink (2021) has ranked global Covid innovation across 60 countries against categories including prevention, diagnosis, treatment, information, life and business adaptation, commerce and supply chains, and digital economy. Highlighting countries such as the US, Canada, and Israel, where some sectors including the digital economy flourished, whilst dominated by Europe and North America in the top 20 countries, significant innovation is also noted in Singapore, South Korea, Australia, and Kenya as the top ranked African nation. In terms of specific cities and regions, established innovation hubs such as San Francisco dominate in North America, Moscow is the 3rd ranked city globally due significantly to the speed by which the Sputnik V vaccine was deployed, whilst London, Toronto, Taipei, Seoul, and Tel Aviv also feature prominently.

Collating 34 articles exploring the impact of Covid-19 on societal creativity and innovation (Tang, et al, 2022), the significance of creativity as a means of coping through meaning making during lockdowns was perhaps the most significant emergent theme (Kapoor and Kaufman, 2020). Using the 4C model of creativity (Kaufman and Beggheto, 2009), whilst evidence indicates less significant impact on Pro-C or professional creativity—the rapidly coordinated healthcare and educational responses notwithstanding—increases in everyday or 'little-c' creativity were more evident, with related activities closely linked to wellbeing (Mercier et al, 2021). Mastery being closely linked with positive affective benefits (Grandley et al, 2021; Windle and Woods, 2004), it is perhaps no surprise that global lockdowns led to increases in therapeutic engagement with current and inauguration of new hobbies (Fullana et al, 2020; Brooks et al, 2020; Lades, et al, 2020). Musicians gave impromptu performances from balconies, communities sang together down otherwise quiet and empty streets, and social media filled with individual stories of culinary endeavour, creative writing, and craft, for those fortunate enough to have access to relevant opportunities and resources. Noting ongoing contention regarding the efficacy of positive and negative affective mood states in terms of impact on personal creativity, studies nevertheless indicate significant lockdown-related creative productivity (Lopez-Persem et al, 2022) with measurable benefits for wellbeing (Morse et al, 2021).

Educational innovations

The creative pandemic response of educational systems has been significant. Collating 31 case studies relating to preschool, primary and secondary education, Reimers and Opertti (Eds, 2021) group global pandemic related educational innovations into 5 categories:
1. Supporting student-centred learning
2. Supporting deeper learning
3. Supporting student socio-emotional development and wellbeing
4. Teacher and school principal professional development
5. Family engagement

Noting that category 1 broadly encompasses categories 2-5 for the overwhelming proportion of students in education globally, significant organisational innovation is evident in terms of the agility by which educational systems adjusted to lockdowns. Where rates of access to power, internet and digital devices were lower, print resources were rapidly produced and distributed such as in countries including in India and Uganda, radio broadcast and text messaging was adapted used in countries including Sierra Leone and Liberia, social media employed more strategically by many countries including Egypt, and smartphones used in approaches in Bangladesh and Pakistan.

Where national infrastructure supported more actively digital approaches, countries such as Uruguay, for example, rapidly implemented a national online learning platform and a programme for ensuring laptops and internet access for all learners, whilst individual face-to-face tutoring was implemented in countries including Mexico and the UK. Project-based and independent learning was expanded and actively supported in countries including Egypt, Saudia Arabia, Uruguay, Mexico, Finland, Bangladesh and Pakistan, and, whilst teacher development was significant in all cases, it was a key focus for many nations including Brazil, Peru, Guatemala, Brazil, Kenya, Uruguay, Peru, and China.

For universities, futurologists including Bryan Alexander (2020) had speculated in quite prescient detail about the potential disruption of a pandemic, just as Covid was emerging in the global consciousness. Whilst the overwhelming majority of universities had business continuity planning in place, no institution had a plan for what was to follow and all, to one degree or another, were already contending with major challenges related to staff workload, student and staff mental health and wellbeing, regulatory changes, cost, teaching modalities, and/or disputes over pay and job security. That the pandemic represented a crisis was obvious. That it may also present a creative opportunity was nevertheless also immediately recognised (Devinney & Dowling, 2020).

Already dealing with the impact of international travel restrictions for staff and students early in 2020 (Martel, 2020), with thousands either concerned about being able to return home or unable to travel, whilst all universities were of course monitoring the situation extremely closely, millions of staff and students nevertheless received a matter of a few hours' notice of an

unprepared for move to remote working. For many staff working in European universities in particular, there were only a matter of days between firm institutional commitments to remaining open, before campuses closed to all face-to-face activity. Country by country, national lockdowns of varying degrees of stringency swept across the world as infection rates and hospital admissions rose, and by the end of March 2020, 150 countries had closed educational institutions nationwide effecting over 80% of the global student population (Sahu, 2020) of over 230 million university students (Unesco, 2022). No institution in any country had a plan to turn to for what followed and for many, the proverbial writing on the wall was observed whilst colleagues made their way to cars with books and office pot plants in arm.

Fortunately for many higher education systems operating on a trimester model, the timing of enforced closures coincided with reaching the end of an academic cycle. With obvious uncertainty over the likely timescales involved, by far the most common approach taken by universities around the world was simply to 'move everything online' with the hope of disruption being temporary. With the majority of global higher education institutions having at least an active web presence, where virtual learning environments (VLE) or learning management systems (LMS) such as Blackboard Learn, Canvas, Moodle etc., were already in place, these were rapidly repositioned at the heart of learning and teaching. With significant increase in the use of multiple social media channels by universities, most institutions had multiple channels of communication available by which to interact with and publish information for students. Whilst many universities moved quickly to rapidly implement new systems and online tools, and in many cases took the pandemic as an opportunity to make more fundamental changes such as migrating to alternative learning management system (LMS), the overwhelming majority maintained a focus on effective application of existing systems and mechanisms to improve access to digital tools for students and staff.

Initial approaches were very much the definition of "emergency remote teaching" (Hodges et al, 2020 in Brown and Krzic, 2021). Whilst considerable progress has been made with respect to educational technologies and digital capabilities in the decade leading up to 2020, remote working nevertheless exposed a range of immediate challenges and in many cases simply pushed existing problems from one modality to another. Timetable confusion and not being able to find the right lecture room simply became 'problems with logging in', limited student engagement or participation in class became 'won't turn their cameras on' (or can't), disruptions to classes due to fire alarm evacuation tests became WIFI outages or software update windows, and those facing financial hardship that had previously disrupted their ability to afford travel to campus, now instead confronted the need for expensive IT equipment and a space to study. Digital capabilities were seriously tested and, recognising the uncertainty of the early stages of lockdown, it took time for clarity to emerge about what was foundational for effective online learning and university business—WIFI (connectivity), audio (audibility), video (visibility), and study space (comfort)—and for universities to implement strategies for strengthening and assuring these.

The pandemic required adjustment to all aspects of educational culture and practice. Serving to collapse the geographical and temporal bounda-

ries between home and work, the once separated realms of the domestic and the professional became entirely unsegregated. Relying immediately on creative adaptability, or the "cognitive–behavioural-emotional ability to respond creatively and adaptively to stressful situations" (Orkibi, 2021), perhaps the most significant aspect of educational creativity lied in adjusting practice and adapting to new working space, both for teachers and learners.

There were remarkable parallels in early pandemic experiences around the world. Research by Globalization Partners across 15 countries (2021) highlighted a number of key trends in worker experiences. In all industrial sectors, employees felt happier about their jobs, less connected with their colleagues, whilst work-life balance featured as the top employee benefit contributing to a positive experience. In universities, the Global Higher Education Research Snapshot (Salesforce.org, 2020), undertaken between August and September 2020, identified 5 key themes in the experience of university students and staff months into lockdown, consistent across 10 surveyed countries. Negative experiences of connection, trust, and wellbeing, were off-set by positive experience of increased flexibility, and an increasing focus on future careers.

Positive and negative effects of a sudden move to online learning in the context of a wider social crisis were clear. Interviews with students in China, for example, where lockdowns of on campus students were amongst the most stringent in the world, indicated negative experience of significant increases in screen time, but also the reassurance for many to be able to avoid the anxieties of the classroom (Wu et al, 2022). Surveys of students in the Autumn of 2020 indicated significant impact on student experience related to anxiety and mental health, but also appreciation of increased control over study activity (ONS, 2020).

For universities relying more consistently on online delivery approaches, whilst 'online learning' and 'students studying online' remain common terms, there was a recognition early in the pandemic of the distinctiveness of individual circumstances. Perhaps due to the shared experience of tutor and student, where all stakeholders found themselves 'online' whilst in domestic environments, the social orientation of educational practice became more evident and relationships changed, even including spontaneous expressions of love from students for their tutors during Zoom lectures (Humphries, 2020).

Significant work is also evident in terms of instructional design through the pandemic. From initial 'lift-and-shift' approaches to teaching modality, teaching practices and learning activities were rapidly reconfigured towards more effective instructional design. The publication of lecture recordings and asynchronous learning activities, for example, led many academics to realise early on that they could interact with students in different ways. Scheduling 'watch along' sessions where students have opportunity to interact with the tutor via chat channels in real time, the approach also afforded flexibility in situations where student cohorts were scattered across multiple time-zones. From virtual engineering site visits and chemical engineering labs, performing arts collaboration via Zoom and virtual reality, and online legal advice clinics, courses of study with more practical challenges adapted in extraordinary ways.

Finally, perhaps the most significant area of transformation in educational practice related to measurement and adjusting approaches to assessment in universities to assure transparency. There being an evident and immediate challenge with respect to assuring academic integrity for assessment undertaken online (Reedy et al, 2021), student cheating in online exams in particular, whilst a distinctive area of nefarious creativity, was immediately recognised as a significant problem (Lancaster and Cotarlan, 2021). Whilst a perennial issue in universities, beyond implementing draconian and ethically problematic proctoring and digital invigilation systems for assessment focused on memory or recall, the only alternative was to rethink assessment design. Recognising the coincident challenge related to student wellbeing, closed book exams gave way to more open, flexible, continuous, developmental, and arguably more authentic modes of assessment (Losad, et al, 2020).

Disorganizational Creativity

Whilst innovation commonly features in institutional strategic mission statements, universities nevertheless remain remarkably conservative organisations compared with other business and industrial sectors. Traditional approaches—as indicated by global university rankings—predominate and notionally succeed, and whilst there are of course variations in pedagogical approach by region and institution, the reality is that disciplinary conventions are pervasive.

Whilst it has been an extraordinarily challenging and indeed traumatic adjustment for many, the Covid-19 pandemic has nevertheless been at least in part positively disruptive, served to accelerate progress on multiple fronts, and helped to pull down any remaining barriers regarding application in particular of relevant technology in learning, teaching, and organisational activity. Conversations have been enriched through the chaos and developmental change has become front and centre strategically.

Whilst creativity in higher education has been evident systemically, this is overwhelmingly confined to areas of organisational agility and adaptability. The speed by which universities with medical research and education facilities, for example, began to contribute to research, testing, hand gel manufacture, and release of medically trained staff, is notable, and speaks to the civic mission of institutions, but the creativity of universities has arguably been more significant in terms of how this was distributed and devolved. Control being both lost and gained as a consequence of lockdowns, organisations in general became less 'organisational' in crisis and more reliant on the ingenuity of individuals amongst procedure; as universities have arguably always been.

Considering Woodman's (et al, 1993) model presented in Figure 1, the characteristics and knowledge of individual academics as well as the cohesiveness of departmental groups far outgunned institutional strategy or structure in terms of supporting creativity and problem solving, whilst isolation at home became the obvious immediate constraint and the only available context for enhancement.
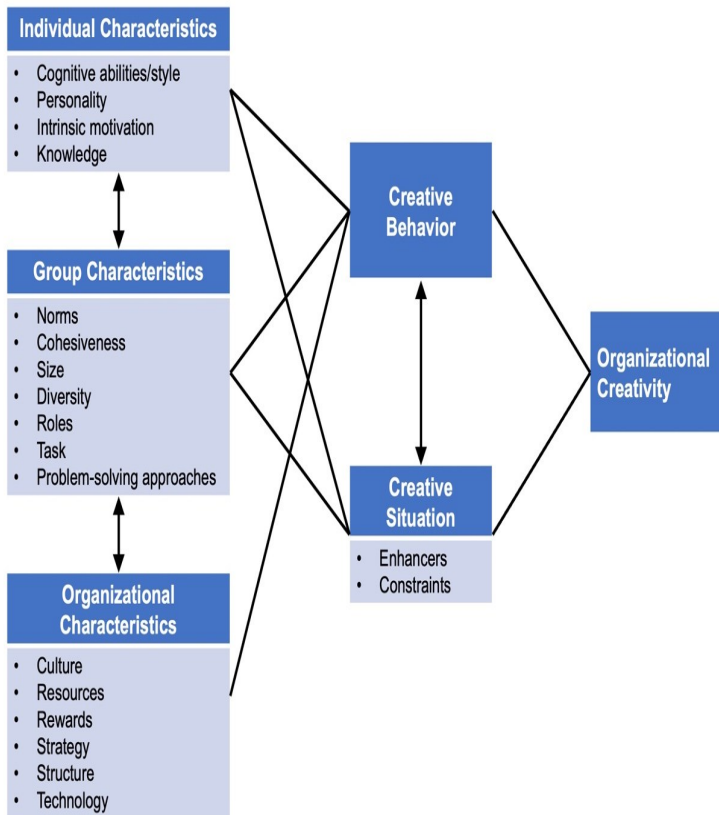
Figure1: *Organizational creativity. Adapted from Woodman, Sawyer, and Griffin (1993)*

Reflecting a remarkable period of "digital growing up" (MacIntosh in Ewing, 2021), somehow, students and staff in higher education managed to successfully improvise their way through extraordinary circumstances and significant challenges. Whilst areas of suboptimal practice are evident and clearly identifiable Pro-C innovation perhaps more difficult to pin down (Kapoor and Kaufman, 2020), the sheer scale of what was achieved in overall terms is hard to categorise in any other way. If only in terms of resilience and coping, everyone was creative during pandemic lockdowns. There was no other option.

In terms of what the pandemic reveals about universities as creative organisations, what global higher education achieved is paradoxical. Whilst of course it has not been possible to fully replicate the on-campus experience, to suggest that all on campus programmes could move learning, teaching, and assessment online in a matter of days and weeks would have been laughed at before March 2020. It would not have been possible before the pandemic,

was made more difficult because of the pandemic, but would not, ultimately, have been possible without it.

Reorganizational Creativity:

Where Next for Higher Education?

Covid has fundamentally altered global education (WEF, 2020) and whilst the negative consequences of the pandemic are clear, it is important to ensure that positive outcomes are also acknowledged. The United Nations focus on 'building back better', for example, recognises that "an exclusive focus on 'learning loss' and addressing the decline in learning opportunity implies a troubling conservative bias, emphasizing the restoration of education systems as they functioned prior to the pandemic, and neglecting the fact that, for many children, they did not deliver very much" (Reimers and Opertti, 2021).

Much of the 'what' and the 'how' configured in response to the crisis is worth retaining, whilst other areas of educational practice now more clearly worth recovering. There being identifiable benefits of e-learning (Maatuk, et al, 2022), analysis by McKinsey, for example, identified a wide range of work activity related to education more generally that can be completed remotely with little or no loss of productivity, whilst educational activities including coaching, provision of advice and feedback, critical decision making, collaboration, and problem solving, being much more effective undertaken in person (Lund et al, 2020).

Consequently, 'blended' and 'hybrid' models of educational practice now dominate thinking in universities around the world (Ewing, 2021; Radić et al, 2021) and are reflected in international initiatives. The International Bureau of Education's HELA initiative (Hybrid Education, Learning and Assessment), for example, has established eight interdependent goals to frame educational development in response to the pandemic, with clear emphasis on integrated approaches:
1. Promote the integration and complementarity of face-to-face and distance education.
2. Support a diversity of hybrid modes to help learners develop the breadth of competencies they need
3. Support the development of structured progressions of learning trajectories across educational levels and provisions
4. Revisit the relevance and organization of knowledge in the curriculum
5. Reimagine the relationships between educators and students
6. Reinforce partnerships between education and a diversity of stakeholders
7. Use technology to democratize access to knowledge
8. Strengthen the bonds among schools, families and communities

Recognising that it will take years to fully reflect and learn from the experience of the pandemic, universities at least now have the certainty of requiring better plans for responding to sudden disruption of modalities of

work. Whilst there remains the risk of responding to this certainty with a pre-pandemic perspective, significant work is nevertheless routine across global universities in business continuity planning, with resilience and 'pivot potential' consistent themes (Gibbons, 2021).

Autonomy being identified as the 'keystone for an effective and efficient higher education sector' (Erçetin, Ş. and Yılmaz Fındık, L, 2018), whilst there are variations in the level of autonomy under which international universities operate (Kohtamaki and Balbachevsky, 2018; Ren and Li, 2013), higher education remains the most autonomous of all educational systems in most countries and it is the internal autonomy of universities that ultimately enabled an effective pandemic response; Universities were successful in part because there was no plan. Effective actions did not flow from 'systems in place' in most cases and whilst organisational creativity may well stem "from development of the entire system" (Borghini, 2005), autonomy should be embraced rather than mitigated for and the capacity for play and playfulness developed (James, 2019; Whitton and Moseley, 2019). Higher education will undoubtedly rely on this agility again.

The Goldilocks Principle of Creativity

The themes of shelter, comfort, sustenance, safety, and rest, in the story of Goldilocks and the Three Bears are particularly apt considering creativity and the Covid crisis. With millions literally retreating to garden sheds, contending with unfamiliar choices, and concerned about threshold threats to the home, the story could have been written as a parable of lockdown remote working.

Whilst of course only a modicum of creativity would usually be required to find ways to warm cold porridge or to soften a hard chair, the Goldilocks principle nevertheless provides a conceptual framework that is situationally adaptable and particularly pertinent in the context of creativity and crisis circumstances.

Firstly, the principle recognises that there are limits to creativity and that not all situations involving problematic novelty incorporate potential for their resolution. Dependent both on the context and those that are affected or able to participate or exert influence, there is always a threshold line of separation between that which is possible and that which is impossible. Simple to recognise retrospectively and to define in extremis, there are problems that are simply insurmountable and all problems have the potential to be insurmountable.

Secondly, the principle recognises the redundancy of creative potential where more accessible or immediate solutions to a problem are available. Elaborative or complex solutions to problems may be technically impressive, but aspects of elegance and simplicity most certainly constitute more creative responses, especially in terms of expediency. Speed and simplicity are more valuable solution parameters, especially in the context of serious problems including threat of collective harm. Sometimes the most creative solution is simply the vision required to identify and follow the line of least resistance.

Finally, the principle reflects that in any situation with creative potential, there is always the possibility of an optimal synergy between creative capacity and opportunity, as well as an identifiable most creative solution.

Defined again by the problematic context and the position of those contending with it, there are circumstances where the wavefront of potential for insight is nudged to collapse fully because of suboptimal conditions and which enable high levels of creativity to be realised.

For creativity to exist, there need to be problems. For problems to be solved, there needs to be creativity—or at the very least serendipitous fortuity. To fall within the sphere of creative possibility, problems ultimately need to be not too hot as to be untouchable, too cold to the point of irrelevance, but be warm enough both to illicit value and embody potential in context for resolution. Under crisis circumstances, most routine creativity is at best disrupted and in large parts overwhelmingly inhibited, but new realms of creative potential are nevertheless also initiated. These may prove unresolvable in context but can also incorporate at least the potential for remarkable creativity.

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CHAPTER THREE

POST TRAUMATIC CREATIVITY: CREATIVITY INSTRUCTION FOR POST-TRAUMATIC GROWTH

WILLIAM O. FOGARTY & JEREMY BREWSTER

Abstract

The chapter will include four scenarios that describe participant experiences in the programs, how creativity helped them process negative life circumstances and events as a form of coping, and the positive perceptions they came to have of a challenging life event. In addition, this chapter will give insights into the creativity instruction, tools, and activities used in both courses, a discussion of cultural influences on participants, recommendations for others interested in implementing Post Traumatic Creativity programming, and future research directions for the fields of PTG and creativity.

Introduction to Post Traumatic Growth

What is meant by post traumatic growth? Post-traumatic growth (PTG) is a psychological variable first investigated by psychologists Richard Tedeschi, PhD, and Lawrence Calhoun, PhD, in the mid-1990s. They set out to explore the process by which people who had experienced negative, adverse, or traumatic life events in the past feel they experienced positive changes after the event occurred.

Traumatic events, at their essence, are characterized as events that are disruptive, viewed with a negative valence, and overwhelm the ability to cope (Tedeschi & Calhoun, 1995). Some characteristics which define traumatic events, from Tedeschi & Calhoun's perspective, include lack of control over the event, the degree to which it creates long-lasting problems, are shocking, out of the ordinary, and include irreversible changes (Tedeschi & Calhoun, 1995).

Tedeschi & Calhoun (1995) estimate that about 50% of people who experience traumatic events end up experiencing post traumatic growth as a result of it. While this is a promising finding, they also acknowledge that other people may experience psychological distress regarding the traumatic event for the rest of their life (Tedeschi & Calhoun, 1995).

Tedeschi and Calhoun identify some of the negative psychological repercussions following traumatic events are shock, disbelief, psychological numbness, and intrusive thinking (1995). Beyond those effects Carstensen & colleagues, also identified that "the experience of negative life events is associated with poor mental health and well-being, and stress vulnerability models generally assume that exposure to negative life events is a broad risk factor for the development of anxiety, depression, functional disorders, and psychosis" (2020, para. 1)

Given the cross-cultural prevalence of adverse life events including war, disease, famine, drought, and natural disasters, PTG research and theory is extremely salient. The mission of the authors of this chapter is to increase the prevalence and magnitude of PTG experienced within global populations through creativity instruction.

Contributing Factors to PTG

There are four factors which contribute to the likelihood that an individual will experience PTG. The first is a challenge to core beliefs, or "the degree to which a traumatic or stressful event causes people to reevaluate their assumptive worlds, including beliefs about themselves, other people, the future, and the world" (Tedeschi & Calhoun, 2004, p. 11).

The second factor that contributes to PTG is rumination, which consists of reexamining the traumatic event and related issues as a means of processing. In the PTG literature, rumination is broken into 2 types. The first type of rumination is intrusive rumination. Intrusive rumination is defined as "unwanted thinking that happens without the person wanting it and it is likely to be distressing", and is "likely for most trauma survivors soon after the event" ((Lindstrom, Cann, Calhoun & Tedeschi, 2013, p. 53). The second type of rumination explored in PTG literature is deliberate rumination, which is defined as "intentional reexamining of the traumatic event and related issues as a means of processing" (Lindstrom, Cann, Calhoun & Tedeschi, 2013). Deliberate rumination can include reflecting on events, trying to understand them, reminiscing, trying to find solutions to life problems, and thinking about possible positive repercussions of the event.

The third factor is disclosure, defined as discussing one's reactions to, and the negative and positive consequences of, the highly stressful event (Lindstrom, Cann, Calhoun & Tedeschi, 2013).

The fourth factor involves socio-cultural influences, defined as "the degree to which themes of growth are culturally available to the individual" including "platforms such as television, internet, newspapers and through friends or family report positive changes resulting from difficult experiences" (Lindstrom, Cann, Calhoun & Tedeschi, 2013, p. 53).

Of these four factors, the two that are most strongly linked with experiencing PTG are the *challenge to core beliefs* and *rumination*. The relationship between PTG and rumination can be simply stated. PTG is more likely to occur "for individuals who move away from intrusive rumination and enter into more deliberate ruminative processing as time since the event increases" (Tedeschi & Calhoun, 2004). In regards to the challenge to core beliefs, a metaphor can be highly helpful to understand the psychological processes at work.

PTG & Cognitive Rebuilding

Calhoun and Tedeschi are particularly fond of introducing the metaphor of an earthquake to describe the relationship between the challenge to core beliefs and PTG.

If one thinks of a city before an earthquake strikes, this is similar to one's worldview preceding a traumatic event. This "pre-earthquake city", or "pre-traumatic event cognitive landscape", is known as the assumptive world, which includes everything an individual thinks or believes about the way that the world functions.

When a traumatic event occurs that is stressful enough to shake these core beliefs about the assumptive world, it is experienced as a psychologically seismic event. In the case of an earthquake within a city, buildings that were not sufficiently prepared for an earthquake may collapse completely. In the same way, cognitive structures, such as thoughts and beliefs held about the world, may collapse due to the experience of a traumatic event.

Post Traumatic Growth does not occur directly as a result of this cognitive collapse. As previously noted, the negative psychological effects of traumatic events can be debilitating. The real opportunity presented by the collapse of cognitive structures is to rebuild an assumptive world that is stronger and less likely to collapse due to a future traumatic event. In the case of an earthquake within a city, the rubble of poorly built structures will be cleared, and more structurally sound and resilient structures will be built which are far less likely to collapse during a subsequent earthquake. In the same way, cognitive rebuilding creates cognitive worlds that are more resistant to being shattered. This is done primarily through the process of rumination, whether deliberate or intrusive. The results of this rebuilding are experienced as growth (Calhoun & Tedeschi, 2004).

Measuring PTG

In order to measure PTG within clients, Tedeschi & Calhoun developed the Posttraumatic Growth Inventory (PTGI), which is a psychological instrument for assessing the positive outcomes reported by individuals that have experienced traumatic events. A factor analysis in 2008 revealed 5 distinct domains measured by the PTGI (Tedeschi & Calhoun, 2004).

The first domain of PTG is Relationships with others, which "arises from the realization that the support of other people is necessary and from the resulting sense of increased closeness in relationships" (Tedeschi & Calhoun, 2004, p. 5).

The second domain is new possibilities in life, which occur when the traumatic event leads to "new options previously not considered, including the discovery of a new life path" (Tedeschi & Calhoun, 2004, p. 5).

The third domain is personal strength, which springs from the traumatized person realizing they are stronger than previously thought due to survival of the ordeal" (Tedeschi & Calhoun, 2004, p. 5).

The fourth domain is Spiritual growth, the degree to which a traumatic event results in "increased faith in a higher power and thus a greater understanding of spirituality" ((Tedeschi & Calhoun, 2004, p. 5).

The fifth domain is appreciation for life, which "manifests as a revision of life priorities and a new appreciation for life's preciousness" (Tedeschi & Calhoun, 2004, p. 5).

The 5 domains for measuring PTG are salient as one seeks to develop creativity instruction programs that can enhance the prevalence and magnitude of PTG in global contexts.

Creativity and Processing Traumatic Events

One of the most pressing questions related to creativity and PTG is the following: can creativity be used to enhance PTG in individuals? While specific studies that relate to creativity and Post Traumatic Growth have been limited to connecting increased self-reported creativity and post traumatic growth following a traumatic life event, there is a strong theoretical foundation that indicates that creative behaviors and creativity thinking skills can contribute to PTG.

One of the more promising ways that creativity is conceptually related to PTG is that different types of creative behavior promote cognitive processing and are correlated with many facets of well-being (Acar et al., 2021). This indicates that creativity may be a beneficial form of deliberate rumination whose well-being effects can help the cognitive rebuilding associated with PTG.

Creativity can be a powerful coping mechanism in times of extreme stress. One study conducted by Kapoor & Kaufman, 2020). In 2020 examined the ways that creativity was being used as a positive coping mechanism during the COVID-19 global pandemic. In addition to relatively low cognitive effort tasks, such as baking, they recounted the positive psychological, health, and well-being benefits of engaging in a more cognitively engaging creative behavior such as writing (Kapoor & Kaufman, 2020).

Pennebaker and colleagues (1997) have conducted extensive research investigating the positive health and well-being benefits of developing a regular writing practice. Impressively, they found a strong correlation between regular free writing (a technique where one writes for half an hour at a time with no prompt) and better health outcomes such as reduced physician visits and increased immune functioning.

In addition, Kapoor & Kaufman linked the practice of writing regularly to coherence, or "being able to make sense of one's life, as opposed to seeing the past as being a series of random and chaotic events" (2020, para. 6). They cite research which found writing expressively several times a week about personal, emotional topics, and that included some element of narrative led to notable improvements in physical and mental health (Pennebaker, 1997; Pennebaker & Beall, 1986; Pennebaker & Seagal, 1999).

That individuals are able to "make sense" of their life indicates that writing helps enhance cognitive processes that alter perceptions of the way that one sees past events. Thus, a theoretical link exists between writing and the cognitive rebuilding and meaning-making processes that induce PTG.

Furthermore, there is evidence that visual art creation can help individuals express and process traumatic experiences at a non-verbal level. A literature review connecting public health and well-being and the arts found that "Art helps people express experiences that are too difficult to put into words" (Stuckey & Nobel, 2010, p. 255). One case study explored the ways that "artistic self-expression might contribute to maintenance or reconstruc-

tion of a positive identity", finding that "art filled occupational voids, distracted thoughts of illness; improvements in flow and spontaneity, expression of grief, positive identity, social networks" (Stuckey & Nobel, 2010, p. 256). This provides strong theoretical evidence that art can help facilitate positive identity construction, which is one of the key goals of PTG, as well as improved relationships with others, which is also a domain of PTG measured in the *Post Traumatic Growth Inventory.*

In addition, a literature review of neuroscientific studies regarding art therapy, concluded that art therapy "offers a non-threatening way for clients to access and express their trauma, creating a corrective experience in the brain" (Perryman, Blisard & Moss, 2019, p. 80) In other words, by engaging in environments and activities that are psychologically safe for processing one's traumatic experiences, neurological functioning can become more normative.

Given this strong evidence that cognitive process is enhanced by writing and non-cognitive processing is enhanced by visual art creation, and both are beneficial to one's health and well-being, it is also likely that there exists the same connection between these creative behaviors and PTG. Furthermore, it is also likely that other forms of creative behavior not explored in this chapter that facilitate self-expression would also likely be related to PTG.

Likewise, creativity thinking skills, such as divergent thinking, and creative thinking preferences are related to different facets of well-being (Acar at al. 2021, Puccio, Mance & Murdock, 2010). Divergent thinking is defined as the ability to come up with novel alternatives to a challenge. Due to the fact that one of the domains of measuring PTG is "new possibilities", or the ability to envision and see new possibilities for one's life, there is a logical connection between one's divergent thinking abilities and ability to see new possibilities for one's life. Therefore, it is possible that instruction in creativity thinking such as divergent thinking may help facilitate this domain of PTG. Thus, the integration of instruction of creative behavior and creativity thinking skills is theoretically linked to enhanced PTG outcomes.

Post Traumatic Creativity:
Creativity Instruction for Post-Traumatic Growth

Post Traumatic Creativity, as defined by the authors of this chapter, is creativity instruction focused on fostering increased adoption of creativity behaviors and creativity thinking skills as a way of inducing greater PTG prevalence and magnitude within the global population.

Instruction of creative behavior is focused on learning and applying skills associated with creative behaviors that allow for cognitive processing and rebuilding following a traumatic event, thus inducing PTG.

Instruction of creativity thinking skills, such as divergent and convergent thinking, is intended to help with learning, adaptation, and habitualization of creativity thinking in order to induce PTG. Since divergent thinking skills are explicitly dedicated to generating new ideas for life's challenges, so too can divergent thinking skills be used to think of positive repercussions of adverse events as well as new possibilities for one's life moving. It is theoret-

ically possible that the ability to generate new alternatives through divergent thinking can increase one's ability to re-create and sustain a worldview that is less likely to be shaken by traumatic events, thus contributing to PTG.

The authors of this chapter have led two creativity instruction courses in two diverse, global contexts, both of which produced anecdotal evidence linking creative behavior, thinking skills, and the presence of PTG.

Cross-Cultural Application of Creativity Instruction

The first cross-cultural application of creativity instruction took place in 2019 in Yangon, Myanmar - a country in Southeast Asia with a history of harsh dictatorial governance. Participants in this course (40) ranged in age from 16 to 40 years old with approximately half being female and half being male. All participants lived within the city limits and of lower income and social standing. Few had post-secondary educational experience. Additionally, no participant in this course had previously had any formal creativity training, and all disclosed symptoms of depression, anxiety, and/or general distress as a result of living under the dictatorship.

The second course was delivered throughout the 2021-2022 school year with a population of 6th grade English and Language Arts students located in an eastern suburb of Syracuse, New York. Roughly half the participants (50) were girls and half (50) were boys ranging in age from 11 to 12 years old. All came from upper-middle class or upper class families and had recently returned to full-time in-person learning following the Covid19 pandemic. Additionally, most had disclosed suffering from symptoms of depression, anxiety, or general distress in response to the pandemic and its consequences.

Though the programs provided instruction in different types of creative behaviors, the course in Myanmar delivering a course in Visual Art through painting, and the Syracuse, NY class receiving instruction in writing, we found that some participants showed signs of positive perceptions of negative life events.

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CHAPTER FOUR

AT THE NEXUS OF CREATIVITY, CULTURE, INNOVATION AND MOTIVATION IN DIVERSE GLOBAL TEACHER EDUCATION CONTEXTS

SREEMALI HERATH, ANTOINETTE GAGNÉ & MARLON VALENCIA

Abstract

Set against a backdrop of a pandemic, transnational mobility and shifting geopolitics that challenge our peace and stability, this chapter focuses on critical teacher education which is key in ensuring that teachers develop the skills, knowledges and sensibilities that are needed to address issues pertaining to the changing realities of schools. Drawing on pedagogical practices from different glocal contexts, the authors discuss how they worked at the nexus of creativity, culture, motivation and innovation with both preservice and inservice teachers to support them on their journey to become inclusive and transformative educators. Stepping away from conventional genres of academic writing, the authors adopt a conversational approach where they engage in a critical discussion to explore the complex relationships between creativity, culture, innovation and motivation in teacher education and the potential of creative practices to transform classroom pedagogy and the larger education structures.

Introduction

In this multi ethnography, we review our creative processes and practices in teacher education across contexts including Canada, Colombia and Sri Lanka in a world where the pandemic continues, geopolitics shift, transnational mobility increases and challenges to peace and stability multiply. Teachers work in an increasingly uneven world (Pennycook, 2022) where, as members of a global community, they cannot escape the effects of larger sociopolitical issues in different forms in their professional contexts. Our creative practices and processes are examples of critical teacher education which is key to ensuring that teachers develop the skills, knowledges and sensibilities that are needed to address issues pertaining to the changing realities of schools (Down & Smyth, 2012; Freire & Macedo, 1987; Gray, 2019). Drawing on pedagogical practices from different global contexts that we have researched (see Gagné, Kalan, & Herath, 2022; Gagné, Herath, & Valencia, 2018; Gagné, Herath, & Valencia, 2017a; Gagné, Herath, & Valencia, 2017b; Gagné, Schmidt, & Markus, 2017; Gagné & Schmidt, 2016; Gagné & Soto Gordon, 2015; Herath, & Valencia, 2015; Valencia, & Herath, 2015; Valencia, Herath,

& Gagné, 2020), we discuss how these creative practices and processes unfolded at the nexus of creativity, culture, motivation and innovation with both preservice and inservice teachers to support them on their journey to become inclusive and transformative educators as they work with increasingly diverse students. The questions that have guided us include:

- How are our critical teacher education processes and practices related to creativity, motivation, culture and innovation?
- How might our critical teacher education processes and practices influence the way preservice and inservice teachers work with their own diverse students?

We explore the generative power of creativity and creative practices in teacher education as our work is fuelled by the hope that if we engage with teachers in creative ways, they will in turn imbue their practice with creativity. Illustrative examples of our creative practices include: 1) Me Mapping Pedagogy which is identity focussed, multimodal and encourages teachers to draw on their full language repertoire as they learn to push back against traditional and conservative approaches to language and literacies education; 2) identity portraits generated by teachers, and) elements of the neuroscience of creativity for teaching that allow preservice teachers to unpack their own learning journeys and develop their own repertoire of practices to engage their future students.

This chapter is a multi-ethnography or a conversation between the three of us and incorporates aspects of visual ethnography. In order to provide a more textured understanding of our work, we first introduce ourselves. Then we engage in conversations about the literature that informs our praxis and the potential of multi ethnography and visual ethnography to infuse criticality and innovation into research writing. Next, we focus our attention on our pedagogical practices and how they scaffold preservice and in-service teachers' learning. We conclude the chapter with a discussion of how we understand the connections between teacher and student learning at the nexus of creativity, culture, innovation and motivation. To provide a more textured understanding of creativity and creative practices in teacher education, we have visualized some of the key concepts and provide images of our own creative practices and the creations of our preservice and inservice teachers.

Context

Sreemali: I think it's important that we first introduce ourselves, our teaching contexts and our practices before we launch into talking about creativity in teacher education. In this chapter, I want to share my experiences working with preservice and in-service teachers in Sri Lanka in the aftermath of Sri Lanka's civil war. I used identity portraits to get teachers to tap into their imaginaries and reflect on their professional identities and their roles and responsibilities towards their learners. The teachers' enthusiasm and passion for creating their identity portraits surprised me. The identity portraits the teachers generated gave me access to "complexities of teachers' lives" (Freeman, 2002) that would have not been possible through spoken or written genres of communication. It opened my eyes to the richness of teachers' professional

lives and the need to provide teachers with alternative means to reflect on their identities. Secondly, the identity portraits created by the teachers gave me the confidence to explore creative methods in my work with teachers. Using creative approaches and tapping into teachers' own creativity provided insights that would not have been possible through more conventional genres of academic expression such as spoken and written language. I will talk about the identity portraits generated by the teachers and how they leveraged teachers' understanding of themselves later in our conversation.

Antoinette: As you know, my career in teacher education spans several decades and various settings including Montreal and Toronto in Canada, Chile, Pakistan and other parts of the world. Although the teachers and schools were dramatically different across these contexts, my practices have always included a focus on self-knowledge and the transformative power of imagination in teacher and student learning for a more socially just world. I will describe Me Mapping Pedagogy which brings together a number of elements from processes and practices that I have infused in my work with preservice and inservice teachers for many years.

Marlon: I am a Colombian-Canadian teacher educator with research interests in teacher identities, digital literacies, and the role of creativity in imagination in teaching and learning. This year I taught a practicum course in our Certificate in the Discipline of Teaching English as an International Language (D-TEIL). Necessity pushed me to be creative and redesign my practicum course in a way that my teacher candidates could teach and learn online. Before the pandemic my students and I would normally travel to either Brazil, Colombia, or Cuba for three weeks to observe and teach in our partner institutions' classrooms. In 2021 when our international partners were all delivering courses online due to sanitary measures in response to Covid, it was easier to imagine a fully online experience. However, it became more complex when these universities in the global south had returned to an in-person delivery mode and several Canadian institutions were still not allowing their faculty or students to travel. Luckily, our host institutions and professors in Colombia arranged to have cameras and microphones set up in auditoriums or taught their classes in computer labs to accommodate us spending time with them via the Zoom platform. This experience highlighted the ubiquity of screens in teachers' and learners' lives as they welcomed different ways for us to observe and capture these lessons to reflect on later. In this conversation, I want to share how my thinking regarding creativity has evolved to effectively and happily teach online under such challenging circumstances.

Multiethnography and Visual Ethnography: Our Interrelated Methodologies

Sreemali: To strengthen our focus on creativity in teacher education, we adopt non-conventional or creative methodologies to present and analyze our data. We draw in from two methodologies — multi ethnography and visual ethnography.

Antoinette: Can you remind me of the key tenets of visual ethnography before we talk more about multi ethnography?

Sreemali: Visual ethnography includes studying the social world using drawing, photography, film, and digital tech-niques (Mannay, Fink & Lomax, 2019). With the increase of visual material that is generated around us every day through technology and social media, visual methodologies are increasingly used in social science and humanities research to make sense of the world we live in (Rose, 2016).

Marlon: For several years we have found it important to infuse visual material in our work with teachers.

Sreemali: Yes, that's true. We have been moving away from the tradition that the generation of visual data for research rests in the hands of the researchers (Harper, 2012). The three of us have adopted a more participatory approach to visual ethnography where the preservice and inservice teachers, with our guidance, have created the visual data. We will share some examples of our creative work with teachers later in the chapter. We with Holland (2004) that creativity offers teachers opportunities for resistance. In fact, Deleuze (2015/1987) contends that "every act of creation is an act of resistance." The transgressive artifacts the teachers create offer rich understandings of the worlds the teachers we work with inhabit and "how these representations shape the social landscape and subjectivities of social actors (Mannay, Fink & Lomax, 2019, p. 4).

Marlon: Thank you Sreemali for that quick overview of visual ethnography. Can you elaborate on multi ethnography?

Sreemali: Reflecting on our previous collaborative work, (see Gagné, Kalan, & Herath, 2022; Gagné, Herath, & Valencia, 2018; Gagné, Herath, & Valencia, 2017a; Gagné, Herath, & Valencia, 2017b; Gagné, Schmidt, & Markus, 2017; Gagné & Schmidt, 2016; Gagné & Soto Gordon, 2015; Herath, & Valencia, 2015; Valencia, & Herath, 2015; Valencia, Herath, & Gagné, 2020), we have experienced the unique potential of multiethnography in allowing us to step away from conventional genres of academic writing. Multiethnography allows us to approach our data through a conversation about the intersections between creativity, culture, innovation and motivation in teacher education (Banegas & Gerlach, 2021).

Multi ethnography is genealogically embedded in the narrative traditions of storytelling and William Pinar's concept of "currere" (1975). Multi ethnography allows the three of us to provide similar and different meanings to a common phenomenon - in this case, creative practices - as we experience them in our glocal contexts (Norris, 2008). Multi ethnography will provide us a space to not only report our experiences but also interrogate them in a collegial conversation. This conversation/storytelling will position us as researchers and the researched and enables us to simultaneously generate, interpret and analyze data. The storytelling, in fact, acts as an "invoker" of recall and re-examination of experiences (Barone, 1990).

Antoinette: Another unique quality of the multi ethnography is that it creates a third space for the readers to insert their stories. As we engage with each other interrogating and adding meaning to our experiences, the dialogic nature of our conversation invites our readers to engage in the conversation and self-interrogate. Norris and Sawyer (2012) call this act of inclusion "bracketing in." Multi ethnography provides the space for "artistic and analytic demonstrations of how we come to know, name, and interpret personal and cultural experience" (Adams, Jones & Ellis, 2015, p.1).

Marlon: Engagement in rich discussions amongst ourselves and with different people exposes us to diverse perspectives and allows us to make connections between ideas that may seem divergent, but which can combine in truly innovative ways.

Antoinette: I see connections to some of Paulo Freire's early work where he describes the concept of dialogue. In *The Pedagogy of the Oppressed*, Freire's (1970) seminal publication, he distinguishes between the 'horizontal' dialogue described as emancipatory and problematizing education and the 'vertical' dialogue described as oppressive anti-dialogue underpinning banking pedagogy (Freire, 1970). Shor and Freire (1987) explain that it is through dialogue that we can reflect together on what we know and don't know, we can then act critically to transform reality.

Marlon: So, I guess we are engaged in what Freire describes as horizontal dialogue as our conversations inevitably lead us to grow and broaden our perspectives.

Antoinette: That's right. In fact, Freire (1970) suggests that true dialogue cannot exist unless the partners engage in love, humility, faith, trust, hope, and critical thinking. His perspective on true dialogue assumes the positive connection between people with a drive to transform themselves as well as their reality.

Sreemali: I am reminded of the chapter that we recently wrote for a book on mentoring where we described the centrality of trust, respect and joy that has characterized our relationship spanning more than a dozen years.

Marlon: True. As multi ethnographers, it is important to highlight the convergences and divergences in our multiple identities. Our interests continue to converge around a commitment to social justice and critical teacher education and our identities as plurilingual educators and parents have allowed us to enjoy numerous collaborative activities in research, teaching, and knowledge mobilization. The ways in which we diverge have been equally powerful as these differences fuel our creativity. Figure 1 shows the fluid nature of our convergences and divergences.
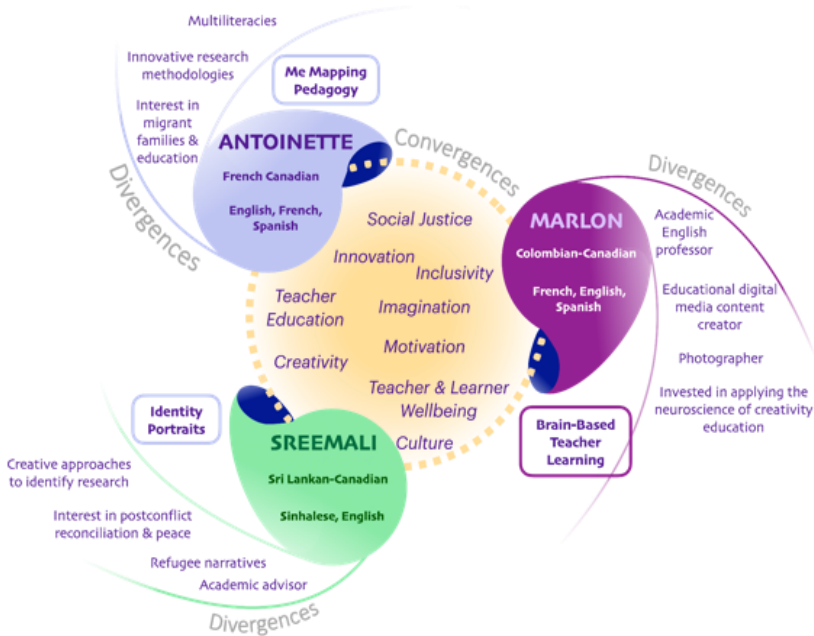
Figure 1: *Our Convergences and Divergences*

Antoinette: Our multi ethnography has grown from our conversations over time that have included email exchanges, chat messages as well as virtual meetings using various platforms. This has involved a process of deep and respectful listening, self-reflection and interrogation. The multi ethnography allowed us the creative space that more conventional research methodologies do not afford.

Literature Review

Antoinette: I think we need to draw on the literature from several fields to make sense of our creative practices and processes in teacher education. I also believe that we have to create a multidimensional lens to understand why these practices spark joy, create opportunities for teacher growth and eventually support student learning and the creation of more socially just spaces.
Sreemali: Critical teacher education is key to our discussion as our practices and processes have been driven by adopting a critical perspective.

Marlon: I have been reading a lot about the critical turn in teacher education which demands that as teacher educators we unsettle the common one-size-fits-all approach to teacher education based on highly Eurocentric and formulaic principles which can have a homogenizing effect on teacher education programs across the globe (Valencia, 2017).

I believe that as teacher educators, we have to contest the classist, monolingual, neocolonial, neoliberal, neo-national, gendered, and raciolinguistic narratives that are still highly pervasive in teacher education (Hawkins, 2011; Holborow, 2015; Kumaravadivelu, 2012; McIntosh, 2020; Pennycook, 2021, 2022; Wei & Garcia, 2022).

Antoinette: For the past 30 years or so, the notion of teaching methods understood as prescribed instructional procedures has been criticized because it does not recognize the need for teachers to adjust their practice to their context and diminishes teachers' sense of professionalism while stifling their creativity (Scholl, 2017).

Sreemali: In response to the negative effects of rigid teaching methods, Kumaravadivelu (1994) proposed the notion of postmethod pedagogy as an alternative. He proposed that teachers theorize from practice and practise what they have theorized. Later on, Kumaravadivelu (2012) suggested a postmethod approach to teacher education for a global society known as the KARDS model – Knowing, Analysing, Recognising, Doing and Seeing. The KARDS model rejects a technical orientation and instead addresses a more holistic and transformative approach to teacher education. In fact, I think that many aspects of this model are useful to consider as we deconstruct our teacher education practices. The spirals in Figure 2 suggest the dynamic nature of this model and the interconnections between each module.
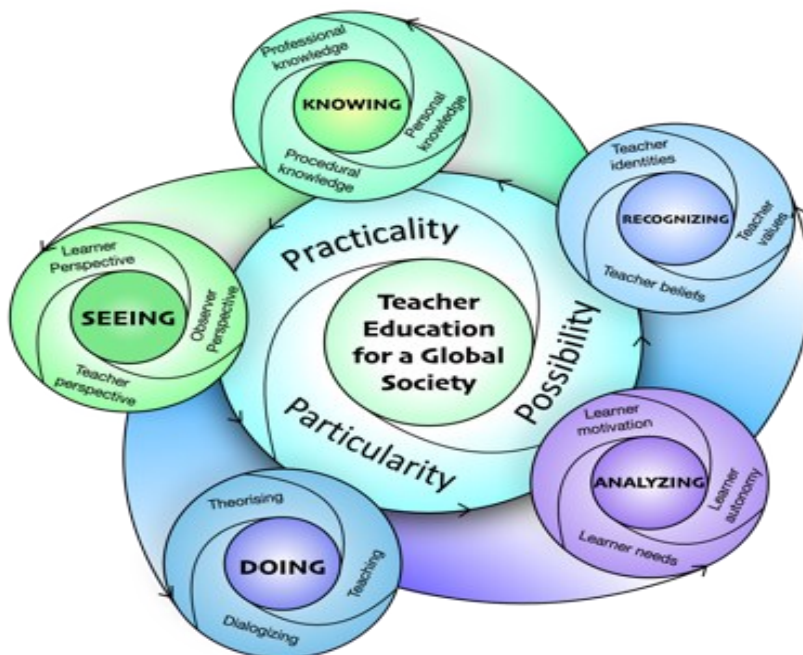

Figure 2: *Kamaravadivelu's Teacher Education for a Global Society: The KARDS Model*

Antoinette: He also proposed the three pedagogical parameters of particularity, practicality and possibility to guide the implementation of postmethod pedagogy and prioritize the particularity of the teaching context, legitimizing teachers' personal practical knowledge of teaching while unleashing the creativity of teachers and students (Kumaravadivelu, 2006). Once again the spiral in Figure 3 suggests how connected each parameter is to the other.

The principles of particularity, practicality and possibility which are central to the KARDS model have been influential when applied across a number of teaching contexts and also guide many of the choices I make as a teacher educator. Kumaravadivelu describes these parameters as follows:

> **Particularity** – '… teacher education must be sensitive to a particular group of teachers teaching a particular group of learners pursuing a particular set of goals within a particular institutional context embedded in a particular socio-cultural milieu.' (2001, p. 538)
> **Practicality** – 'Teachers must be enabled to develop the knowledge, skill, attitudes, and
> autonomy necessary to construct their own context-sensitive theory of practice.' (2001, p. 541)
> **Possibility** – 'As a pedagogy of possibility, postmethod pedagogy rejects the narrow
> view of language education that confines itself to the linguistic functional elements that obtain inside the classroom. Instead, it seeks to branch out to tap the sociopolitical consciousness that participants bring with them to the classroom so that it can also function as a catalyst for a continual quest for identity formation and social transformation.' (2001, p. 545).
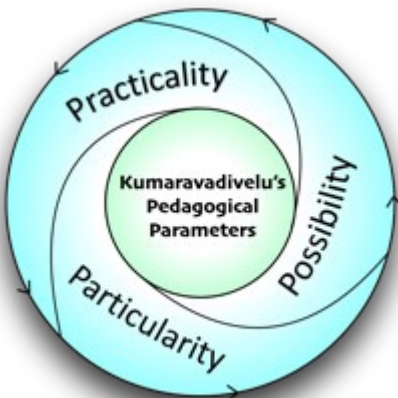

Figure 3: *Kumaravadivelu's Pedagogical Parameters*

Sreemali: Yes, Antoinette. I would like to draw your attention to one aspect of the KARDS model - Recognizing - which I feel lends itself well to our work. In the KARDS Model (2012), Kumaravedivelu highlights the importance of "recognizing" the teaching self. By this, he underscores the im-

portance of recognizing the convergence of teachers' identities, their beliefs and values in informing their praxis. Figure 4 from the larger KARDS model helps to visualize this. The creative work I do attempts to get teachers to recognize the diverse aspects of their teaching selves.
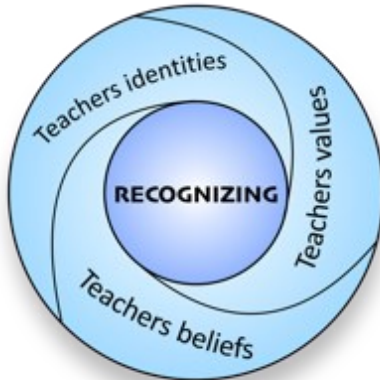
Figure 4: *Kumaravadivelu's Teaching Selves.*

Antoinette: Marlon, your interest in neuroscience has picked my interest and begun to influence how I think about working with teachers.

Marlon: It's true that I often insert a mention of research in these areas when you, Sreemali and I talk about our respective practices and processes in teacher education. Two important concepts that have sparked my creative endeavors in teaching and teacher education are emotions and creativity viewed from a neuroscientific perspective. Let me begin by telling you a bit about the work of Lisa Feldman Barrett (2018) which has been inspirational in my identity-focused work with teachers. She distances herself from what she refers to as 'the classical view of emotion' (p. 4) which roots emotions in easily measurable physiological fingerprints, that is, if you're happy, you smile, if you're sad, you make a sad face (whatever that is). She debunks this assumption as she shows how emotions are much more complex than that. Accordingly, Feldman Barrett argues that emotions do have a physiological base because after all, we perceive our experience of the world through our senses, and we convey/show our emotions using our bodies.

Antoinette: Ok Marlon, but don't other aspects of our upbringing have an influence on our emotions and how we look at and understand the world around us?

Marlon: You are on the right track Antoinette. Feldman Barrett also explains that our cosmovision and cultural upbringing (e.g., ethnic, linguistic, religious, national…) provide a powerful lens through which we filter our experiences and make sense of them. Last, she discusses the power of personal ex-

perience to make sense of the world, and which ultimately serves as a catalyst for 'how emotions are made' in our brains.

Sreemali: So does this mean that emotions such as anger, happiness, sadness, etc., are not universal and inherent features of our human condition?

Marlon: That's exactly what Feldman Barrett explains! She says that emotions cannot be detached from our unique social and personal life histories and that we experience them in particular ways. As such her research resonates with me and has helped me to make sense of the identity-focussed work we do with teachers.

Antoinette: I find that fascinating! And I definitely see the many connections between our identity-focused work and this more nuanced and realistic understanding of emotions that argues that emotions are made and not simply a product of evolution as human beings. Now I am curious to hear about what you learned regarding the neuroscience of creativity.

Marlon: Certainly! I first became interested in understanding more about creativity through a neuroscientific lens in my previous academic appointment at a postsecondary institution where creativity played an important role across the curriculum. I had the opportunity to carry out collaborative research with colleagues like Joel Lopata who taught courses on creativity based on neuroscience and cognitive psychology.

Antoinette: Yes, I remember inviting one of these colleagues to my graduate class as a guest to present on his approach to working with international college students that induced flow and sparked creativity.

Marlon: My concern about student engagement in online learning during the pandemic led me to get more insights and make more connections between my practice and the neuroscience of creativity. In a recent publication, Lopata and colleagues (2022) emphasize that 'while attention and engagement are critical, moments of disengagement are also beneficial in learning' (p. 80).

Antoinette: That's interesting, but what do engagement and disengagement have to do with creativity in teacher education?

Marlon: I will get to that. I find it interesting that so many educators have expended so much energy to find ways to facilitate the voluntary engagement of learners while entirely disregarding the important role of disengagement as part of the learning process.

Sreemali: Yes! I can tell you that planning for student disengagement is not something one often sees in lesson plans. On the other hand, I know a lot of teachers who use the revised version Bloom's Taxonomy (Anderson et al, 2001) to guide them in planning lessons. This is a conceptual framework commonly used to make pedagogical decisions. In Anderson et al's (2001)

revision they opted for the word 'create' as opposed to 'synthesize' as the top item on the pyramid often used to portray this taxonomy. This is a significant recognition of the importance of creativity as part of the learning process which builds from remembering all the way to creating as visualized in Figure 5.

Figure 5: *Bloom's Taxonomy*

Antoinette: I am still having difficulty seeing the connection between disengagement and creativity in teacher education. Can we get back to this?

Marlon: Sure Antoinette. In their work, Lopata et al (2022) discuss how creative individuals can easily engage in the use of dual-process modes of creative cognition. These dual modes involve the use of three different but interrelated brain networks which are: 1) the default mode network (DMN), 2) the executive control network (ECN) and 3) the salience network (SN). Accordingly, the DMN is used when we work with low external demands; that is, when our minds wander or when we are thinking introspectively. On the other hand, we rely heavily on the ECN when we are doing task-oriented work and we are focused on achieving particular goals. Last, the SN's job is to modulate and control our use of both the DMN and the ECN. Therefore, to enhance the ideation process represented in Figure 6, it is recommended that teachers plan lessons where learners have numerous opportunities for their minds to roam without constraints; thus, facilitating a freer ideation process. Then, from those ideation processes, learners or, in the case of teacher education, preservice or inservice teachers can select their best ideas to 'produce new or original work' as described in the revised version of Bloom's Taxonomy (Anderson et al, 2001).
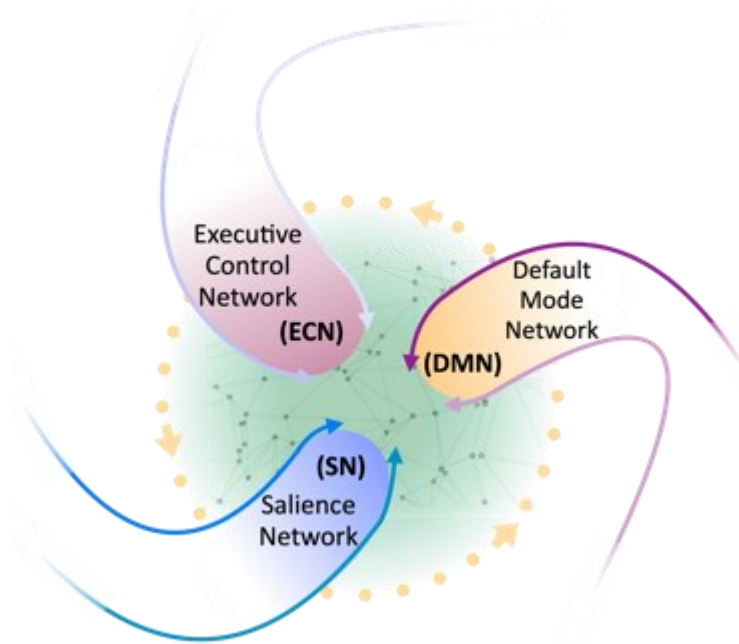
Figure 6: A *Representation of the Ideation Process*

Antoinette: This is very interesting! I can see what you initially said about including both moments of engagement and disengagement, allowing learners' minds to wander, but then, going back to being engaged in creation. As I know that flow is another concept we are both interested in, can you tell me what, if any, is the relationship between flow and disengagement?

Marlon: The important consideration that we must keep in mind is that student attention goes up and down, especially during long classes such as three-hour seminars or lectures that are common in North American universities and in teacher education programs in particular. Therefore, facilitating a state of flow (Csikszentmihalyi, 1990) in which learners experience complete engagement and even absorption in their learning tasks or processes, should definitely be part of one's lesson plan but that should not be all!

Antoinette: I recently watched Csikszentmihalyi's 2004 TedTalk where he explains that the flow concept originated from his interviews with creative individuals who described different ways of 'being in the zone' or fully immersed and energized with feelings of joy. He also described some of the conditions required to experience flow which got me thinking about how we can facilitate flow for preservice and inservice teachers so they might benefit from increased happiness, higher intrinsic motivation, greater creativity, and

better emotional regulation, among other positive effects associated with finding flow.

When I consider the key factors that Csikszentmihalyi (1990) found contribute to the flow state, I can see that it is possible to create a flow-supporting context in courses or workshops for preservice or inservice teachers by doing the following:

- Setting clear goals for a task and provide continuous feedback as appropriate.
- Explaining the need for intense focused concentration to complete the task.
- Ensuring that the task balances the skills required and the challenge level of the task.
- Building in some options to ensure that my students feel a sense of personal control and agency over the task.
- Explaining the rationale for the task and clarify that there are no 'right' answers so that my students' level of reflective self-consciousness is lowered.
- Reducing distractions by suggesting that multitasking goes counter to finding flow. I can make sure that the task is inherently pleasant for my students.

In fact, I think that Me Mapping Pedagogy has the potential to induce flow.

Three Conversations Centred on Our Processes and Practices

Sreemali: As we discuss some our own practices and experiences, it will be interesting to explore how the concepts of creativity, culture, innovation and motivation interact and intersect with some of the literature that has influenced our work with preservice and inservice teachers who teach diverse learners amidst realities such as war, poverty, privatization of education, linguistic imperialism, and migration.

Me Mapping Pedagogy

Antoinette: I want to begin by introducing you to Me Mapping Pedagogy which is at its core identity-focussed and multimodal. It provides preservice and inservice teachers with the opportunity to showcase their plurilingual repertoires and important milestones in their lives while sharing their dreams and hopes for the future. Developing their own Me Maps allows teachers to push back against conservative approaches to education and to imagine a future for themselves and their students which is more inclusive.

Sreemali: Can you explain how this happens?

Antoinette: When infusing Me Mapping in teacher education, preservice and inservice teachers begin to recognize the diversity and strengths of their students and use an asset-based approach to support them. In addition to experi-

encing Me Mapping Pedagogy themselves, teachers are invited to access the Me Maps generated by multilingual students on the Me Mapping with Multilingual Learners site (https://sites.google.com/view/memapping/) to 1) reflect on the diversity of learners, 2) create detailed profiles of learners, 3) assess the language proficiency of learners and 4) consider ways to support their language and literacy development. We encourage teachers to explore ways to adapt Me Mapping pedagogy to meet specific goals of their programs and contexts.

Figure 7: *Teachers Learn about the Diversity of Learners by Exploring their Me Maps*

Marlon: Are any aspects of the KARDS model central to Me Mapping Pedagogy?

Antoinette: The three pedagogical parameters of particularity, practicality and possibility. The Particularity parameter is taken up by focussing on learning about oneself and one's students. The Practicality parameter is enacted through the direct experience with Me Mapping in courses and workshops for teachers. The Possibility parameter is visible as teachers work with the Me Maps of students and recognize them as much more than students trying to master a particular subject but as multifaceted individuals with unique backgrounds as well as hopes and dreams for their future.

Sreemali: It seems to me that some of the KARDS modules proposed by Kumaravadivelu must be foregrounded in your Me Mapping work with teachers.

Antoinette: You're right. The Recognizing and Analyzing modules are indeed infused in how I operationalize Me Mapping Pedagogy in teacher education.
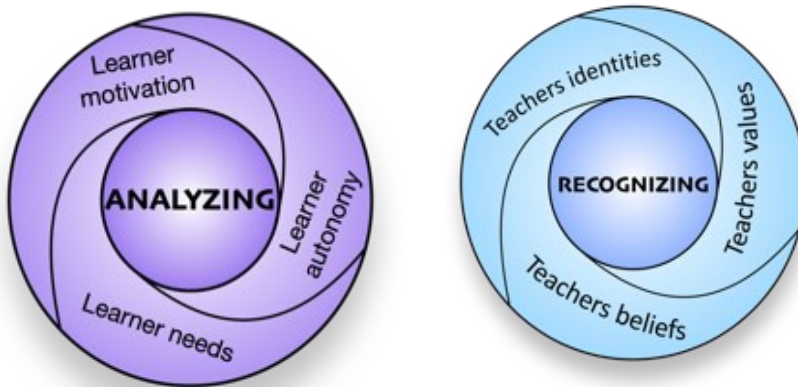
Figure 8: *Kumaravadivelu's Analyzing and Recognizing Modules for Teachers*

The Analyzing module of KARDS recognizes that students in today's world need to develop strong intercultural communication skills driven by the idea of global citizenship that is firmly rooted in local identities (Lamb, 2004). Teachers in turn need to learn how to motivate student learning by getting to know them better and engaging them in making choices about what and how they want to learn about the world around them with information technology and social media as central forces.

Sreemali, like you, I am deeply invested in the Recognizing module which places importance on teachers becoming aware that their identity shapes their perceptions about what constitutes teaching and learning and understanding that their beliefs influence how they interpret classroom events and activities. Like Kumaravadivelu, I believe that teacher education must help teachers become aware of their subject positions as well as the possibilities for personal and professional identity transformation. Teacher education must help teachers to analyze their beliefs and critically reflect on them.

Marlon: What are the other theories and concepts that underpin Me Mapping pedagogy?

Antoinette: Freire's (1970) humanizing pedagogy, where students are not viewed as passive learners but are encouraged to express their consciousness through education is central to Me Mapping. Humanizing pedagogy encourages educators to listen to their students and build on their knowledge and experiences to engage in contextualized, dynamic, and personalized educational approaches that further the goals of humanization and social transformation. The reality of the learner is crucial in humanizing pedagogy where

81

educators actively inquire into students' identities inside and outside of school to further understand the diversity and multiple identities of their students and the cultural differences that affect teaching and learning.

Marlon: It is exciting to see how Freire's ideas come to life in Me Mapping Pedagogy more than 50 years after the publication of his seminal Book "The Pedagogy the Oppressed"! However, it pains me that so many of Freire's transformative concepts regarding education have not been taken up in more contexts around the world.

Sreemali: Don't forget the work of Jim Cummins' that spans several decades as he has proposed a number of frameworks that help to operationalize Freire's ideas.

Antoinette: It's true… Embedded in Humanizing Pedagogy is Cummins' (2009) Transformative Multiliteracies and Literacy Expertise Framework which views students as intelligent, creative and able to participate in constructing knowledge through the creation of identity texts. Cummins' framework emphasizes students' prior knowledge and the need to involve them in cognitively engaging activities leading to knowledge construction and dialogue via art and technology, as well as how teachers/mentors can accomplish this by focusing on meaning, language and use (Cummins, 2006; Cummins, 2009; Cummins, 2011; Cummins et al., 2015).

Marlon: You mentioned earlier that Me Mapping allows students to showcase their plurilingual repertoires. How does this tie in with humanizing pedagogy?

Antoinette: Me Mapping Pedagogy also recognizes the humanizing aspects of translanguaging (Garcia et al. 2017) which acknowledges that multilingual learners need to be able to use their linguistic resources to make sense of and interact with the world around them. In Me Mapping Pedagogy, teachers create space for their students to use their full linguistic repertoire rather than insisting on the use of only one language.

Sreemali: I was thinking back to what Marlon was saying about emotions earlier and how our experiences of the world act a catalyst in the 'making' of emotions. I was wondering how emotions factor into Me Mapping Pedagogy if at all.

Antoinette: Emotions play an important role in Me Mapping Pedagogy. When learners feel that they are seen and heard, they typically feel safe, happy and confident. By focussing on aspects of one's past, current and future self, Me Mapping Pedagogy elicits a range of emotions that make the experience of engaging in Me Mapping more memorable. Joy, sadness, anger, and a range of other emotions emerge as teachers and students map themselves.

In addition, the notion of mutual vulnerability underpins Me Mapping Pedagogy as teachers must be willing to open to their students to facilitate their students sharing about their lives and experiences. Keet, Zinn, and

Porteus (2009) define mutual vulnerability as "the pedagogical process that allows teachers and other authority figures to open up and render their frames vulnerable for learners and students to risk their full participation in the pedagogical transaction (p.110). Figure 9 shows how these various concepts flow through Me Mapping Pedagogy.

Figure 9: *Theories and Concepts Informing Me Mapping*

Sreemali: Can you provide some examples of your practices with teachers to highlight the nature of Me Mapping?

Antoinette: Sure. For example, to support teacher learning, I encourage teachers to explore their own plurilingual journey by engaging in Me Mapping activities that involve the creation of linguistic portraits, timelines, language flowers and so on. Reviewing their plurilingual journey requires preservice teachers to think about the languages in their lives, map out their language learning journey, and reflect on the relationship between their language, culture and identity. Teachers can share their plurilingual journey in the form of a video, PPT, blog post, artwork and other formats so they can reflect on the relationship between languages, cultures and identities.

Marlon: I heard you mention culture and I see how it is interwoven into all aspects of Me Mapping Pedagogy. Do you have any sense of how Me Mapping can be understood through a neuroscientific lens which is my new passion?

Antoinette: As Me Mapping Pedagogy allows teachers to explore a range of

aspects of their lives and experiences as well as to imagine their future, it incorporates a range of practices that allow teachers to engage and disengage as well as draw on different neural networks as they generate their Me Maps. I see how flow occurs for some teachers as they immerse themselves in mapping the terrain of the self multimodally.

Below are some examples of what teachers created while working with one of my colleagues, Shakina Rajendram, who is also a teacher educator. Figure 10 shows an adaptation of the linguistic portrait activity where a teacher has drawn a portrait of a plurilingual teacher.

Figure 11 is one teacher's language portrait with the ten languages he connects with identified in different colours. Figure 12 is a screenshot of a video clip of two teachers explaining their timeline. Figure 13 shows an excerpt of a bilingual poem created by three teachers working together and Figure 14 is an example of one teacher's language flower with their different languages and how they use them on each petal.
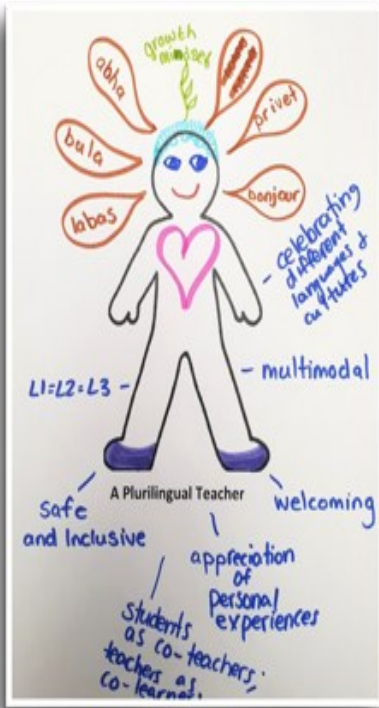
Figure 10: *An Adaptation of the Linguistic Portrait*

Figure 11: *One Teacher's Language Portrait*

Figure 12: *Screenshot of a Video Clip of Two Teachers Explaining their Timeline*

Figure 13: *An Excerpt of a Multilingual Poem Created by Three Teachers Working Together*
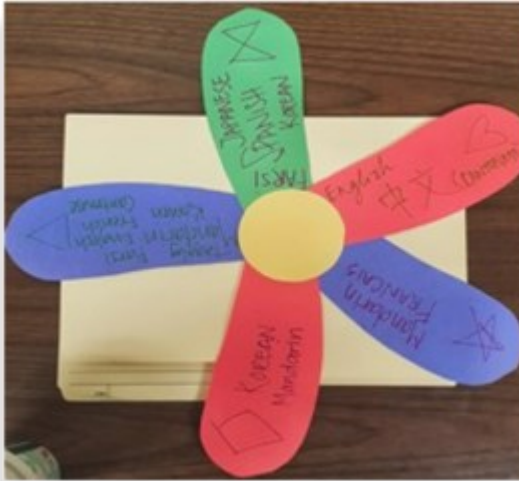
Figure 14: *Example of one Teacher's Language Flower with their Different Languages and their Uses*

Sreemali: I can see lots of connections to the way I work with preservice and inservice teachers in an attempt to make them more self-aware.

Antoinette: Another learning opportunity for teachers that integrates the Me Mapping videos produced by multilingual learners is the creation of the profile of a student. Teachers are asked to select and view the Me Map of any learner posted on the Me Mapping site (https://sites.google.com/view/memapping/) as well as do additional research on the background of the learner. This might include finding out about the characteristics of the languages they speak, researching the political, sociocultural and geographical landscape of the learner's home country, finding out about the cultural traditions and festivals the learners talk about in the video and so on.

Additionally, teachers are asked to assess the oral language proficiency of the learner. The culminating task is for teachers to create a profile for the learner with individualized recommendations for how to support language learning, academic success, social adjustment, and emotional well-being.

Figure 15: *Preservice Teachers Review one Learner's Me Map to Create a Profile*

In Figure 16, you can see a few screenshots from one preservice teacher's presentation of the profile of Aakifah, a Grade 6 multilingual learner from Afghanistan. Some elements of Aakifah's profile include 1) her family, aspirations, interests, age, languages, and countries she's lived in, 2) a timeline to show her birth in Afghanistan, her move to Canada, when she started schooling, and other important milestones, 3) the cultural and religious traditions essential to Afghan culture, 4) the characteristics of the languages that Aakifah speaks, and their similarities and differences to English. The preservice teacher has researched items 3 and 4 as there were not part of Aakifah's Me Map. The profile also includes the preservice teacher's assessment of Aakifah's speaking abilities with examples from Aakifah's Me Map to support the assessment. Finally, the preservice teachers suggest strategies to support Aakifah's learning of English which is her new school language.

Figure 16: *One Teacher's Profile of Aakifah based on her Me Map*

Marlon: It's great to see the rich multimedia content on the Me Mapping website and how it has led to teacher engagement with such important issues. Hearing about Me Mapping has made me feel even more confident that my focus on visual ethnography and the development of digital multimedia content is the way forward in teacher education.

Antoinette: It really has been heartening to observe the growth of teachers as they experience Me Mapping. By learning about the linguistic and cultural repertoires of the learners, preservice teachers developed professional and pedagogical knowledge about linguistically and culturally responsive pedagogy from the ground up. Kesha who migrated to Canada when she was in Grade 2 explains:

> It's important to give them the space to express their identity… I came from Sri Lanka, and I really enjoyed sharing how I lived back home and about my culture. I think what was really apparent in the

Me Mapping videos is that all of the students really enjoyed talking about themselves. And, you know, using their first language has to do with their culture as well. It's very much tied together. At the end of the day, students want to know that you're taking an interest in them and that you care about how they're how they're doing. So incorporating activities that are meaningful to students is really important in engaging them in any kind of learning.

Nicholas, a preservice teacher who was born and raised in Canada, came to a realization of the importance of linguistically and culturally responsive pedagogy when he learned about his own linguistic and cultural identity through Me Mapping. What he appreciated about Me Mapping was that it helped students.

What I appreciated about the Me Mapping activities is to help the students acknowledge that where they come from is very important, and to embrace their own culture. Doing the Me Mapping activities myself helped me to learn about myself. It's important for educators to know where they come from, to acknowledge their own biases, their own opinions. Prior to this, I didn't consider myself an English language learner. I was like, I've only learned English really. And I grew up speaking English. But that was all kind of turned upside down as soon as I did these activities myself, and I now really appreciate it… So that's kind of a pedagogical shift, if we are going to embrace other cultures.

The feedback from teachers who have experienced Me Mapping Pedagogy reveals that it has helped them to view their own languages and cultural experiences as well as their students' languages and culture as valuable and legitimized. In short, Me Mapping Pedagogy promotes an assets-based way of viewing multilingual learners.

Identity Portraits

Sreemali: In my work with preservice and inservice language educators, I use identity portraits or body silhouettes to get teachers to reflect on their identities; their beliefs about teaching, pedagogical practices and their students; and their expectations for themselves and their students. I present teachers with a body silhouette and a box of crayons and ask them to map out their sociocultural identities and their expectations towards diverse learners using words, colours, pictures, cartoons and/or photographs to best represent the different elements of their "teaching selves" (Kumaravadivelu, 2012).

Marlon: **What is the connection to creativity?**

Sreemali: This activity recognizes the centrality of creativity in higher order learning as in the revised version of Bloom's taxonomy (Anderson et al, 2001). After the teachers complete their identity portraits, I get them to narrativize and interpret theses. This emic perspective prevents me from making inaccurate inferences. As recommended by Busch (2010) and Gauntlett &

Holzwarth (2006) researchers who employ creative visual methodologies should get the creators to interpret their work. The identity portraits and their accompanying narratives allow me to gain deeper and more nuanced understandings of how teachers conceptualize their professional identities.

Antoinette: If I understand this correctly this shift from solely relying on spoken and written language to visual and creative means of meaning-making necessitates an epistemological rethinking of "data generation" (Mason, 2009) as a creative process in which teachers are empowered to provide their emic perspectives (Prasad, 2014) of what it means to be an educator.

Sreemali: I have experienced firsthand the power of visual and creative methods of inquiry. They have the potential to challenge traditional notions of inquiry that are primarily reliant on written or spoken language and are based on the premise that language alone is insufficient to explore the social world. The emphasis on creative means makes identity portraits a more inclusive tool to tap into one's identity. The adoption of creative methods provides a "different way into a research question…and engages the brain in a different way" (Gauntlett & Holzwarth, 2006, p. 84). I see how teachers map out aspects of their identities that would not usually emerge in a conventional interview.

Antoinette: You explained how this activity pushes teachers to tap into their creativity. Can you tell us about the epistemological premise of identity portraits and how generating identity portraits can motivate teachers to be innovative?

Sreemali: I was first introduced to identity portraits by Gail Prasad in a doctoral seminar conducted by Jim Cummins when I was a doctoral student at OISE, University of Toronto. She built her work on Brigitta Busch's (2006, 2010) research with school children in South Africa that emphasizes the importance of visual representations in meaning-making processes in social life. Busch's (2010) work stresses how certain aspects of our lives cannot be verbalized but instead operate unconsciously. To use her own words,

> The switch in mode of representation from word to image helps to deconstruct internalized categories, to reflect upon embodied practices and to generate narratives that are less bound to genre expectations. While the logic of the word is characterized by a time-bound linear sequence, visual representation is characterized by space and simultaneity and requires attention to the ways in which the various components of the picture relate to each other. Language portraits thus foreground the current situation rather than emphasizing the path which has led to it. (p. 286)

These identity portraits are similar to what Cummins and Early (2011) call identity texts, i.e., products of students' creative work or performances that allow learners to invest their identities in their creations (Cummins, 2006). Identity texts are a powerful pedagogical tool that promotes equity and

social justice among students from marginalized backgrounds. I noticed that the switch in the mode of engagement to visualizing their identity and away from writing, motivated teachers to be innovative. I have always seen how enthusiastic teachers get when we ground activities, discussions, and projects around the teachers, their identities, teaching contexts, experiences and challenges. I imagine that the motivation to be innovative and create these rich and nuanced identity portraits is, in part, tied to novelty as teacher education in many contexts remains quite conventional.

Marlon: That is a concern I have too. I often think about the performativity (Butler, 1990) that underpin the creative activities I assign my students. After all they create to share with me, the professor.

Antoinette: Can I shift your attention to culture? Can you share with us some examples of the identity portraits your teachers created and elaborate how the teachers conceptualized culture? What elements of their culture did they share?

Sreemali: That's a very good question, Antoinette. I will share with you examples of creations to elaborate how identity portraits assisted teachers to engage with culture and their multiple cultural identities.

The identity portraits created by the preservice teachers highlight how they identify themselves primarily by social or institutional identities such as their religions, language and ethnicity. Coming from segregated communities and schools, these preservice teachers sometimes have difficulty situating themselves in the larger educational fabric. As you can see in the identity portraits in Figure 17, the teachers placed their religion on their heart or face. As a researcher who has worked extensively on postconflict reconciliation, it is worrying that these prospective teachers have failed to develop more inclusive pan Sri Lankan identities that Sri Lankan teacher education programs envision for their graduates.
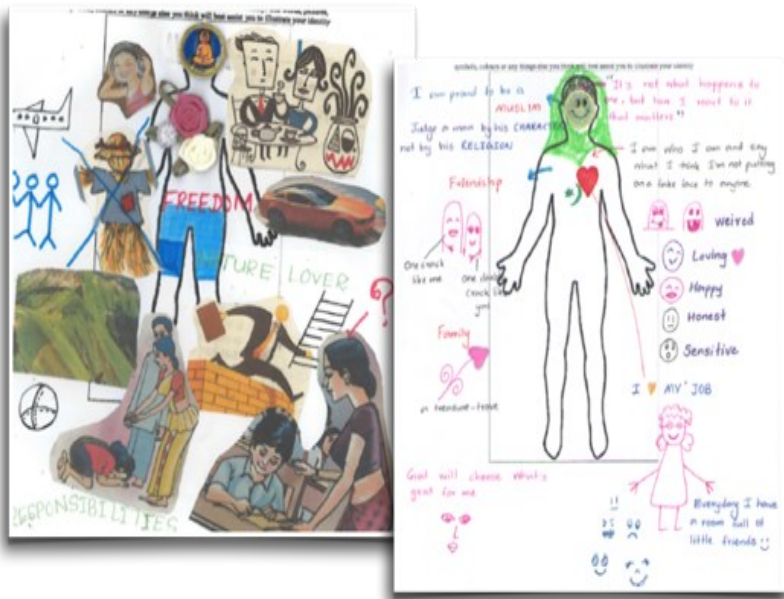
Figure 17: *Identity Portraits Created by Preservice Teachers*

Contrary to the identity portraits generated by pre-service teachers, the inservice teachers' identity portraits are much more nuanced and show the complexities of their teaching selves that go beyond institutional labels. As you can see in Figure 18, the more experienced teachers mapped out their identity, beliefs and values (Kumaravadivelu, 2012). For them, being a teacher means the convergence of their multiple personal, professional and social cultures.

Figure 18: *Identity Portraits Created by Inservice Teachers*

Making an identity portrait provides teachers with a creative space to map out their identities and articulate aspects of their identities that might not have been possible otherwise. This is a creative tool that can be used in teacher education to help teachers reflect on their professional identities and also their growth over time.

Antoinette: Are you saying that the identity portraits your teachers create are close reflections of their lived experiences? For me knowing my students, their interests, their experiences, and plans is important. That is one of the reasons why I carry out identity-based creative activities with both the preservice and inservice teachers I work with. They help me understand my students well. You probably noticed the strong connections between Me Mapping Pedagogy and identity portraits as they are one way of mapping the teacher self.

Sreemali: Of course, Antoinette I see these connections! The identity portraits have really opened my eyes. I learned how critical incidents in teachers' past can shape their professional lives. Let me share with you Nilu's identity portrait (Figure 19). She grew up in northern Sri Lanka amidst the civil war. Unlike many other preservice teachers who grew up in safer parts of the country whose identity portraits went beyond the body silhouette, and spoke of their futures and ambitions, Nilu's identity portrait was confined to the

here and the now. It reflected her family position as daughter and sister, the identities that were assigned to her such as religion, language and ethnicity as well as her identity as a teacher and her role in the community as the Treasurer of the Women's Society.
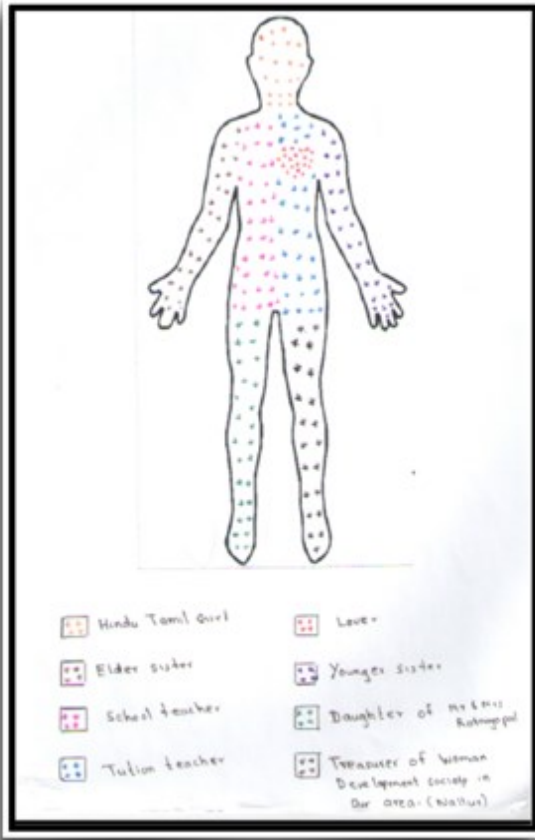
Figure 19: *Nilu's Identity Portrait*

In contrast to Nilu, Waseem (Figure 20) who grew up in a multicultural city in the Central Province in a household where Tamil, Sinhala and English were spoken, created a portrait that spoke loudly of many dreams, plans, interests, hobbies connected to his many identities. The freedom he experienced growing up, allowed him to dream. I think having access to these critical experiences is key in helping teachers develop a better understanding of their identities and explore ways in which we can develop inclusive pedagogies that build on identity.

Figure 20: *Waseem's Identity Portrait*

I also got an insider view on what it means to be a teacher in a Sri Lankan school and the conditions that shape practice. Look at Figure 21. These two identity portraits were created by two teachers who worked in very different parts of Sri Lanka — Jaffna, in the Northern Province which was affected by the 30-year war and Colombo, the capital of Sri Lanka. I call these identity portraits the "Shackled Angels" because they show the teachers' desire to fly and how they are chained to the ground by various social and economic factors. These creations have helped me develop more creative and critical approaches in my teaching.

This activity is closely linked to Freire's (1970) notion of humanizing pedagogy that you discussed earlier, Antoinette. Identity portraits allow teachers to build on their experiences and knowledge and allow me, the teacher educator, to develop contextualized pedagogies that centre around the particular (Kumaravadivelu, 2012). As you point out, tapping into teachers' lives outside of school is an important element of humanizing pedagogy.

Figure 21: *The Shackled Angels*

Marlon: Can you tell us how your teachers incorporate aspects of identity-focussed practices in their work with students?

Sreemali: Yes, Marlon. My students use this activity in multiple ways. First, they use it as a self-reflective tool. The English language teachers I work with are not first language users of English. For them, English is their second or third language and sometimes a foreign language as well (Herath, 2020). This creative activity helps them to reflect on their pedagogical practices, the conditions they work in and the larger socio-political factors that shape their work and their students' learning without being hindered by oral or written language. Articulating their teaching selves creatively helps them to be more informed of their practices. Some teachers use this activity as a pedagogical tool to learn more about their learners and make their classes more inclusive. In addition, some inservice teachers completing graduate degrees use identity portraits as a research tool to tap into teachers' and students' identities. In

fact, several of my graduate students have been very successful in exploring various aspects of language education using identity portraits.

Antoinette: It is great to hear that identity portraits can be used with learners of various ages as a pedagogical practice or as a research tool.

Brain-Based Learning & Teaching Online

Marlon: I have been reflecting on how what I have learned about brain-based learning and creativity has influenced the way I teach. I'd like to tell you how my teaching has evolved through the lens of my English language and practicum courses for students considering a career teaching English as an international language. During the pandemic, I explored how to 1) effectively combine synchronous and asynchronous online instruction, 2) embrace teaching as a creative endeavour, and 3) prepare my preservice teachers for video-mediated classroom observation via Zoom by engaging them in visual autoethnography.

Sreemali: I look forward to hearing about how you have taken up concepts related to the neuroscience of learning in an online environment. As I move between teaching in person to teaching online, I think about the affordances each mode provides.

Marlon: There are still frequent debates, and, I'd even say complaints among my colleagues about how teaching remotely is not the same as teaching in person, and they are right. It's definitely not the same! However, I feel strongly that the quality of education that we provide does not have to be inferior when we teach online. What I mean is that an online class doesn't have to be some sort of watered-down version of its in-person counterpart.

Antoinette: I think that some of our colleagues try to replicate what they do when they teach in the bricks-and-mortar classroom and this is why they find teaching online so unsatisfactory.

Marlon: The difference between teaching online and in person is what motivated me to transform the three-hour lecture format of my courses by combining asynchronous and synchronous teaching. For example, in classes where I taught English as an additional language, I had students do asynchronous work for the first hour and then we met on Zoom during the second hour when they often did group presentations related to course materials. The last hour was devoted to further language practice or reflection.

Sreemali: Could you provide some more detail about what happening in each of the three hours of your class.

Marlon: Sure. The first 'asynchronous' hour started with a pre-recorded mini-lecture or introduction to the topic of the week and a list of activities posted on eClass, our learning management system. These activities had to be completed during the first hour. During the second hour, we met via Zoom and

my students did group presentations related to course readings or we discussed course materials. The third hour involved asynchronous work and the students typically worked independently researching and reflecting on the topics discussed in the previous hour. My courses that focussed on becoming an English teacher typically involved an hour of asynchronous work followed by two hours of synchronous work characterized by rich discussions of assigned reading and viewing.

Sreemali: I have seen snippets of some of your mini-lessons on social media and I am curious about the rationale for these mini-lessons and the process involved in creating them.

Marlon: These mini-introductory lectures were usually five to seven minutes long. I recorded them in my makeshift studio at home. I produced the videos using different digital media tools such as *iMovie*, *Camtasia* and *VoiceThread* and then posted them on *YouTube*. You can see a screenshots of one of these mini-lessons using a green screen and produced using *iMovie* in *Figures 22* and *23*. It was a lesson on the history of the English language, so we talked about Anglo-Saxons, kings, battles, and invasions. In this lesson, I played the role of a fictional king, Marlon the Elder.

Figure 22: *Mini-lesson editing on iMovie*

Figure 23: *Lesson delivered by King Marlon the Elder*

In creating this digital content, I was mindful of the plethora of videos that already exist on YouTube as well as the nature of the content and viewer habits. I'm curious, how do you decide which informative or educational videos to watch on YouTube?

Antoinette: I'd say the length of the video is probably the most important as I typically don't want to spend more than 5 minutes to find the answer to a question I have about a process or product. Of course, the content and quality matter too as when I go searching for information, I want to find an answer to my questions. The style of the presenter also plays a role in determining if I watch the video as I find some 'YouTubers' quite annoying. I imagine that your videos featuring King Marlon or other characters made your students smile or even laugh bringing positive energy into their virtual learning.

Sreemali: I agree that these mini-lessons have a fun and funny side. Turning back to your question Marlon, I usually won't opt for video that is more than 8 minutes long. Sometimes I find myself skipping to different parts of a video review to see the specific thing that I want to learn about and not the whole thing! Actually, it seems increasingly common practice that longer videos are segmented so you can easily skip to the part that you want to watch. Tell us more about your rationale for these mini-lessons.

Marlon: Absolutely! I created the short videos lessons as a way to connect to my students using one type of web 2.0 (user-generated) digital content that they are already familiar with and leverage that to activate their prior knowledge on the lecture topic. Now, to return to our conversation on the neuroscience of creativity, my lessons usually begin with some sort of a crescendo of engagement leading to time for 'off-task' reflective thinking. This reflection might involve taking part in an online conversation on eClass where students post comments and respond to each other. When I teach

online, I try to create spaces for students to engage both their Default Mode Network (DMN) and Executive Control Network (ECN). Combining asynchronous and synchronous online activities supports preservice teachers in making connections between theories of teaching and learning and practical applications. I try to provide opportunities for divergent thinking and task-focused work in every three-hour class.

Sreemali: Now I have a better understanding of how you're building on the neuroscience of creativity to plan and deliver your lessons. What other activities did you do in your class to put creativity in the spotlight?

Marlon: In addition to dual modes of teaching, I provided opportunities for my students to discover their creative selves. In the second half of the practicum course, we focused on wellbeing and used Sarah Mercer and Tammy Gregersen's textbook *Teacher Wellbeing* (2020). As we read and discussed every chapter, I provided my students with opportunities to examine how they activated their creative and productive modes. This included considering internal and external factors, such as the pressure of looming deadlines, enjoying a good restorative sleep – something that seems like a luxury these days- or rewarding themselves with breaks. We also explored the moments and conditions under which we experienced our own 'Eureka' moments. That is when our brains are highly creative. I shared with my students how taking a shower is one of those moments that unleashes my creativity. I explained how the 'four white walls in a tiny room without distractions, the warm water touching my skin and listening to the white noise produced by the water calmed me'. My most brilliant ideas often come to me in the shower!

Antoinette: I see what you mean. When I do an activity that requires little attention because I am involved in a process that has become automatized in my brain like when I go hiking kayaking or swimming, my mind is free. I can relate to the feeling you describe as when I am kayaking alone on the lake I sometimes come up with new ideas to address an issue or solve a problem. I think that sometimes I even experience flow when I am surrounded by trees and animals sliding across the water powered either by my own energy when I am swimming or by paddling in the kayak.

Marlon: That is precisely the background thinking and problem-solving that can happen when we can let our DMN take over! In class, we also discussed the importance of having a hobby to provide our minds with a much-needed break from work and stimulate one's own creative thinking. I think that anything that we do to find joy in our lives goes a long way to prevent teacher burnout by making teaching not only sustainable but enjoyable. Moreover, this could possibly allow us to more easily transition between the DMN and ECN. For me, the activity that sparks my creativity and curiosity is photography!

Sreemali: Well, we know that for sure! You have always been our group photographer when we go on conference trips and for any academic events

that we co-organize. I would say that for me, like Antoinette swimming is the activity that I find relaxing, and which helps me move into a different kind of zone thinking-wise. When I swim, I feel I can review all the things that happened during the day and visualize all the things I need to do.

Antoinette: Now that I understand the reasoning behind your use of dual modes of online lesson delivery from a brain-based perspective, I would like to hear about how you infused your practicum class with elements of visual ethnography and why.

Marlon: This was a process born out of necessity to be creative and redesign the practicum so my teacher candidates could teach and learn online given the fact that we couldn't travel for our international practicum. Thus, I implemented a visual ethnographic approach that allowed preservice teachers to document and unpack their journeys by tapping into their lived experiences in the course and helping them 'see' teaching with a new lens.

   Figure *24* shows a class picture I shared on my Instagram at the beginning of the term when we were in hybrid delivery mode with some preservice teachers in person and others joining online. However, for the second half of the course, we all were entirely online. Moreover, because our practicum involved working with Colombian partner institutions, we had to connect through video calls to experience their classrooms virtually. We recorded all the classes we visited virtually using our institutional Zoom accounts. It was great to have a repository of lessons that we could revisit, but I felt I first needed to train my students to focus on particular aspects of their classroom experiences that would make sense to them. I wanted them to be mindful of what they observed and more importantly that they tried to see things they weren't actually looking for.

Figure 24: *Hybrid Teaching Fall 2021*

Sreemali: I remember that in that course you drew on Kumaravadivelu's ideas and used his 2012 book as the text for your course.

Marlon: You remember well! In his theorizing, Kumaravadivelu builds on an ethnographic approach to observe and learn. For him 'seeing is like a thread that interlaces the tapestry of all the teacher preparation modules-knowing, analyzing, recognizing and doing (2012, p. 99). Consequently, he builds on two complementary ways of seeing introduced by Kvernbekk (2000): 'seeing -as' which refers to the ability to see perceptually (just seeing) versus 'seeing-that' which connects perception with conceptual knowledge. Kvernbekk begins her article with an indirect quote of Howard Becker published in a manuscript by Margaret Buchmann (1989). Her words aroused my curiosity whih led me to read more about Becker's view. Below are the words that captured my attention from the fragment cited by Buchman. Becker explains the challenge of seeing and making sense of classroom observations given that most of us in the Western hemisphere have spend thousands of hours in classrooms by the time we become teachers, 'it becomes impossible to single out events in the classroom as things that have occurred, even when they happen right in front of you'. He adds 'that it takes a tremendous effort of will and imagination to stop seeing the things that are conventionally 'there to be seen' (Becker, 1971, as cited in Buchmann, 1989, p. 182). That's when I remembered the words of my colleague Ian Martin, who used to teach a module on classroom observation within this practicum course and called it 'Teach me to see'. This notion builds on the idea that preservice teachers have to learn different ways of seeing or as Kumaravadivelu puts it, seeing the classroom from different angles including the learner perspective, the teacher perspective, and a more detached observer's perspective.

Antoinette: These multiple views that you refer to are shown in Figure 25 adapted from Kumaravadivelu's book which I refer to often in my work with teachers as well. So, what did you do to support your preservice teachers to develop an eye to see what could easily be missed because of their similar experiences in Western classrooms?
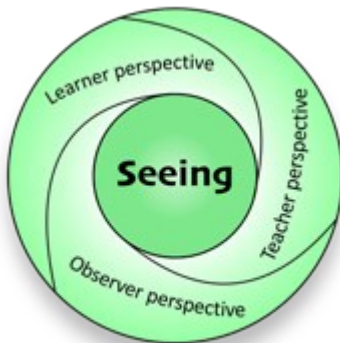

Figure 25. *Kumaravadivelu's Seeing Module for Teacher Education*

Marlon: Sure, I can describe two strategies that helped me prepare teacher candidates for international classroom observation on Zoom: 1) the use of identity texts and, 2) watching a fairly realistic portrayal of classroom teaching and learning when compared to Hollywood films.

Antoinette: I have heard you describe your use of identity texts before. However, I would like to hear more about how you understand these as visual ethnography and connected to creativity.

Marlon: Let me explain how I used this tool. I asked teacher candidates to create identity texts (Cummins & Early, 2011) which are multimodal autobiographies. These rich autobiographies and their corresponding autoethnographic reflective manuscripts created by my preservice teachers allowed them to combine the teacher, learner and observer perspectives with but their life histories and personal experiences as a starting point. Here's an excerpt of the instructions I gave preservice teachers to create their actual identity texts:

> *In this class I want you build on your use of information and communication technologies, as well as learn about new tools and develop skills to create a virtual text in which you tell me and show me who you are, what you are passionate about, and anything you want to share about yourself. I also want to know where you want to go next (what academic program you are interested in, how you see yourself as a future professional, etc.). This digital creation is called an identity text (Cummins, 2009) as it is meant to be a space to explain your multiple and diverse identities.*

Figures *26* and *27* below show screen captures of Camila's and Lucia's identity portraits (all names are pseudonyms). Camila, a Canadian-born TC, chose to include videoclips of the two places where she traced her origins: Guatemala and the Philippines whereas Lucia showed her passion for anime by discussing the film Anastasia (1997). In their identity texts, they both included personal and family stories that involved their parents, siblings, as well as stories about teaching and learning from those relatives.
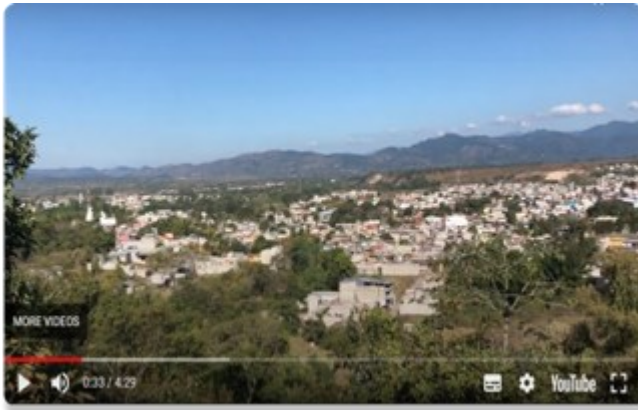
Figure 26: *Guatemala as Shown in Camila's Identity Text*

 Figure 27: *Lucia's Passion for Anime*

I encouraged preservice teachers to examine their lived and witnessed experiences based on visual ethnography, which Sarah Pink argues, is 'research that accounts for and harnesses this human experience, imagination and action' (2021, p. 1). In addition to that, I created a website where everyone's identity text was posted in a gallery and where my preservice teachers could see each other's creations. This resulted in a deeper kind of reflection which helped many of my preservice teachers to realize how their own experiences with education shaped the ways they imagined themselves as teachers.

Sreemali: It makes sense to look at ourselves before looking at classrooms, but how did you integrate viewing a film into the training of your preservice

teachers's eyes in preparation for their classroom observation on Zoom, and their subsequent practicum interventions?

Marlon: Allow me to elaborate on this! I selected the French *Entre les murs* (2008). This film, also known as *The class* (shown in Figure 28), depicts the classroom interactions of Monsieur Marin and his students in an urban school in Paris and distances from the traditional white teacher hero narrative commonly reproduced in Hollywood films.

Figure 28. '*Entre les murs' Movie*

I asked my students to put themselves in the shoes of M. Marin and explain how they would deal with a particular situation depicted in the film. Once more, I told them to revisit the literature that we had read to come up with solutions that address Kumaravadivelu's principles of particularity, practicality, and possibility drawing on their strengths as teachers and acknowledging possible areas for improvement. I also directed them to ask themselves how prepared or unprepared they felt to teach in such a challenging environment.

Antoinette: My mind is flooding with ideas of how to infuse films of classrooms into my own teaching and, like you, encourage my students to move from simply 'remembering' to 'applying' and 'creating' as described in Bloom's Taxonomy.

Marlon: Antoinette, you might be interested in taking a look at the introduction to an essay written by Farah, one my preservice students. Farah explains the disruption that the film *Entre les murs* created between her evolving understanding of teaching and the common hero teacher narrative. In the fragment below, you can read how this reflection made her more aware of teach-

ers' vulnerabilities and how acknowledging one's limitations could be a good starting point for growth and transformation, which could have a positive impact on learners.

> *Entre les murs, is a film that can be credited for capturing a compelling portrayal of some of the realities of teaching and learning that are generally excluded in Hollywoodized school films. I have to be honest, having been accustomed to the "hero/super-teacher" narrative, I found this film rather refreshing, and authentic. Oftentimes we find ourselves in positions where we have to prepare to be the "ideal" teacher, the savior, the campus that our students use to help navigate the chaotic world around them. The truth is we can't always be that superhuman teacher, but perhaps we can attempt to be transformative and evolving teachers. As future teachers, we can try our best to listen to and proactively attempt to create a dynamic classroom for all our students that celebrates diversity, respects differences, and motivates student engagement.*

Sreemali: I see from your account and Farah's that this film was a powerful catalyst to help teacher candidates make sense of video-mediated classroom experiences informed by visual ethnography. I would like to combine using visual ethnography and duoethgraphy to support the growth of my preservice teachers.

Revisiting Core Concepts

Antoinette: I think it is important to note that before having our final conversation where we revisited our core concepts and considered connections or intersections, we followed the ideation process and moved between networks with periods of engagement and disengagement.

Marlon: It's exciting to have been able to experience this ideation process with you.

Sreemali: I now have heightened sense of awareness of how brain-based learning is operationalized in the process of taking part in a multiethnography.

Antoinette: For me, the most challenging part of our multiethnographic journey has been this one where we have worked to create a visual representation of how our processes and practices connect to creativity, culture, motivation and innovation as well as to a number of other core concepts that we have discussed such as flow and multimodalities.

Sreemali: I agree that moving from words alone to something more visual was not as straightfoward as I thought it would be.

Marlon: Yes, I found that I needed frequent periods of disengagement to allow some of the ideas to percolate a bit like in the coffee-making process.

Antoinette: I like your coffee-making metaphor which suggests how you have filtered the many ideas discussed in our multiethnography through your experiences when you were disengaged.

Sreemali: I have to admit that I have found it difficult to disengage as all the concepts and ideas discussed in our multiethnography seem to be swirling around in my brain all the time.

Antoinette: What you are describing is all part of the ideation process which led us to Figure 27 which looks a bit like a lotus flower with its many layers of petals and a pinwheel at the centre.

Sreemali: Did you know that the first documented pinwheel was in China in 400 BC? Apparently, the pinwheel is significant in Chinese culture because it symbolizes turning one's luck around.

Marlon: No, I didn't know that. However, I have seen my children enjoy seeing how when they blow on a pinwheel it turns or even better, how their pinwheels spin when they catch the wind.

Antoinette: The pinwheel symbolizes how teacher educators, through their classroom processes and practices can effect changes in the lives of the pre-service and inservice teachers they work with. In turn, teachers can effect changes in the lives of their students.

Sreemali: What I love about the pinwheel is that it is connected to notions of time, seasons and the cyclical nature of most everything.

Antoinette: The lotus flower also carries many meanings which vary from culture to culture. However, I like the interpretation that views lotus flowers as symbols of strength, resilience, and rebirth because they return to muddy water every night and open their pristine blooms at dawn.

Marlon: We have placed preservice and inservice teachers at the centre of the lotus flower where we show them embedded in critical processes and practices experienced as part of teacher education opportunities which have a transformative effect on teachers increasing their strength and resilience amidst the often difficult circumstances in which they work.

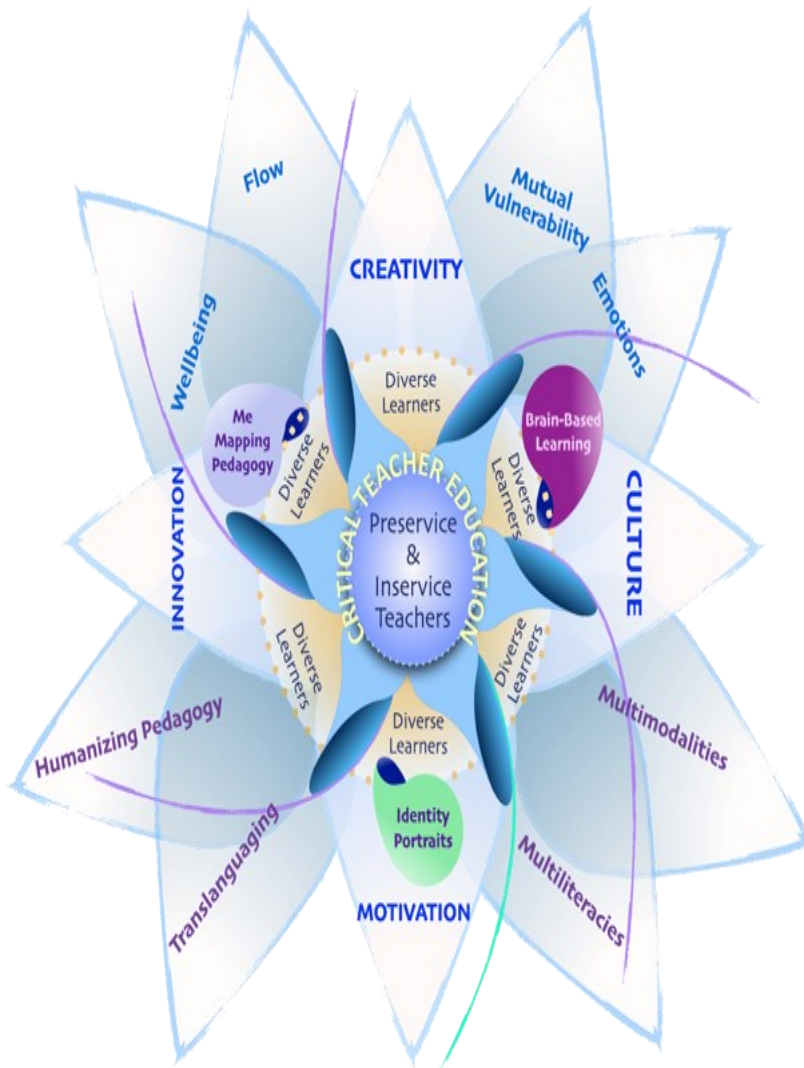**Figure 27:** *Connections and Intersections*

Sreemali: We have placed diverse learners around their teachers at the centre of the lotus flower as they too may experience some transformation as a result of their teachers embracing more critical practices and processes.

Marlon: Is there any reason why certain concepts are embedded in different layers of the petals in the lotus flower?

Antoinette: Indeed, through our conversations about our processes and practices, I think it became clear that creativity, culture, innovation and motivation were core elements which contributed to the development of each process or practice described. As such they are embedded in the first layer of petals located the closest to the centre.

Sreemali: We agree that there are several other concepts such as wellbeing, multiliteracies and vulnerability with strong connections to the teacher education processes and practices we have deconstructed.

Marlon: The notions of multimodality and multiliteracies are foundations of my work with preservice teachers as I believe they need to experience these first hand to be able to imagine how to make multimodality and multiliteracies central in their own teaching. Preservice teachers report that they have been more motivated to learn as result and appreciate the innovative ways I have supported them in their learning. They also say that by experiencing multimodality and multiliteracies, they can imagine ways to work in culturally responsive ways with their own students.

Conclusion

Antoinette: Fostering creativity in teachers while supporting them to become more student focussed and inclusive, has required use consider a layering of lenses from different disciplines.

Sreemali: Indeed Antoinette. Our multiethnography with aspects of visual ethnography has revealed the complex relationships between creativity, culture, innovation and motivation in teacher education as well as the potential of creative processes and practices to transform teachers, their classroom pedagogy and, we hope, the larger education structures and global circumstances they work in.

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CHAPTER FIVE

IS CREATIVITY THE MODERN-DAY LITERACY?

PETE OPHOVEN

Abstract

It has been proven that creativity is no longer reserved for the high arts and the creative types (Abraham, 2019; Glaveanu, 2017; Kelley & Kelley, 2013; Michalko, 2007; Richards, 2017; Roberts, 2006; Root-Bernstein, R&M, 2013). We are all creative and we need a compelling way to communicate this fundamental knowledge to the masses. People still believe they are not creative or the creative type- and one of the biggest hurdles to being creative is the fundamental belief that one is not creative (Michalko, 2007; Reisman 2010).

Just over 100 years ago (in the year 1900), the literacy rate was less than 21.4% globally (Roser & Ortiz-Ospina, 2016). Since then, the culture of education specifically learning has sought to educate every person in the ability to read and write. Today, the literacy rate is approximately 86% (in 2019) globally and it is fundamentally accepted that anyone can learn to read and write with the proper education (O'neill, 2021). Imagine what the world would be like if every person on the planet believed they could learn to enhance and hone their creativity just as they believed they had the capacity to read and write?

This chapter is about evangelizing creativity and its fundamental and innate skill in every one of us. We need a new metaphor to break the mental blocks for teachers and institutions from believing that creativity isn't for them and to move creativity expression and cultivating creativity in our schools and boardrooms from a lower priority into one of importance if not urgency.

Come to the edge,
We can't, we're afraid.
Come to the edge,
We can't we will fall!
Come to the edge,And they came.
And he pushed them,
and they flew.

-Guillaume Apollinaire

Why Creativity? Why now?

Several ideas of what we thought were true about creativity are coming into focus and are being debunked. One of the myths is that creativity is reserved for a certain population and that creativity is not accessible by everyone. This is certainly false and more importantly we can now say each and every one of us has the innate ability to create something original or invent a new way of doing something that has never been created before (Roberts, 2006). Basically, we are all creative.

Creativity has long been considered reserved for the high arts, the musicians, the illustrators, the dancers, and the visual artists. The rest of us with our J-O-B's have been excluded and resigned to the "other" work as necessary yet lacking in the enigmatic, poetic and intentionally lively.

It's time to put an end to this creative oppressive myth because that is what it is – a myth. More than ever before we need to steal back creativity from the arts and return it to its rightful bearers. Creativity is simply defined by the ability to generate something novel or original and also useful or appropriate (Runco & Jaeger, 2012). As this definition holds true- those that have endeavored to make a career out of creating novelty and appropriate uses for things have easily been defined as inventors, designers, creators, artists, and in many respects engineers. We are all creative and the creative capacity lies in each of us (Abraham, 2019; Glaveanu, 2017; Kelley & Kelley, 2013; Michalko, 2007; Richards, 2017; Roberts, 2006; Root-Bernstein, 2013). Creativity is capable of being honed, improved, sharpened – like any ability the more we practice it the stronger it becomes (TEDxTalks, 2017). For those of us that understand its power and know how to wield it, like Captain Marvel we become unstoppable and miraculous.

How come there is a gap between those who believe they are creative and those who do not? And why does it matter?

A survey conducted by IBM of over 1500 CEOs around the world investigated the characteristics and leadership methods of future leaders. The results of this survey concluded that creativity was predicted to be at the top of the list for most sought-after skills (IBM, 2010). The IBM survey was conducted over 10 years ago and more businesses than ever before are embracing creativity, realizing the importance in staying competitive in the global market (*USD V2 Pitch Competition Featured in San Diego Business Journal,* 2020).

It seems creativity is the new superpower. Honing and sharpening our creativity may also prove to benefit our health and well-being, fight against depression and anxiety, and bring meaning to our lives (Richards, 2010). New research in mind, brain, and education (MBE) as well as studies by neuroscientists have also debunked old myths of what we believed about creativity and the hemispheres of our brain (Abraham, 2019). We now have the power to enhance our ability to come up with original ideas, improve our idea quotas, become more aware of how and where we are thinking, and embody a growth mindset all of which assist us in the human capacity to learn (Zerilli, 2021).

If creativity is innate in every human being, then developing our creative abilities and honing and sharpening our creative potential may be as

simple as practicing a musical instrument or strengthening our muscles. Ruth Richards, in her article "Everyday Creativity", answers her own question about the benefits of creativity;

"Can expressive creative writing actually improve physical health, as well as psychological well-being? Might it even boost immune function? Remarkably, the answer is 'yes'. Here is our mind-body connection shown in bold relief (Richards, 2010)."

Creativity research has exploded in the recent decade. Pioneers such as E. Paul Torrance and colleagues have paved the way for a new generation of creative researchers that are revealing even more fascinating benefits of creativity. Research in neurobiology has also found dendritic pathways in our brain that prove our brains never stop growing and learning from birth to death (Tokuhama-Espinoza, 2011). This neuroplasticity is just the beginning in what creativity can offer the human potential from the physiological to the psychological. A fascinating example of how creativity and our physiology is connected is in the simple practice of meditation. Several researchers in neuroscience and biology have focused efforts on meditation as well as mind wandering techniques; Josopovic, Lipelt, Brewer and others have identified methods to study the brain and creativity associated with meditation techniques and found possible methods to help better understand and treat ADHD (Brewer, et al, 2011; Josopovic, 2013; Lipelt, 2014; Kaufman & Gregoire, 2016). Meditation has also been shown to focus and improve convergent thinking (our ability to focus, evaluate and come to closure thereby improving decisions making) and mind wandering techniques have also been shown to improve divergent thinking (ideation or idea generating) (Colzato, et al, 2012). Creativity is truly a superpower—with so many benefits and possibilities why haven't we transformed our schools and pedagogy to cultivate these possibilities? How come creativity hasn't been made more important in our schools, businesses, and in our everyday lives? If creativity is so important to our wellness, then why aren't we spending an hour or more a week practicing creativity as often as we practice yoga, or go jogging or play a weekly racquetball game? Why has creativity taken a second seat or third seat to higher priorities in school such as math and science? If creativity is so important then why do people claim they aren't the creative type?

The field of creativity research has blossomed in the last 60 years, and yet even today organizations and institutions struggle with the term creativity, often shrouding the actual intention of studying creativity under the pretext of workplace efficacy, organizational climate, inspiration and motivation and professional development (Creativity Is Not Enough – Harvard Business Review, 2014). The studies in how important and impactful creativity is to the bottom line in the business sector, as well as to the health and well-being in our day-to-day lives, is well established, and yet how come it seems the layperson is left in the dark? How come schools haven't shifted their pedagogy to include creativity training if the research is irrefutable that exploring and enhancing our creativity may create huge impacts in our students, faculty, all of us?

Creativity has been waiting idle for us to shift our mindset, wake up to new possibilities, break free of old broken paradigms, and embrace a new metaphor.

118

What is this new metaphor?

Creativity Is the New Literacy

"If you want to change the world, change the story, change the metaphor."

-Joseph Campbell

Just under 125 years ago in 1900, less than 20% of the world was literate (Roser & Ortiz-Ospina, 2016). By the early 1990's the literacy rate had flipped on its axis with the rate being approximately 82% globally (O'neill, 2021). What changed for the global population to become proficient in reading and writing? Sociologically, there were many factors that contribute to answering this question and it is worth exploring in detail— the implications and possibility for the human species lies in unearthing the mystery of our own potential.

Even with the invention of the printing press in the 15th century (1450) which is long before the improvement of the literacy rate which didn't improve globally until the late 19th century (Naughton & Reyes, 2020). It wasn't simply accessibility to written materials, although this contributed greatly. Society and cultures shifted priority, and the world awoke to the notion that a literate species is a productive species. Several champions in our history had the brilliant insight that sounded something like this: "What would our whole world look like if we could all read and write? Together what could we accomplish?"

This is a shift in *mindset* more than a shift in technology or access. Culturally, we shifted our thinking and belief system from one in which only a few were given the opportunity and access to one in which the opportunities were available to everyone.

What would it be like if everyone on the planet not only believed creativity was as important to their wellbeing as reading and writing, but also considered it to be one of the most important priorities to education? Creativity is at the heart of creating education pedagogy; business and organizational development; employment pathways to success; and in general, the way we create and interact with each other in our personal lives. Creativity isn't just for the Mozart's, the Mark Twain's, the Maria Calais', the Bell Hooks', or the Maya Angelou's of the world? Imagine what the planet would be like, imagine what we could accomplish as a global community if each of us believed we were creative as much as we all accept that we're capable of reading and writing.

It is likely that many of us, if not all of us at some point in our lives have heard or have been told, "Your drawing is terrible? Keep practicing? You're out of tune? How come you chose brown, I prefer green? Your snowflake looks crooked. The harmonica player is in the wrong key, or…?" This criticism and feedback are just a few examples of what triggers our heartache and the need to hide our creative expression. It may be that for some and maybe most of us, we keep our creative passions and playful desires to explore hidden for many years. For this and other reasons, there is a fundamental belief in our culture that we are not creative.

Self-made belief systems can be very difficult to change – examples that include the sociology of error are numerous from Ptolemy and the revolution of the planets and stars around the earth (Lawson, 2004) to the Miasma Theory of all smell is disease in 1854 London (Johnson, 2006). Even after years of debate and proof, the ability for a culture and society at large to change its indentured point of view is challenging at best. Creativity is another example of a society that needs a correction.

A Call to Action

It is time for creativity to be brought to the masses on a global scale. Leaders, educators, community leaders and our families more than ever need to understand the urgency and importance to shift our mindset to creativity. What would our world look like if we adopted the belief in every human person that each and every one of us is capable of creativity, of invention, innovation, creating meaning and contributing to the improvement of our planet simply because we are born with this capacity?

There is certainly a belief around the world that creativity isn't for everyone just as there are those in our recent earth's history when people believed they were not capable of reading and writing. Looking at the shift historically for literacy may be the answer to shifting the conscious and sociological importance for creativity for the masses.

By taking a look at how literacy was a catalyst for education we can make available to the layperson the possibility to make the mindset shift for creativity. This comparison can be the catalyst we need to ignite creativity and creativity education on a global scale. In the last 1500 years there were four major historical shifts that took place to bring the importance of educating the masses in reading and writing. The first took place during the Carolingian Empire and the days of Charlemagne during the 8th Century (Thomas, 2021). Charlemagne had claimed the title as the Western Holy Roman Emperor and anointed emperor by the pope (Naughton & Reyes, 2020). Charlemagne issued a royal ordinance known as the *Charter of Modern Thought* which stated, "Let every monastery and every abbey have its school, in which boys may be taught the Psalms, the system of musical notation, singing, arithmetic, and grammar." Charlemagne himself was not an educated man, but one of his advisors, Alcuin of York, developed the means to accomplish this goal. While education with the church was blossoming, this learning spilled into the populace at large. Theodulf, Bishop of Orleans, ordered that priests establish schools in every town and village. This was one of the first times in known history in which education was made accessible for children no matter their station or class (Thomas, 2021).

The second cultural shift occurred during the 12th century renaissance during which the first universities were founded. Romanesque and Gothic art flourished, along with the founding of parliaments and the development of civil law in government and with it the love learning evolved (Naughton & Reyes, 2020). This time of growth in the late 14th century resulted in one of the darkest in European history with the Black Plague estimating the loss of between 30 - 60% of the population.

The third cultural shift occurred after the black plague and the invention of the printing press. In 1450 Gutenberg introduced the printing press in Mainz Germany which for the first time opened the opportunities for written word to proliferate—written materials became available to a larger scale population. "It opened the floodgates of knowledge and ideas and generated a rapacious appetite for literacy" (Robinson, 2017). "An intellectual and commercial revolution ensued, as a growing urban class of educated readers devoured whatever books they could find" (Naughton & Reyes, 2020).

Finally, the most recent was the introduction of reading and writing to the masses in the mid-19th century at the beginning of the industrial revolution. Economics played a major role in determining the need to create an educated workforce. "Capitalism needed workers who possessed and could use particular kinds of knowledge; schools provided them" (Thomas, 2021). In 1870 Britain passed the Forster's Act which mandated the education of all children. Thus, a mixture of finding it important to educate the children, to broadly spread the word of religious values and to educate a labor force were all necessary cultural motives to teach reading and writing. A brief summary of the history of education, specifically reading and writing, cannot go without the most recent mandate in 2001 in which the Federal Government in the United States passed the ESEA or Elementary and Secondary Education Act – also known as the No Child Left Behind Act of 2001. The aims were to raise academic standards in all schools (Robinson, 2017).

It is 2022 and we have come to a transformative fork in the road of education. Online learning and the effects of the Covid-19 pandemic has introduced a new normal in how educators and learners are expected and committed to our education system. We no longer can afford to support a no-child left behind legislation of standardized testing and high impact assessments and the industry of standardized testing preys on our students and teachers and parents in an industry that profits every year (Robinson, n.d.).

Change doesn't happen nor do global transformations without a fundamental shift in mindset. We must shift the metaphor; we must change the story. One of the challenges isn't that we are oblivious to creativity and cultivating it in our businesses or our classrooms rather it is the notion of the challenge to understand how to operationalize creativity and therefore teach it and train it within our education systems. For example, the late Sir Ken Robinson said it poignantly in his book *Out of Our Minds*:

"They are concerned that their organizations are not equipped to cope with this complexity. They agree that the most important leadership skill for dealing with this growing complexity is creativity. Many organizations put on occasional training days to encourage their staff to think creatively; but, like the rituals of rain dancing, I believe they may misunderstand the problems they're trying to solve." (Robinson, 2017).

Cultural and sociological changes do not happen without intention and deliberate purpose. Going back over 1500 years in history, the changes in education and the call to action that were proposed came about due to a demand and a need either from religion or the purpose of labor and need to improve the status quo. Globally, creativity is the new literacy in which we need to uplevel our education to address the need for our education to transform. It is a simple prospect to change our mindset.

Education, Metacognition, and Flexibility

One of the ways we can operationalize the shift in mindset is in the way we measure transfer of learning. Standardized testing and high-impact assessment certainly is easy and cost effective. Several recent studies have indicated standardized testing may be efficient but rather ineffective in transfer of learning, albeit a simple way to measure one aspect of education, it may not be the most important or long-term (Lang, 2016).

If we suppose that creativity is to be taught in schools, what does that look like? How do we measure it and what does this mean in the classroom? Insights that come from Social Constructivists, Universal Design for Learning, and Project Based Learning have all addressed the shift from high-impact assessment to evaluating learning via other methods (Brown, 2018). Students' ability to embrace their own education via metacognition—the thinking about their own thinking—is one method to shift the impetus from the teacher to the student. Ideas such as learning how to learn; learning to assess our own limits; evaluating our gifts; designing around our limitations; teachers embracing creativity in the classroom as a method to diversify expression and methods of learning – all of which will address needs such as culturally responsive teaching, neurodiversity, social network capital, and intrinsic motivation – all necessary for education to transform. Students may learn to embrace their own desire to learn and express the transfer of learning in their own ways, valuing what they find interesting and engaging, that push their own comfort zones, all of which may be traced back to factors of creativity (Reisman, et al, 2016).

In the workforce, examples of creativity are taking shape - in fields such as technology and software development— the demand for original ways to address complex projects, high-paced schedules, and changing budgets. A perfect example of this is the car industry in which a recent shift in manufacturing framework adopting the agile and scrum framework. This car manufacturer was experiencing low sales; decrease in innovations; and turning over low productivity (TEDxTalks, 2020). They attempted to transform this process by using a shift in mindset, in which they applied methods of agile that included the following: reducing ambiguity and uncertainty through a process of visualizing workflow; managing teams and processes with an iterative approach; collaborating with stakeholders and designers at an equal level rather than through a top-down approach; increasing intrinsic motivation by giving agency and ownership of the process back to the workers (TEDxTalks, 2020).

The shift in mindset created a 180 degree change in profits—new innovations put this car manufacturer from the bottom to the top of sales and new inventions, and all with the same workforce that it had been using. Yes, the exact same workforce that produced poor quarterly sales and low innovations turned around to become the top ranked. Here is a perfect example of how implementing creativity in an organizational structure can have profound impacts to an already established system. A further study of comparing the agile and scrum framework to modern factors of creativity is worthy of a follow up study.

Conclusions

> *"If you want to change the world, change the metaphor, change the story."*
>
> *– Joseph Campbell*

This chapter is about telling a story of creativity in a way that is accessible to everyone. Academia has a wealth of creativity research and knowledge that must be communicated to the masses. But how do we do it in a way that hooks their attention? We need to communicate the benefits of creativity both psychologically (Pennebaker, 1997; Richards, 2010) and sociologically, (Kelley & Kelley, 2013) but also physiologically (Abraham, 2019)—How creativity makes learning fun and interesting and engaging. How we no longer need to seek creative employees from outside of our organizations but rather all we need to do is look under our noses, for each one of us is creative and the people we are looking for are right in front of us (Roberto, 2019; Robinson & Stern, 1998). This chapter is a call to action for a shift in mindset. Creativity research is blowing up, academic institutions are creating new teaching pedagogy and we are seeing an increase in businesses shifting their focus to cultivate creative environments (Shalley, et al, 2016) and seeking solutions to novel methods of problem solving in their own employees rather than seeking it elsewhere.

The missing piece still resides in our belief in creativity. How are teachers supposed to bring creativity into the classroom if they do not believe they are creative? If everyone from education to business could shift their point of view in a simple way—such as the shift in importance to literacy as a fundamental capacity for all humans—why not creativity?

This chapter introduced a new metaphor for conceptualizing creativity by comparing creativity to literacy as a fundamental ability in which we are all capable. It follows with a transformative shift to our innate belief that we are creative and fundamentally understand that we can improve our creativity with simple practices. Finally, the chapter exemplifies where the shift in mindset can create new opportunities and possibilities in education as well as business through examples to our students as well as our boardrooms.

> *"When people say they aren't the creative type – what they really mean is they don't know their purpose or they haven't identified their passion and their own gifts. For when people figure these out creativity becomes inevitable" – Pete Ophoven.*

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CHAPTER SIX

UBIQUITOUS MUSIC, UNTOKENIZABLE RESOURCES AND CREATIVE-ACTION METAPHORS: INTRODUCING THE INTERNET OF MUSICAL STUFF (IOMUST)

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Abstract

As a subcategory of the blockchain technology that underwrites cryptocurrencies, Non-Fungible Tokens (NFTs) are prominently targeting the market of multimedia digital art. In this chapter, we revisit the concept of IoMusT within the context of the current attempts to monetize the web contents through the use of NFTs. Recent literature on musicology, cultural studies and digital economics helps us analyze the attempts at producing scarcity within systems of digital exchanges. We contend that the NFT initiative involves a massive reification of non-material resources whose transition into the status of "things" may set yet another barrier to creative music making. As a resistance strategy, we propose a reconfiguration of the IoMusT as IoMuSt — the Internet of Musical Stuff. "Stuff" is fluid, malleable, unfixable and pecuniarily irrelevant. Thus, it may be invulnerable to an assigned ownership or market value. Rather than focusing on devices, paid services or monetized assets, IoMuSt conceives its ecosystems in terms of interconnected processes, actions and support-mechanisms that yield socially responsible, sustainable and open creativity-oriented engagements. We exemplify the concept of IoMuSt through four ubimus examples: namely, an intercontinental live-patching experience; the deployment of a web tool for free improvisation; a community-oriented installation involving recycled electronics; and finally a mobile prototype for game-oriented musical creativity. These practices are based on volatile and antirivalrous resources, in other words, the resources only available during the activity and they gain social value through unrestricted sharing. They are also untokenizable, insofar as they benefit from an unlimited reproducibility. In contrast, NFTs rely on scarcity secured through the deployment of social labels such as "ownership", "the real thing" "market value". The

validity of these social labels in blockchain is guaranteed by energy-expensive calculations that not only preclude the flourishing of creative eco-systems, they also represent a risk for the existence of life on the planet.

Introduction

As a research and artistic collective, ubiquitous music (ubimus) deals with resources and byproducts yielded by creative musical activities (Keller et al. 2014). Since its beginnings in 2007, the ubimus community has strived to move beyond the straitjacket of the social paraphernalia surrounding concert-based music (i.e. the separation between the audience, the composer and the performer; the adoption of domain-specific knowledge as a requirement for music making; the enforcement of the myth of the genius as the source of creativity embodied by the virtuoso player, conductor or composer). Distributed interaction, unrestricted community-oriented sharing and an active support for everyday creativity have consistently been at the center of the ubimus agenda, in dialogue with creativity-oriented concepts (Kaufman and Beghetto 2009; Beghetto and Kaufman 2007; Rubenson and Runco 1995). Part of these targets have been attained through a militant reliance on democratic and (when possible) non-proprietary sharing of resources. Emerging from the weaker side of a geopolitical faultline that distinguishes "the West" from its peripheries, the group has managed to maintain a lively international dialogue among members scattered in five continents.

Ubimus emerges as a theoretical and methodological alternative to the technological approaches attached to the European instrumental musical tradition of the nineteenth century – grouped under the label *acoustic-instrumental paradigm*. Ubiquitous musical activities generally use distributed resources and engage multiple stakeholders with various levels of expertise. While ubiquitous music seeks to expand the access to creative activity by "laypeople" (we sarcastically employ this term in open defiance to the view proposed by Babbitt, 1958), the acoustic-instrumental paradigm enforces a strict separation between novices and musicians-performers.

Ubiquitous musical activities foster opportunities for musical creation by musicians and untrained participants outside studio facilities (Keller et al. 2014). Given the demands for deployments across non-standard settings, strategies that enable data collection without disrupting the creative experience become a requirement. Previous work unveiled three methodological paths to address this conundrum: 1. Avoid early commitment to specific tools (Flores et al. 2010; Radanovitsck et al. 2011); 2. Support iterative development through rapid prototyping (Lazzarini et al. 2014); and 3. Foster collaboration by building communities of practice (Lima et al. 2012). Whether these approaches are also applicable to the emergent hybrid activities involving both synchronous and asynchronous access to local and distributed resources through internet infrastructure is an ongoing research challenge that may foster both technical and conceptual reconfigurations of the ubimus frameworks. One proposal involves the notion of an Internet of Musical Things (IoMusT), defined as an ecosystem of interconnected computing devices capable of supporting distributed music making (Turchet et al. 2018). On the one hand, the IoMusT infrastructure may facilitate the development of computational

resources for synchronous musical activities shaped after the acoustic-instrumental forms of music making. For instance, augmented, "smart" or "hyper" instruments (Machover and Chung 1989) are just an extension of the performatic usage of acoustic instruments that permeates a large number of endeavors in musical interaction. A recent work by Turchet and Ngo (2022) envisions a series of possible applications of blockchain technology to the Internet of Musical Things (IoMusT), linked to BIoMusT (Blockchain-based Internet of Musical Things), targeting the monetization of a wide selection of applications and data. On the other hand, part of the current musical-internet functionality may be applied to less corporate-oriented approaches to music making. Our position is neither for nor against the implementation of IoMusT. However, we believe that a careful analysis of the negative consequences of this proposal is necessary to avoid the pitfalls of the introduction of technologies in everyday settings that may replace socially and culturally solid forms of interaction with disruptive and profit-oriented mechanisms.

This text documents the concept of an Internet of Musical Stuff, as an expansion and complement to the Internet of Musical Things, within the field of ubiquitous music. Moreover, we focus on the implications of the adoption of blockchain and cryptocurrency technologies to support the tokenization of the IoMusT, highlighting the social implications of this initiative. We also discuss the current attempts to monetize web content through the use of non-fungible tokens. We draw upon computer science literature (Puckette 2004; Stallman 2002) and digital economics (Chohan 2021) to indicate the restrictions on the distribution of resources through the mechanism of artificial scarcity. Considering the potential of the NFT agendas to limit the access to open and free sonic repositories, an analysis from a ubimus perspective unveils issues that remain hidden by a widespread celebratory corporate discourse. Finally, we present examples of ubimus usage of the Internet of Musical Stuff, pointing to its versatility and potential for expansion as an emergent strategy. These characteristics are aligned with various strands of the second wave of ubimus research that target a meshwork of strategies to increase community access, to reduce the ecological footprint and to support aesthetic diversity (Keller, Messina and Oliveira 2020).

Objects, Things or Stuff?

Several critiques of ontologies raise a red flag with regards to the adoption of the category "thing" as a compartmentalization of reality in discrete entities. Levinas maintains that "Western philosophy has most often been an ontology: a reduction of the other to the same by interposition of a middle and neutral term that ensures the comprehension of being" (1979: 43). He goes on to describe ontology a "philosophy of power" and "injustice" (1979: 46). Levinas's critique has important implications for ubimus, insofar as it links the categorization of reality into fixed things with the annihilation of difference. This is expressed in terms of "ontological imperialism", "tyranny of the State", and "the 'egoism' of ontology" (1979: 44-46). In his reading of Levinas, Pugliese argues that ontology "emerges as another aspect of Western colonialism" (Pugliese 1995: 476). He describes ontology as "the rewriting of the other into the language of the same" which fuses heterogeneity into a singularity (1995: 476).

130

Replete of interesting implications for ubimus, Object-Oriented Ontology (OOO, Morton 2011) argues against the distinction between subject and object, while also asserting "that real things exist—these things are objects, not just amorphous 'Matter,' objects of all shapes and sizes, from football teams to Fermi-Dirac condensates or, if you prefer something more ecological, from nuclear waste to birds' nests" (Morton 2011: 165). Incidentally, Morton's "amorphous matter" is akin to what we call "stuff" throughout the present work. On the one hand, Morton explains that "OOO decisively departs from [the] standard ecological criticism, by enabling a ruthless rejection of the concept of Nature, in part because Nature is correlationist" [that is, based on a subject-object dialectics] (Morton 2011: 64). OOO's relevance for ubimus is eminently attested to by Connors' (2017) work on Ecological Performativity which builds upon a strong thread of ecologically grounded artistic proposals dating back to the late 1990s (see Keller and Lazzarini 2017 for a summary). On the other hand, in his critique of OOO Cole (2013) argues against the alleged autonomy of things from human subjectivity, also targeting the purported post-humanist overtones of such claims.

These issues raise concerns for ubimus research: first, as advocated by Lindley, Coulton and Cooper (2017) there is a close connection between OOO and the Internet of Things (and its related cognates such as the IoMusT); second, the claimed link between OOO and post-humanism demands an assessment of the relevance of these philosophies to ubimus practices. In other words, should the ubimus frameworks be aligned with the "humanist" or the "post-humanist" approaches, or should they operate as a hybrid paradigm? Here, we might perhaps witness a structural or strategic ambivalence fostered by diverse tendencies within the ubimus community (Keller and Barreiro 2018): a substantial amount of work based on computer creativity (Messina and Aliel, 2019; Kramann, 2020) leans towards increased levels of machine autonomy pointing to an emerging post-humanist vision; complementarily, several works on territorialities (Messina et al. 2019; Simurra et al. 2023), dialogics (Lima et al. 2012) and wellbeing (Timoney et al. 2015) focus on humanist agendas that resonate with musical approaches based on decoloniality and participatory design.

Formulated from a non-hegemonic, anti-racist and militant *locus* of enunciation, Ahmed's "phenomenology of whiteness" addresses the thin red line between the visualisation/denunciation of a paradigm of oppression and privilege and the reification of the very same paradigm as an "essential something" (Ahmed 2007: 149), that is, an existing entity, materialized and strengthened by the very discourses that criticize its operativity. Ahmed addresses this problem by focussing on whiteness as a "phenomenological issue", or, in other words, by considering "what 'whiteness' does without assuming whiteness as an ontological given" (Ahmed 2007: 150).

> Whiteness could be described as an ongoing and unfinished history, which orientates bodies in specific directions, affecting how they 'take up' space. [...] Phenomenology helps us to show how whiteness is an effect of racialization, which in

turn shapes what it is that bodies 'can do'.
(Ahmed 2007: 150).

The implications for the ubimus community and for the development of the musical internet are multiple: first, Ahmed provides a conceptual and political framework that may help in delimiting the hegemonic aspirations and discourses that permeate certain trends in musicology, computer music, music education and sound studies; second, her critique of reification highlights movement and orientation in time and space while avoiding fixed categories, emphasizing dynamic processes rather than stable and static entities.

Things are vulnerable to the imposition of hegemonic territorialities and are subject to reification, objectification and — in the context of global transactions — monetization. These characteristics can have a negative impact on initiatives aimed at expanding the access to creative work by marginalized communities, by artists without financial support and by potential stakeholders located outside of the economic and financial urban centers ("the West"). In line with the anti-essentialist perspective of this paper, our use of the category "West" is not meant to depict a well-circumscribed sociocultural and geopolitical space. Rather we subscribe to a critical grasp of "the West": a set of discourses, images, ideas and historical constructs that yield charged dichotomies (e.g. center vs. periphery; urban vs. rural; developed vs. undeveloped, etc.), which in turn determine value judgements (e.g. good vs. bad; civilized vs. barbarian; fashionable vs. outdated, etc.) sustaining a status quo based on white European (and Euro-descendant) hegemony (Hall 1996; Said 1978; Messina and Di Somma 2017). Nofer et al. (2017) offer the following description of the blockchain technology:

> A blockchain consists of data sets which are com-posed of a chain of data packages (blocks) where a block comprises multiple transactions [...] The blockchain is extended by each additional block and hence represents a complete ledger of the transaction history. Blocks can be validated by the network using cryptographic means. In addi-tion to the transactions, each block contains a timestamp, the hash value of the previous block (''parent''), and a nonce, which is a random num-ber for verifying the hash. This concept ensures the integrity of the entire blockchain through to the first block (''genesis block''). Hash values are unique and fraud can be effectively prevented since changes of a block in the chain would im-mediately change the respective hash value. If the majority of nodes in the network agree by a con-sensus mechanism on the validity of transactions in a block and on the validity of the block itself, the block can be added to the chain (Nofer et al. 2017: 183-184).

The above description urges us to clarify two points: (1) the system has proved to be much more vulnerable to frauds than what is claimed here (Kharif 2022; Charoenwong and Bernardi 2022); (2) the same fraud prevention systems that permits to verify the legitimacy of a transaction is enormously energy-expensive, to the point of constituting a concrete preoccupation regarding energetic sustainability and the future of the planet. For the sake of intellectual honesty, we acknowledge that blockchain developers have been claiming for a long time that they will eventually transition to more sustainable protocols. Ethereum, for instance, has recently announced "The Merge", a move to "reduce Ethereum's energy consumption by ~99.95%", planned for the second or third quartiles of 2022 (Ethereum 2022). We will wait and see.

Objectification and Tokenization

As a subcategory of the same blockchain technology that is used to mint and exchange cryptocurrencies, Non-Fungible Tokens (NFTs) prevalently target the multimedia digital art market — predominantly visual, but with obvious monetization possibilities for sound files, music tracks and other necessary resources for artistic production on the web.

Chohan (2021) illustrates the evolution of the monetization of audio-centered creative works, starting from the obsolescence of media such as cassette tapes and compact discs, to the problems of online platforms like Spotify, indicating that NFTs may boost this trend to monetization. Chohan concludes that (1) the incorporation of NFTs targets artificial scarcity which increases the monetary value of digital assets; (2) their value is proportional to what people are willing to pay; (3) scarcity is artificial, insofar as it separates an allegedly "authentic" item from its copies (despite the possibility of coining several NFTs for the same digital object); (4) NFTs do not guarantee the ownership of a digital object: an image may be distributed or reproduced without permission. We emphasize that Chohan does not point to the dangers involved in creating a financial barrier to access the resources available on the internet.

As it becomes apparent when reading the corporate discourse of a blockchain colossus like Ethereum, NFT-based scarcity is secured through the deployment of labels such as "ownership", "the real thing" and "the market value".

> The creator of an NFT gets to decide the scarcity of their asset. For example, consider a ticket to a sporting event. Just as an organizer of an event can choose how many tickets to sell, the creator of an NFT can decide how many replicas exist. Sometimes these are exact replicas, such as 5000 General Admission tickets. Sometimes several are minted that are very similar, but each slightly different, such as a ticket with an assigned seat. In another case, the creator may want to create an NFT where only one is minted as a special rare

> collectible. [...] Naysayers often bring up the fact
> that NFTs "are dumb" usually alongside a picture
> of them screenshotting an NFT artwork. "Look,
> now I have that image for free!" they say smugly.
> Well, yes. But does googling an image of Picas-
> so's Guernica make you the proud new owner of a
> multi-million dollar piece of art history? Ulti-
> mately owning the real thing is as valuable as the
> market makes it. The more a piece of content is
> screen-grabbed, shared, and generally used the
> more value it gains. Owning the verifiably real
> thing will always have more value than not
> (Ethereum n.d.)

The "real thing" materialized by Ethereum emerges precisely in terms of what Levinas, as mentioned above, calls "ontological imperialism" which involves two operative concepts instrumental to the neutralization of otherness: namely, market value and ownership. By assigning these social labels to entities that without the labels are immaterial and unlimitedly reproducible, NFTs prepare the ground for the allotment, disciplination and regimentation of a network-based economy.

According to Menotti (2021), the cultural spaces generated by the trade of NFTs are by-products of the application of a blockchain technology that presents itself as a neutral space, without hierarchies or intermediaries, but which responds to the interests of the mining agents (Menotti, 2021). Thus, *cryptoart* is defined by its status as a commodity unrelated to a specific culture or means of expression, so that "the trade in NFTs sublimates the material, political and historical reality of this technology, providing it with a metaphysical authority [subjected to] the logic and speculative interests of the cryptocurrency industry, which [encourages] the diffusion of this logic and these interests in other social instances" (Menotti, 2021, p. 236). Menotti is saying that imposing the capitalist logic of "the market" in networked-based artistic practices serves as a preparation for ownership of all cultural and intangible resources. We will elaborate on this menace in our concluding remarks.

Access and Scarcity

Miller Puckette developed Max at IRCAM (Institut de recherche et coordination acoustique/musique - Institute for Research and Coordination of Music and Acoustics) in Paris in 1988 (Puckette, 2004). IRCAM intended to release Max commercially, to the point that Puckette, at a given moment, understood that he would no longer have control over his own creation. When Puckette left IRCAM, he had to abandon the Max project, and started to develop Pd (Pure Data, also an acronym for public domain). Aligned with the principles of the free software movement (Stallman 2002), Puckette articulates his critical thinking: he argues that it is absurd to own and commercialize something that is digital, immaterial and unlimitedly reproducible. According to Puckette, composers do not own the sequences of

notes, pitches, dynamics and other parameters that they produce. For him, the idea that data sequences and software be converted into merchandise is totally absurd. According to Puckette, in the current digital market regime, profit is generated through the production of scarcity, that is, by making scarce something that is, in principle, unlimitedly shareable and reproducible:

> Physical goods can only be in the possession of one person at a time; if I have a loaf of bread, I would still have to work to produce a second, identical loaf. If two people want the same loaf, they can't both have it. Material obeys conservation laws. Information and ideas don't obey any such conservation law; more ideas can come out of a system than went in. Information, in the form of a bit stream for instance, can be copied as many times as you wish, at almost no cost. [...] IP effectively makes a zero-value commodity cost money by making copies artificially scarce. All the billions of dollars' worth of 'software' are intrinsically worth nothing at all, and IP law's only purpose is to make them cost money instead of being free (Puckette 2004).

Puckette's critique of the artificial production of scarcity through the monetization of intellectual property is also applicable to Non-Fungible Tokens. NFTs rely on a scarcity that is secured by the deployment of social labels such as "property", "the real thing", or "the market value". Chohan (2021) states that "The primary interest in NFTs emerges from uses that involve creating scarcity to ascribe value to code-built digital objects" (Chohan, 2021: 3). Furthermore, within blockchain, the validity of transactions involving NFTs is guaranteed by high-energy cost computational operations that not only prevent creative ecosystems from flourishing, but also pose a substantial risk to the existence of life on the planet. The Ethereum blockchain is used by most NFTs and its current implementation uses validation algorithms that gradually increase their operational cost as new "blocks" are generated (Truby et al. 2022; Schinckus 2020). This mechanism of increasing the complexity and cost of accessing and maintaining infrastructure has a potentially catastrophic impact on a planetary scale. In addition to the use of a highly polluting energy system, the reduced useful life of the equipment increases the generation of physical electronic waste. This is yet another example of the industrial practice of programmed obsolescence. DeVries and Stoll (2021) show how the durability of equipment is reduced to a few months and how inefficient recycling causes a noticeable increase in environmental impact.

Fake Music

In the context of the monetization of audio-centered works, "fake music" may be described as audio products created without any artistic or aesthetic purpose, with the sole objective of generating profit through their commerciali-

zation. "Fake music" may be achieved by faking the artist, the content of the audio work, or both. As shown by Drott (2020), such commercialization does not necessarily require a human listener to succeed. The mechanism of consumption involves "faking the audience".

Here, importantly, our appropriation of the category of "fake" does not imply the belief in any sort of underlying "truth" governing musical interactions — such a belief would mean reproducing the logic of the very same acoustic-instrumental paradigm we staunchly disavow.

Goldschmitt (2020) explores the concept of fake artists. According to him, it is important to acknowledge the changes in music consumption fostered by the streaming platforms. For instance, the playlist model allows the user to configure *mood* experiences while listening to audio (ex. *Music for concentration* or *Relaxing music*). Beyond the usage of musical products, ubimus frameworks address the impact of the act of music making on the participants and on the relational properties of the ecosystems that enable musical interaction. These experiences indicate a complex network of semantic associations that shape both the processes of decision making and the unintended byproducts of the activity (Keller et al. 2010; Keller et al. 2020). We should also consider that (1) the placement of an audio work on a popular playlist guarantees a substantial income enabled by a preexisting history of mechanisms of collection of royalties: Considering what the majority of musicians earn from royalties, for them it may be better to be contracted for a work on a hire basis than promoting their own names; (2) Streaming platforms complacently turn a blind eye to listening bots and fake audio tracks. Drott (2020) states that streaming companies may place some restrictions to keep the appearances but they are not interested in eradicating it completely since they rely on this phenomenon for profit. In 2017, Spotify contracted musicians through a company named Epidemic Sound, to produce audio tracks that matched some mood characteristics. This music was automatically placed on some of the mood-oriented playlists curated by Spotify, guaranteeing an income for the company who owns the rights, but not necessarily for the musicians. The information provided by the platform implied that the tracks were authored by "legitimate artists", rather than as a subproduct of a scheme concocted by a global corporation to maximize its profit.

Drott (2020) discusses the economy of attention, in which "the exponential growth of information online has created a scarcity in that resource that information consumes: attention" (Drott, 2020, p.154-155). This scarcity results in the increase of economic value to attention. At the center of this economy of attention are streaming companies, originally meant to level the playing field for small artists, but that have eventually failed because of the "winner take all dynamics" (Drott, 2020, p.156) fostered by the interaction design enforced by the streaming platforms. In this business model, a pool with the money from all the users payment, minus spotify's comision, is distributed between all the artists, but not in an proporcional way regarding the reproductions of each audio track. The big selling artists take a major part of the earnings and the regular musicians struggle to promote their music and make a living out of it. Consequently, a less than ideal relation between music and attention in the streaming platforms "appears less as a deviation from the proper functioning of markets and more as a consequence of their tendency

under capitalism to disproportionately concentrate not just financial wealth but symbolic power in the hands of a few" (Drott, 2020, p. 156). As a response to this, a pay-per-listening market (sometimes supported by human beings, other times automated through bots) has aligned the size of the audiences to the monetary cost of the service. Drott (2020) proposes two categories: (1) fake streamings — as a form of promotion — are intended to draw attention to an artist and promote her career by boosting her presence on popular playlists. Complementarily, fake streamings are oriented to generate profit through royalty payments. This is the case of the "Bulgarian Spotify scam" in 2017. In this scam, 1200 legally acquired and paid premium accounts were used to continuously play two playlists (the perpetrators of the scam had the royalty rights of those audio tracks). An investment of approximately 12000 dollars in the premium accounts could generate up to 415000 in profit, through the royalty payments. Maybe the most interesting part of this scam is that it was perfectly legal, no laws were broken.

These practices are not exclusive to the central countries. A composer located in a peripheral country agreed to share her experience anonymously. During the Covid-19 pandemic, facing financial problems and unable to maintain a regular income due to the social distancing protocols (and the inevitable shutdown of theaters and music schools), this composer generated different "audio works" using random processes via specialized audio software ("faking the content").

These "works" were launched in different streaming platforms using different aliases, which resulted in the same "work" being commercialized by different "personas". Thus, "fake artists" were generated (sharing some similarities to the case described by Goldschmitt, 2020) in the sense that anyone hearing these "works" could mistake them as the creative production of a human composer and assume that this composer matched the "persona" described in the accompanying biography. Also, another question arises here: similarly to what happens with the same digital item being minted as several different NFTs, with music streaming the same work can be monetized by different "personas" on different platforms. While this may not be an issue for established artists that have the full support of record and distribution rights companies, the situation for an independent artist from the Global South could be much more difficult to manage.

Using a small number of old smartphones, a domestic bot farm was created to generate consumption of the "audio works" for a period of 18 months ("faking the audience"). In this period, a total of 199.774 reproductions were made across different platforms generating a total income of $683 US dollars. Due to the high number of reproductions generated by the bots, some of the "audio works" were selected to be part of an automatedly curated playlist, which led to some casual listening by actual human beings, although these reproductions represent a negligible portion of the total.

When considering the practices that involve the monetization of audio-centered works by faking the artist, the audio work and/or the audience (or all of them as it is the case of our anonymous composer), we see problems that have been pointed out by Drott (2020), Goldschmitt (2020) and Vonderau (2021). Value (not only financial but also symbolic) is attributed to the musical experience (Drott, 2020). This experience is partially shaped by the way

music is distributed on the streaming platforms. As argued by Vonderau, "instead of invoking the notion of fake or false representation, that is, a critique of capital where some kind of value is real and some other kind is not, we may see such events, actors, and networks not as outside or opposed to distribution, but as part and parcel of distributive practices." (Vonderau 2021, p. 138). Ubimus practices present a possible solution to this predicament by empowering distributed stakeholders, promoting domestic creative processes and avoiding the reification of musical resources and outcomes.

Musical Stuff: Volatility, Rivalry, Flexible Temporalities, Territoriality

The NFT initiative involves a massive reification of intangible resources whose transition to the status of "things" may hinder musical creation in marginalized spaces. As a resistance strategy, we propose the reconfiguration of IoMusT, Internet of Musical Things, slightly modifying the acronym to IoMuSt, or the Internet of Musical Stuff (Messina et al. 2022a; Messina et al. 2022b). "Things" are separate, identifiable, materially distinguishable, while "stuff" is fluid, malleable, volatile and pecuniarily irrelevant. Being a community-oriented concept, musical stuff may feature emergent relational properties that only become accessible through deployment and usage (Keller et al. 2015). Thus, we will not attempt to enlist a fixed set of characteristics. In line with the parsimony suggested by ubimus methods, we discuss a provisional group of resource qualities that have been featured in recent ubimus projects. These are, of course, subject to revisions and adjustments as the field moves forward through field deployments.

Volatility. Focusing on creative music making as an activity has several implications on the study of material resources. Ubiquitous music phenomena involve both the locally available objects and the remote materials accessible through technological infrastructure. Therefore, we need to consider at least two types of resources: 1. the resources present on site, defined in the creativity literature as the *place factor* (i.e., *collocated resources*), and 2. the materials accessed through creativity support tools which may or may not be collocated (i.e., *distributed resources*). Iannis Xenakis (1992 [1971]) suggested that creative musical activities may occur in-time or out-of-time. This idea has been adopted by the human-computer interaction literature under the labels of synchronous and asynchronous activities (Miletto et al. 2011). Applying this notion to material resources introduces a new target for experimental work. Some materials may only become available during the creative activity and cannot be recycled for future use. Other resources may be repeatedly used in the context of asynchronous creative work. An example of the former case are the improvisatory performances based on network infrastructure. Each participant's action depends on the sonic cues provided synchronously by the other participants. These sonic cues are only available in-time, therefore they can be classified as *volatile material resources*. Other resources can be incorporated in the context of iterative cycles of creative activity. A good example is provided by the concept of musical prototype (Miletto et al. 2011). A musical prototype is a data structure that supports actions by multiple users through a network infrastructure. A single creative product is shared by the

participants collaborating throughout the creative cycle. Participants access the musical prototype remotely and cooperate by doing direct modifications and by providing comments on their actions and on their partners' actions. Creative decisions are the result of a cumulative process of material exchanges that can last from a few hours to several months. Hence, we can say that a musical prototype is a *non-volatile material resource*.

Antirivalry and nonrivalry. A group of perspectives that has direct application in ubiquitous music research comprises the psycho-economic theories of general creativity (Rubenson and Runco 1992, 1995; Sternberg and Lubart 1991). The underlying assumption of this group of theories is that creative activity both demands and produces resources. Economically oriented approaches provide opportunities for observation and quantification of variables that are hard to assess within other creativity paradigms. Given that available resources for creative activity are finite, they may be quantified. By observing the flux of consumption and production of resources, quantitative predictions may be linked to specific environmental conditions. The effectiveness of the creative strategy can be assessed by comparing the use of resources with the creative yield. The type of creative outcomes could be predicted by identifying what resources are available and how they are used throughout the creative cycle. And the relationship between resource consumption and creative waste can be used to assess the sustainability of the creative ecosystem under observation. Consequently, creative potentials and creative performance become linked to specific variables that can be studied through empirical work. Observable resources become the focus of the experiments, opening a window to quantitative comparisons among different strategies for support of creative activities.

From an economy-oriented perspective, material resources may be *rival* or *nonrival*. Rival resources lose value when shared. Nonrival resources can be widely distributed without losing value. Information is a good example of a non-rival resource. Information can be freely shared without any impact on its social value. Contrastingly, if a food stock is partitioned within a community its value is reduced proportionally to its depletion rate. An empty food stock has no social value.

There are some interesting observations to be gathered through the application of the quality of rivalry in creativity-centered design. Resources for creative activities can be characterized by their level of relevance and originality (Weisberg 1993). In the context of group activities, these two factors constitute opposite forces. Creative resources that are unique and have not been shared among group members keep their creative potential and have a high level of originality. Through sharing, original resources lose their creative potential while they gain acceptance among group members. The most relevant resources are the ones most widely distributed with the highest social acceptance. Therefore since creative rival resources lose value through social acceptance, they can negatively impact originality. On the other hand, creative non-rival resources can be freely distributed without affecting originality. Given that non-rival resources can be widely shared, they can attain higher levels of relevance than the rival resources.

Sound samples can be classified as creative rival resources. The novelty of the creative products that use samples decreases proportionally to the

139

number of copies of the original sound. Deterministic synthesis models generate the same sound for the same set of parameters, so they can also be classified as rival resources. Given that physical objects produce different sonic results each time they are excited, the events they produce can be classified as non-rival resources. On a similar vein, an stochastic synthesis algorithm can render multiple events without producing repeated instances (Keller and Truax 1998).

From a resource-flow perspective, the volatility of the material resources employed is a design quality that can be applied to gauge the level of support for asynchronous activities. Persistent resources, such as network-shared musical data allied to consistent metaphors for interaction, may prove useful to support creative activities across multiple devices, involving access by multiple stakeholders. Ubimus research carried out during the last seven years suggests that the resources' volatility should be taken into account when designing ubimus ecosystems. Creative rival resources do not add value to the creative product when shared. Therefore, distribution of copies of creative rival resources among group members should be reduced to a minimum. This limitation does not apply to the case of creative non-rival resources, (e.g. synthesis techniques that generate new material for each iteration, Keller and Truax 1998). These resources can be shared without imposing a steep reduction on the originality of the stakeholders' creative products.

Summing up, creative rival resources do not add value to the creative product when shared. Therefore, distribution of copies of creative rival resources among group members should be reduced to a minimum. This limitation does not apply to the case of creative non-rival resources. These resources can be shared without imposing a steep reduction on the originality of the stakeholders' creative products. Anti-rival resources gain value proportionally to their distribution among the stakeholders.

Flexible temporalities. Regarding their temporality, material resources can be classified as a continuum from persistent to volatile. Persistent resources provide firm referents for everyday musical activities because they tend to be available throughout the activity. Volatile resources' accessibility is limited since their life cycle tends to be shorter than the duration of the activity. Acoustic-instrumental improvisational practices feature sonic resources that only become available at the moment of sharing. These byproducts cannot be retrieved after they occur without resorting to technological support. Recycling and reusage are built into digital systems through their data structures. Given the casual nature of most interactions occurring in everyday contexts, a balance between volatility and persistence may be necessary to enable diverse musical practices. Storage and processing power of mobile and embedded devices is usually enough for the individual needs in short creative sessions. But when the number of stakeholders increases or when the creative activity extends for long durations, the amount of creative byproducts may force the implementation of a reliable managing system.

Territoriality. Metaphors of geopolitical control and territorialized desire are not uncommon within creative collaboration, even in the case of distributed and asynchronous interaction (Messina et al. 2019). The complex and multiple activity of users across time and space over the same resources, on the contrary, is likely to generate some sort of conflict, be it metaphorical

or concrete. Drawing upon previous ubimus experiences, Kramann (2020) argues that this type of conflictuality may prove to be a substantial obstacle in the context of distributed creativity. We maintain that some degree of territoriality and conflictuality is, by definition, a necessary part of human (and non-human) interaction. However, we consider Kramann's argument extremely relevant, particularly when conflict and territoriality may escalate into situations of extreme imbalance in terms of access to resources. We argue that the forced objectification and tokenization that we address in this paper is one of the elements that permits such escalation. In general terms, ubimus reflections on territoriality are complementary to the fostering of ecologically grounded creative practices (cf. Keller and Lazzarini 2017).

Deploying the IoMuSt

Avoiding the focus on expensive devices and services and/or on tokenized digital content, the Internet of Musical Stuff (IoMuSt) conceives its ecosystems in terms of interconnected processes, actions and support mechanisms, based on social commitments and on responsible, sustainable and creativity-oriented forms of engagement. Part of these processes are based on volatile and anti-rival resources [Keller 2014], that is, resources that are available only during the specific activity and gain social value through unrestricted sharing. Adaptive strategies are employed to encourage the use and reutilisation of local resources. Both IoMuSt resources and processes resist tokenization, foster unlimited reproducibility, and are based on value judgments about the impact of creative practices on the local ecosystem. These characteristics subvert the NFT agenda and tend to break down financial barriers, allowing individual and casual participants to freely access creative resources.

Strategies that enable data collection without disrupting the creative experience become a requirement for the design of IoMuSt processes and resources. Previous ubimus work points to three methodological approaches: 1. *Avoid early commitment to specific tools or functionalities*. This strategy can be applied to multiple stages of the design cycle. During the early stages, design fictions can be employed to explore the philosophical underpinnings of the stuff ecology. Given the opportunistic adoption of local resources in ubimus practice, a fixed functionality of stuff cannot be taken for granted. Components gain meaning through usage, through interactions among participants and through connections and exchanges with other components. Consequently, mutual adjustments should be expected and support mechanisms should be incorporated into the stuff ecology. The latest stages of the design may call for adjustments to address unexpected and possibly deleterious byproducts. These issues need to be considered before the deployment stage. Thus, the usual policy "deploy to evaluate" should be put into question. The impact of unwanted behaviors of sonic objects within the domestic spaces cannot be downplayed. Intrusive noise is among the most pervasive cognitive stressors in urban environments. 2. *Apply iterative and participatory development through rapid prototyping*. An emergent strategy in ubimus design entails the combination of extant technological resources for creative ends. This is a form of combinatorial creativity (Boden 2006),

tailored to foster diversity while lowering the temporal investment to achieve a working prototype. The underlying principle is that the best design demands zero implementation efforts (Buxton 2007). An example of this strategy in ubimus is Creative Semantic Anchoring (ASC). For instance, the proposal laid out by Messina and Mejía (2020), *Contracapas*, entails the algorithmic control of text instructions to trigger performatic behaviors at the nodes of the network. Despite being deployed as a two-node performance, it may be readily expanded to multi-node topologies. 3. *Foster collaboration within communities of practice*. The expanding infrastructure for ubimus usage has opened opportunities for long-term engagement and community-building. There are several examples of metaphors for creative action that have been deployed, assessed and incorporated as strategies for artistic and educational purposes (Keller et al. 2020; Lima et al. 2012; Lima et al. 2017).

Musical Example 1: Intercontinental Live Patching

Our first example refers to an intercontinental live patching experience (Messina et al. 2019) based on simultaneous remote interaction using the software Kiwi, a graphical programming environment that replicates the functionalities of the aforementioned Max and Pd, but offering the possibility of real-time remote collaboration, whereby several users can work simultaneously on the same project from distant locations, similarly to what happens with Google Docs.

The intercontinental live patching experience involved two academic groups based in three different universities between Brazil and France, namely, the Live/Acc/Patch research group from the two Brazilian Federal Universities of Acre and Paraíba, and a working group based at the University Paris 8 in France, gathered around the undergraduate module *Introduction à la programmation avec Kiwi, Max et Pure Data 1*.

Assisted by the idiosyncrasies of the Kiwi infrastructure, the participants adopted an entirely open, collaborative and non-hierarchical approach. In principle, such an approach might be considered a downside by software developers, for whom it is normally desirable that the author of a document be able to "authorize" or "block" the collaboration of an additional author [25]. On the contrary, with Kiwi all the participants retain the same, unrestricted rights. In addition, the operations on each patch do not leave genealogical traces, that is, it is impossible to ascertain who created a specific object or added a specific comment on a patch. In this way, potential hierarchical barriers are totally avoided. Subverting the logic of scarcity and aforementioned social labels of "ownership", this totally open, collaborative and non-hierarchical approach forms one of the pillars of what we call IoMuSt.

Musical Example 2: Playsound Space

Semantics-based musical interaction has a historical precedent in verbal-notation practices. Verbal scores were widely adopted by the experimental practitioners of the fifties and sixties, including composers such as La Monte Young and performance artists such as George Maciunas and Joseph Beuys.

At the time, the computational infrastructure was restricted to large companies and research centers. So the adoption of computational tools would have involved constraining artistic practices to specialized venues – a requirement that went against the grain of the artistic proposals championed by Fluxus. Contrastingly, the current tendencies in creative music making indicate that computational resources are employed at some stage in almost all artistic practices (see a historical overview of technology-based music making in Keller and Costa 2018). But these resources are not always available to lay participants and various design challenges forfeit the full engagement with creative activities outside of the specialized venues. Given this context, semantics-based musical interaction may furnish a way to promote musical knowledge transfer without resorting to traditional notation.

The open online resource Playsound.space (Stolfi, Milo and Barthet 2019) extracts accessible and modifiable sound content free of charge through Creative Commons licenses: this material serves as a basis for free improvisation, and is available for free to all users. Playsound.space aims to increase the circulation and transformation of sound resources, through flexible temporalities, the overlapping of several sound layers, and the promotion of collaborative participation.

Musical Example 3: Memories Tree

As mentioned above, one of the standpoints of Object-Oriented Ontology is the rejection of the concept of Nature. Such a rejection is not based on the assumption that "there is nothing out there" (Morton 2011: 178), but rather on the idea that anthropocentric subject-object binaries tend to otherize Nature as something external to the subject, as if humans were not part of it. OOO asks us to think of ourselves as "just another object" (Morton 2011: 173).

While ubimus research endorses non-anthropocentric views, we are not convinced by the eclipse of the subject professed by OOO. The interactive multimedia installation Memory Tree (also Memories Tree, Ribeiro Netto et al. 2015) is based on augmenting a live tree with a system that allows interaction with users. The project fosters the recycling of scrap and electronic waste. Among the components of this system, we highlight the auditory resources originated from the sharing of sound messages on social media. The tree ceases to be interpreted as a passive element and becomes a repository of memories of the events that surround it.

Rather than construing reality as a series of objects, the Memories Tree project unearths and reclaims the irreducible subjectivity of a non-human being, thus overturning the logic of OOO. In virtue of the interconnected, transitory and absolutely valueless nature of its nodes and components — for commercial goals — the Memory Tree could hardly be described as a "Tree of Musical Things". It is made of scrap. The sonic messages are personal and fleeting. Its value depends on the engagement of a community. But this engagement is necessarily selfless, it breaks down when invaded by corporate or commercial messages. Thus, it is not a tree of things, and we prefer to describe it as a "Tree of Musical Stuff".

Musical Example 4: Pulse 2357

Taking as a starting point the ubimus principle of distributed creativity, Kramann (2020) devised pulse2357 as a "board game with an inherent correlation to music" (2020: 24). Implemented and disseminated online as a free Android application, it is also a real-time tool for composition (2020: 29). Featuring a limited range of actions, the game is intended to quickly familiarize untrained users with selected aspects of musical creation.

As a tool for algorithmic music-making, pulse2357 defies the reification. A first, obvious element is the form of dissemination of the board game, distributed as a free mobile app — even though sharing free software on Android's Play Store is very far from being an exclusive prerogative of Kramann's work. Secondly, the musical material produced while playing pulse2357 does not constitute creative "works", but rather exists ephemerally in the form of volatile game practices. We (happily) fail to envisage the material resulting from pulse2357 games as tokenizable into NFTs and sellable as — to quote Ethereum's own corporate rhetoric — "the real thing".

Final Remarks

The topics covered in this chapter are part of the ongoing ubimus discussions on the relevance and necessity to expand the strategies for creativity support, highlighting the demands from communities living in peripheral ("non-Western") locations in which the easy access to technological resources and know-how are not guaranteed. We underline sustainability as an emerging topic among second-wave ubimus proposals, with potential impact on infrastructure-design decisions entailing the expansion or the reduction of creativity support. To restrict the usage of the Internet of Musical Things within the scope of instrumental practices entails the exclusion of communities due to their lack of access to resources. Furthermore, this view implies the imposition of a set of assumptions on what constitutes 'correct' music making.

We also underline the problems of adopting the category "thing" as the foundational entity of creative practice, including the dangers of imposing the object over the values of knowledge sharing, dialogic practices and free circulation of digital assets, values defended by multiple initiatives within the ubimus community (Lima et al. 2017; Keller 2014; Messina et al. 2019) and outside (Puckette 2004; Santos 2011). This reification of musical resources tends to give way to the monetization of ubimus practices that rely on the musical internet for resources and infrastructure, seriously compromising the sustainable program defended by the ubimus movement. A community built around the free circulation of material and intangible assets will most likely not survive the restrictions imposed by corporate usage. In line with Ahmed (2007), the Internet of Musical Stuff is proposed as a path of resistance to reification.

As an alternative to the reified edifice enforced by the corporate usage of blockchain technology, we sketch a flexible set of qualities tied to a provisional notion described as "musical stuff". Stuff is pliable, it is fairly amorphous, it changes with usage, it relies on context to acquire meaning, it

may be persistent or volatile depending on the demands of the stakeholders, it supports handling through flexible temporalities, it incorporates value through sharing and it easily adapts to non-hierarchical territorialities. Given these characteristics, stuff tends to be resilient and does not yield to monetization pressures.

Let us consider stuff's volatility. Methodologically, volatility can be applied to gauge the level of potential creative support. Persistent resources, such as network-shared musical data ground on consistent creative-action metaphors, may prove useful for musical activities that involve multiple devices and asynchronous access by distributed stakeholders. Complementarily, volatile resources gain importance in everyday music practices that entail support for casual interaction (Keller and Lima 2016). Without time for training or preparation, casual interactions may take place in public with the ensuing pressure of social exposure. Varying light conditions and noisy backgrounds may also interfere. Thus, the ability to explore the resources without enforcing preestablished practices may be more advantageous than the synchronous decision-making processes typically adopted by networked music performance.

The impact of sharing on creativity has emerged as one of the key features of ubimus practices. Collaborative strategies highlight the socially distributed nature of creative resources and impact the value ascribed to musical materials. Relevance and originality are closely tied to the spread or the concentration of resources in the stakeholders' hands. Rivalry establishes a bridge between sharing and the creative potential of the pooled resources (Keller 2014). Some assets gain creative value when shared (anti-rival) while others are negatively impacted by a lenient distribution policy (rival). A third category affords sharing without reducing its potential for creative outcomes (non-rival). Ubimus endeavors may take place in public spaces where participants freely engage or quit a creative activity. Therefore, a careful analysis of the dynamics of sharing and selection should be promoted in tandem with support for the multifarious qualities of musical stuff. Remote resources and collaborators may be accessible through the use of the IoMuSt, hence the activities may involve resources available on site and also remote resources, as shown in examples 1, 2 3 and 4. How to strike a balance between presence and remote engagement is an open issue to be addressed through field deployments.

The four musical examples outlined in this chapter resist reification by means of the use of flexible temporalities. They challenge the fixedness of objectified musical practices. Asynchronous interaction, casual participation and volatile resources are all elements that help to overcome fixed temporalities. A territorial metaphor may also be relevant to most of the examples. Especially in the first two, online interaction emerges as the simulacrum of shared spaces. Apropos of territoriality, the connection of the Amazon Center for Music Research with the local history allows us to draw a parallel between the free extraction of sound content typical of mechanism implemented in Playsound.space, as opposed to the mining practice that characterizes the economy of blockchain: the first can be compared to the extractivist activity of rubber tappers, while the second emulates the destructive practices of predatory mining and gold-digging. Transposing this

to the concrete historical events involving Western Amazonia, we visualize, on the one hand, the trade union militancy linked to the extraction of rubber in the State of Acre between the 1970s and 1980s, with its innovative proposals in terms of sustainability and complete reformulation of the institution of private property (Mendes 1992 [1988]), and, on the other hand, the environmental destruction caused by gold mining, for example, along the Madeira River in the state of Rondônia (Martinelli et al. 1988). This environmental metaphor illustrates the relationship between IoMuSt and blockchain: a sustainable creative ecosystem stands as opposed to the nefarious reality of the predatory exploitation of the forest.

The criticisms that permeate this article are part of a general call to increase ethical commitment and militancy within ubimus research. This is partly due to a tight connection of ubimus creative practices with the development of material and cognitive support via technological design and through the expansion of musical knowledge. After 2020, we face challenges that were not fanthomable during the previous century. Therefore, the difficulties multiply. As artists and developers of new technologies, we need more evidence of the positive impact of our practices and more modesty in our musical attitude. We hope the approaches proposed in this chapter may serve as a counterbalance to the celebratory incorporation of corporate discourse that we are witnessing in part of the artistic circles of central countries.

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CHAPTER SEVEN

MAKING AN IMPACT: FIT-FOR-PURPOSE CREATIVITY ASSESSMENT

DAVID H. CROPLEY

Abstract

The field of creativity research, in its modern sense, has existed for some 70 years. Initially driven by questions anchored in education, creativity research has branched out over the last 70 years to touch on many areas of human activity. However, it can be argued that the discipline has, in those 70 years, failed to make a deep and lasting impact in areas such as education. Despite strong interest in creativity, many countries still struggle with the issue of how to develop and assess creativity across the range of disciplines.

A key cause of this gap between research and practical application, especially in education, but also in business, may be a problem of measurement. In particular, the issue is a matter of the *fitness-for-purpose* of creativity measurement. This can be understood in terms of five key factors: (a) domain-specificity; (b) consistency and trustworthiness; (c) classroom integration; (d) speed of results, and (e) cost.

The good news is that solutions are now emerging to these problems in relation to creativity assessment. Computational methods, especially, but not limited to, the broad field of Artificial Intelligence (AI) are now becoming available. Already, these methods are demonstrating that they can solve many of the weaknesses identified here.

This chapter will delve into the application of computational methods to creativity measurement, giving examples of existing work in this area, and explaining why this is so important as a means of addressing the gap between creativity research and its real-world application. In an era where creativity is increasingly accepted as a vital 21st century competency, these computational methods could not have arrived at a better time.

Key Ideas/debates and categories addressed:

Debate: What innovations are currently in process?

Categories: Business/Education/Research

Keywords: Creativity, measurement, education, application, fitness-for-purpose, computational methods, artificial intelligence.

1. Creativity Research and Impact: Phase 1 (1950-2011)

The purpose of research is to increase understanding of phenomena of interest and originates with a question or problem (e.g., Leedy & Ormrod, 2013, p. 2). The practical, problem-focused nature of research leads many to regard all research as *applied*. Indeed, Brown et al (1997) quote J F Lovering[1] who said that "research is of two types: applied and yet to be applied" (p. viii). Inevitably, this means that a key metric for applied research is *impact*: what does the research contribute to the wider society and economy? Creativity research is no different: what contribution has creativity research made to societies more broadly since the beginning of the modern creativity era?

1.1 A Solution Waiting for a Problem?

Creativity, in its modern, psychological sense, has been a subject of scientific inquiry for over 70 years. Creativity research in *all* contexts has grown strongly over the same period. Since 1950[2], the volume of creativity research[3], as evidenced by the number of articles published (Figure 1), has risen from 460 articles (1950) to 148,000 articles (2020). This average growth rate of nearly 8%, year on year (not withstanding some recent anomalies, at least partly attributable to COVID), would suggest a sustained and healthy interest in the broad topic.
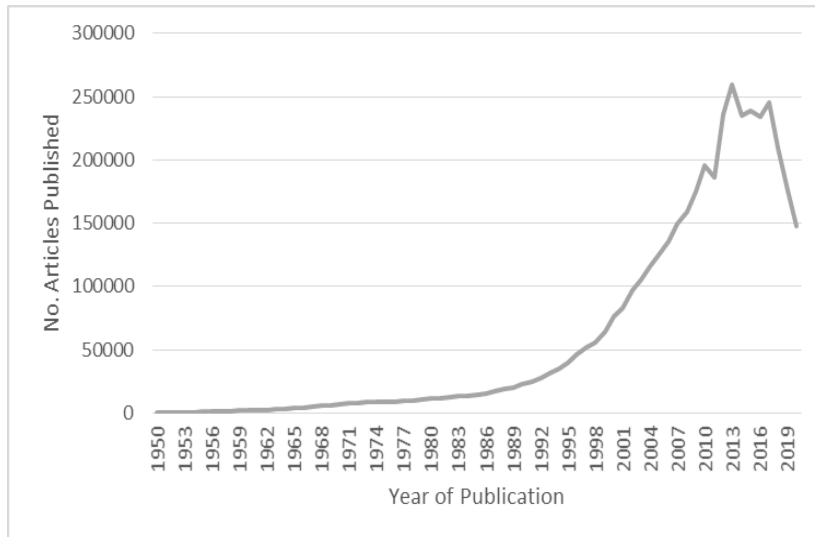
Figure 1: *The Growth of Published Articles on Creativity (1950-2020)*

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[1] J F Lovering is a former Vice Chancellor (President) of Flinders University in Adelaide, South Australia.

[2] 1950 is often regarded as the beginning of the *modern era* of creativity research (e.g., Cropley & Cropley, 2013, p. 10), stimulated by Guilford's (1950) famous article.

[3] The metric I have used here is the number of articles reported, by Google Scholar, with the word "creativity" *anywhere in the article*, for the single years in question. The data presented here were collated in October 2022.

More specifically, much of the focus of creativity research has been directed towards questions of education. Indeed, an important, early driver of the modern creativity era was the role of creativity as a component of intelligence, and its role in the context of school education (e.g., Guilford, 1950). The intersection of creativity and education has remained a major focus of creativity research ever since, comprising the majority of published articles in creativity for almost all of the modern creativity era (Figure 2).
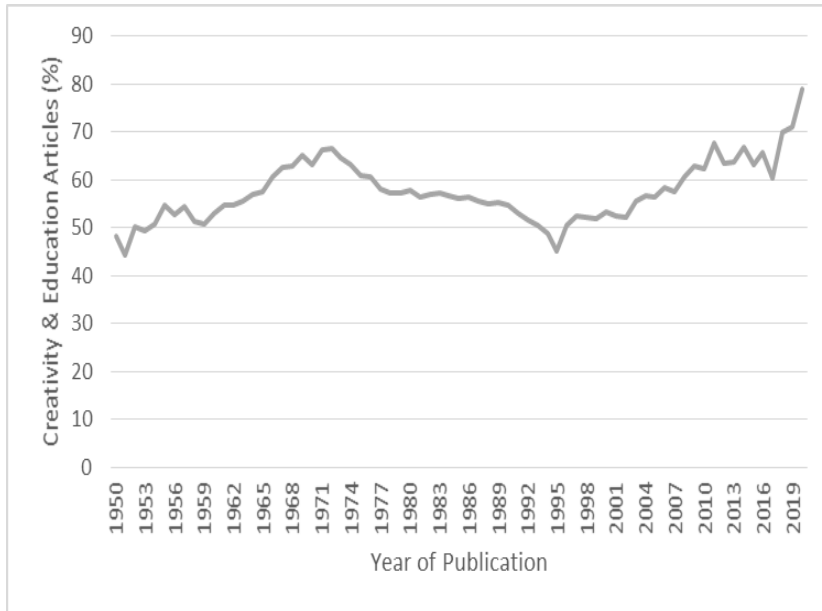
Figure 2: *"Creativity & Education" as a Proportion of All Published Creativity Articles (1950 – 2020)*

If we were to regard creativity *research* as a significant driver, or cause, of its application (in other words, more creativity research leads to more application of creativity research), then we might reasonably expect to see tangible evidence of the contribution, or *impact*, of this creativity research, especially in education (perhaps with a slight time lag). We can speculate that one way the impact of creativity in education should be seen is in the school and university curricula of various countries. Put simply, research demonstrates, with the support of empirical evidence, the importance of creativity in education more generally (e.g., Fasko, 2001) and in specific ways (e.g., Kaufman et al, 2021). Stakeholders in education (i.e., end-users such as school administrators, teachers, accreditation authorities, professors) notice this and react accordingly, building creativity into the curricula of their respective education systems. The evidence of impact therefore should be clear and simple. Creativity should, after 70 years and thousands of research articles, be firmly embedded in school and university curricula around the world. That fact that this uptake, even in 2021, is neither consistent, nor comprehen-

sive (see, for example, the discussion on creativity in school curricula in Patston et al, 2021, or the broader discussion, including higher education, in Cropley & Cropley, 2009) is, prima facie, evidence of a significant *disconnect* between creativity research and end-user application (or *impact*). Indeed, surveys of employers consistently back up this disconnect, complaining of skill deficiencies in creativity among university graduates (see Cropley, 2015 for a longer discussion). Why has creativity research – much directed at questions of education – *not* had a greater end-user impact in education? Why has it not made a more tangible contribution?

One possible explanation for the disconnect is that creativity research, in terms of application and impact, largely has operated (consciously or unconsciously) on a model of *technology push*, or what could be described as the *Field of Dreams* approach to research application and impact (i.e., "If you build it, they will come."). This approach assumes that the potential end-users of creativity research – e.g., parents, teachers, school or college administrators, businesses leaders – will recognise the inherent value of the body of knowledge that researchers are building and will adopt it as a solution to a problem that they may not even know they had. There are, of course, two risks to this supply-driven approach to research. The first risk is that the potential end-users of the research fail to perceive a problem for which creativity research is a solution. The second risk is that other problems, perceived as more urgent and compelling by potential end-users, occupy their finite resources and attention. In terms of end-user engagement and impact, it could be said, therefore, that creativity researchers, over many years, developed a solution that, at least from the evidence, was (or perhaps still is) *waiting for a problem*. What other evidence, from the end-user side of the equation, might support this *technology push* hypothesis of creativity research application and impact?

Early in the modern creativity era, Getzels and Jackson (1962) reported evidence that teachers struggled to identify creative students. Here, perhaps, was an early catalyst for research impact, and an opportunity for creativity researchers to respond to an end-user need. However, only modest, linear growth in creativity research over the following decade addressing this *measurement* and *education* focus[4], coupled with the comments of Wakefield (1987) that "there are a fair number of creativity tests on the market, [but] only a few have significant psychometric support, and most are recommended *for research purposes only*" (p. 19), suggests that little real progress was made in responding to the needs of end-users in education. Indeed, in the decade following Getzels and Jackson's (1962) book, the proportion of creativity research focused on *measurement* in education fell relative to the total volume focused on education (Figure 3) on the next page.

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[4] Number of published articles containing the keywords "creativity" and "education" and "measurement".
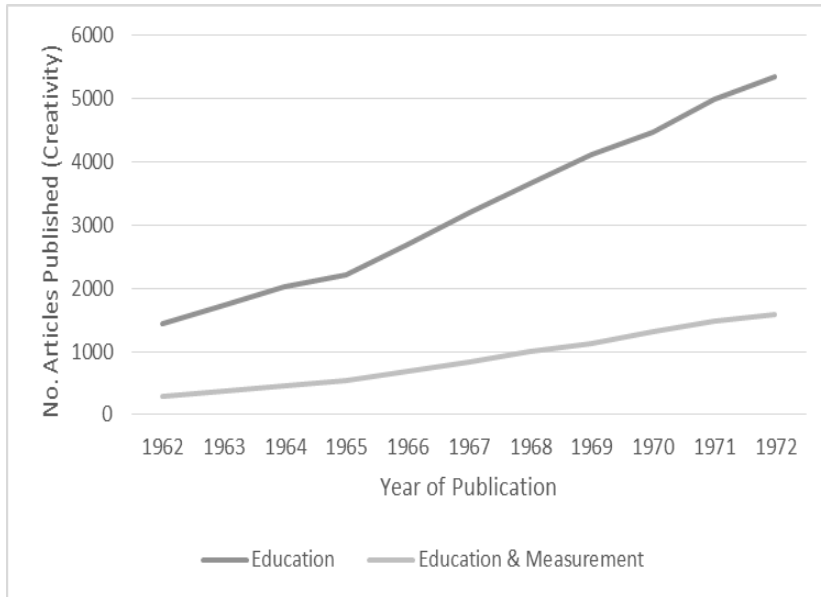
Figure 3: *The Growth of a Focus on Measurement in Creativity & Education (1962 – 1972)*

Even when a specific, compelling problem was identified, the opportunity, decisively, to bridge the disconnect – to make a decisive contribution – was not taken, with creativity research struggling to provide a solution. Two publications addressing the relationship between college admissions testing and creativity illustrate this. Sternberg (2010), for example, noted a variety of issues and weaknesses in relation to college admissions testing (keeping in mind that this discussion is very US-centric). He identified the nature of the problem: US college admissions testing does not test explicitly for creativity, and in failing to do so, may well be biased against the creativity of potential students. That there may be many reasons for this, not least the fact that college admissions testing in the US is big business, and that testing companies may be reluctant to do anything that disturbs their lucrative monopoly, is noted. However, what stands out is also the failure to proffer a concrete solution. Sternberg reiterated that a problem exists, but no real solution was offered, except to say that creativity *could be* a part of college admissions testing.

Dollinger (2011), in similar fashion, explored the relationship between creativity and college admissions testing. While both sides of the underlying argument are discussed – do current admissions tests address creativity or do they not – we end up with a disconnect. The same end-user problem (how to measure creativity explicitly in college admissions processes) was identified, calls were made to address this gap ("…alternative assessments should be used if admissions committees wish to select those with the greatest creative potential.", p. 337), but nothing tangible was really offered as a solution to the problem. Indeed, the measures of creativity used by Dollinger

(2011) to show that the ACT[5] has a modest ability to predict creativity are no practical solution to this problem, being either a self-report measure of "creative" accomplishments based on Hocevar (1979), a non-standard version of the TCT-DP (Urban & Jellen, 1996) scored by up to eight quasi-expert judges, or a photographic homework assignment scored by up to five non-expert judges.

To be fair, these calls for change may have had some small effect in closing gap between creativity research and end-user impact, at least in education. Creativity research focused on measurement and education, in the decade from 2010, grew as a proportion of all research in creativity and education (Figure 4). Nevertheless, the growth of creativity research in education, focused on measurement, has been modest for such a compelling end-user problem. Equally, simply doing more applied research does not guarantee that the research gets applied.
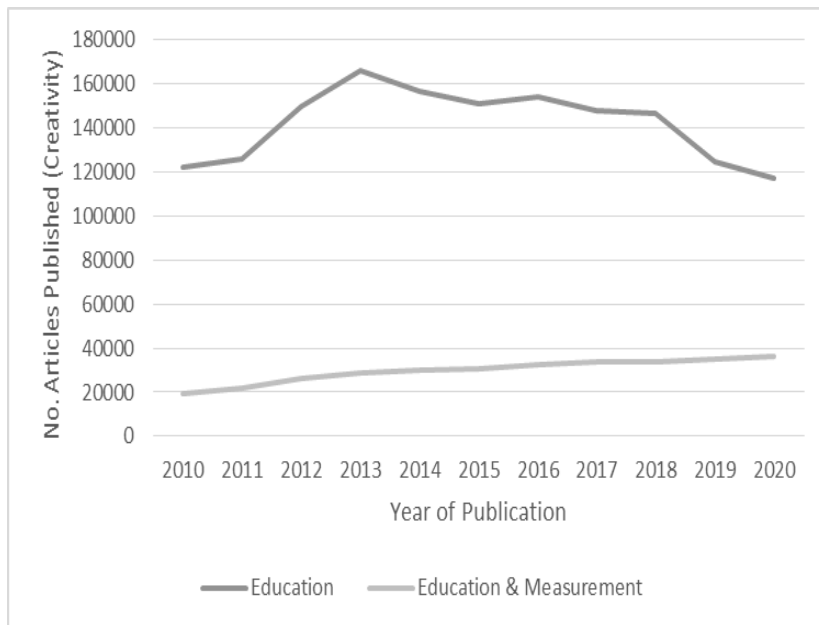
Figure 4: *The Growth of Creativity Research (>2010) focused on Education and Measurement*

This state of affairs, namely, the apparent reluctance of creativity researchers to address end-user needs, is reminiscent of a broader phenomenon known as Cobb's Paradox[6]. Stated in terms of creativity research over the first phase of

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[5] The paper, unfortunately, never actually says what the "ACT" is. The implication is that it is some sort of test used for college admissions in the US, without ever giving any specifics.
[6] Martin Cobb, Chief Information Officer (CIO) for the Secretariat of the Treasury Board of Canada stated, in 1995, "We know why projects fail, we know how to prevent their failure -- so why do they still fail?"

the modern era (1950-2011), we see a variant of Cobb's Paradox: *we know that creativity is important to education, we know how to measure creativity – so why are measures of creativity used so little in education?*

Perhaps the long-standing disconnect between creativity research and end-user impact was, and still is, driven by Wakefield's (1987) observation that "…no current measure of creativity is adequate." (p. 18)? Perhaps the driver of the gap between creativity research and end-user application has been a long-standing problem of measurement? In fact, Kaufman (2010), also discussing the issue of creativity in college admissions testing, gets to the real source of the disconnect. Not only does he note (discussing the publishers of standardised tests) that "If it were easy to add a construct like creativity to a standardised test, it would be done" (p. 197), but he also states that "Creativity simply does not yet have an affordable, valid, and easy-to-administer large-scale measure that is not susceptible to coaching and faking" (p. 197). Indeed, Kaufman (2010) goes on to point out the specifics of this measurement problem: questionable validity, inconsistency, complexity, and cost. In simple terms, the heart of the disconnect between creativity research and end-user application may be the fact that *good* measures of creativity are simply not *fit-for-purpose* from the point of view of end users.

Most worrying of all, a consequence of the disconnect between creativity research and end-users – the lack of fit-for-purpose measures of creativity – may be the cause of a decline in research in educational aspects of creativity (see Figure 4) just at a time when the *need* for creativity in education is growing.

2. Creativity Research and Impact: Phase 2 (2011 – 2017)

Whatever the historical relationship between creativity research and impact, there is a sense that something has begun to change in the broader environment. That change, in turn, may be creating conditions in which it will be easier for creativity research to make an impact. What is the change, and how is that affecting creativity research and its potential for end-user impact?

Digitalisation and the Future of Work

Beginning in around 2011, a decisive shift in the relationship between creativity research and end-user application began to take place. The rapid *digitalisation* of societies, dubbed Industry 4.0 by the German government in that year (see Cropley & Cropley, 2021), began to influence, more and more, how governments and organisations perceived the nature and value of the skills of human workers. There began, in other words, a recognition that in a world increasingly characterised by big data, artificial intelligence and automation, the skills that humans would need were changing (e.g., OECD, 2017). The jobs of the future, so the argument goes, would increasingly focus on skills that were *uniquely* human – skills for which humans could not be replaced by machines – and creativity was recognised as such a skill. The effect of this change in thinking was to alter the relationship between creativity researcher and end-user, from technology push to *market pull*. In a very short space of time, the balance in the relationship between creativity researchers and end-

users shifted to a situation in which end-users realised they had a problem – how to build creativity into education – and began actively seeking solutions.

The growing end-user demand for creativity, since the advent of digitalisation, is readily apparent. In 2010, the Australian Curriculum, Assessment and Reporting Authority[7] (ACARA), for example, first introduced critical and creative thinking into the national curriculum, as a *general capability*, from kindergarten to grade 10. Beginning in 2013 the World Economic Forum[8] began a process that would result, in early 2016, in the first *Future of Jobs* report (WEF, 2016). That report, updated annually since 2016, has consistently highlighted creativity, among a variety of factors, as a core *21st century skill*. The Organisation for Economic Cooperation and Development (OECD), through its Program for International Student Assessment (PISA), in 2022 introduced, for the first time, a test of creative thinking as part of its suite of assessments[9].

Thus, it would appear, the conditions for bridging the disconnect between creativity research and end-user application were, beginning around 2011, at hand. Digitalisation had created a compelling need for creativity in education, and creativity research was ideally placed to support this need. Indeed, from 2011 to 2013, there was a marked increase in creativity research outputs, both in creativity generally, and in creativity and education more specifically (Figure 5).

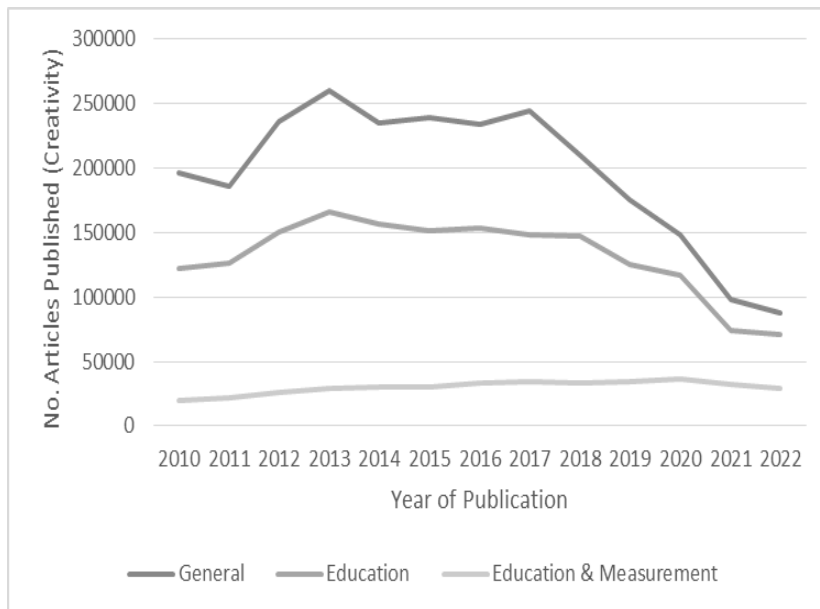**Figure 5:** *Changes to Creativity Research Output Post 2011*

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7 ACARA is the Australian Governments national
8 See: https://www.weforum.org/reports/the-future-of-jobs-report-2020/
9 See: https://www.oecd.org/pisa/innovation/creative-thinking/

It is therefore altogether more surprising that, in 2013, research outputs in creativity (both generally and in education: Figure 5) began to fall from an all-time peak. In the presence of strong, indeed growing, end-user demand, could this decline, particularly sharp since 2017, be explained by the failure of creativity research to respond to the demand? Was the lack of fit-for-purpose measures of creativity not only failing to meet end-user demand, but turning researchers, frustrated by their inability to meet the demand, away from creativity research? Or (Figure 5) was the end-user demand causing a small, but significant, reorientation of creativity research *into* questions of education and measurement, especially since 2017?

3. Creativity Research and Impact: Phase 3 (2017+)

Digitalisation has refreshed the impetus for impactful creativity research. It has created a compelling demand. Although evidence seems to suggest that overall creativity research output is falling, despite this increased demand, the reality may be that creativity research is actually beginning to focus better on end-users and impact. However, even as creativity research undergoes a more impact-focused reorientation, there are other external forces at work that complicate research impact.

Reorientation?

Demand for creativity has never been stronger, thanks to digitalisation and a strong end-user need. However, since early in this era of digitalisation, creativity research in general, and in education, has been shrinking (Figure 5). I have argued that this may be due, at least in part, to creativity research's *Achilles' heel*: a broad lack of fitness-for-purpose in creativity measures. However, this weakness in the translation of research to end-user impact may not be unique to *creativity* research.

Much attention has been given, recently, to the so-called *replication crisis* in psychological research (e.g., Chambers, 2019). Usually explained in terms of structural pressures (e.g., the pressure on academics to *publish or perish*; the *publication bias* that favours statistically significant results) and the Questionable Research Practices (QRPs) that may result (e.g., exploiting researcher degrees of freedom, selective reporting, HARKing) it seems that surprisingly little attention has been given to the *quality of measurement* of many psychological constructs as a possible cause.

It is easy to see why this might be the case. The replication crisis is an embarrassing failure for the field of psychology. Far better, then, to focus on *external* causes. The poor level of replication results from poor practices that are forced on innocent psychologists against their will, with the misbehaviour of just a few bad apples also adding to the problems. On the other hand, to attribute the replication crisis to poor psychometric measurement strikes much more directly at the heart of the discipline. It would be necessary to admit to a systemic, *internal* failure – much closer to incompetence – than to admit to a reaction to an unfair system, or the misconduct of a minority.

In fact, the notion that the *quality of measurement* in psychological research might be, at least partly, at fault has not been entirely overlooked. Fried and Flake (2018) explore this line of reasoning, noting that the cultural shift underpinning open science *has largely ignored the topic of measurement* (p. 1), and stressing that *the quality of measurement is even more foundational than statistical practice* (p. 1).

Is the underlying cause of the replication crisis more generally, and the lack of impact in creativity research more specifically, fundamentally a matter of *poor-quality*[10] measurement? Is poor-quality measurement itself a reflection of a system of research driven not by end-user need (i.e., *market pull*), but by research, in effect, for the sake of research (i.e., *technology push*)?

Whatever the underlying causes, one thing is clear. There is now, in creativity research, an unequivocal end-user demand in education, driven by digital transformation and the future of work. Creativity research has an opportunity – perhaps only fleeting – to respond to this need, but to do so we must first understand the symptoms of poor-quality measurement – especially fitness-for-purpose – before addressing how these symptoms might be alleviated. To succeed offers the prospect of a new era of highly impactful creativity research, central to preparing students to thrive in the era of the Future of Work. To fail risks the future prosperity of current students who will be entering a workplace where creativity is at a premium. To fail also risks permanent damage to the reputation of the discipline of creativity research.

A Glimmer of Hope

In fact, this process – addressing fit-for-purpose measurement in creativity research – may be already underway. The volume of creativity research specifically in education and measurement has, in defiance of the broader trend, grown since 2010 (and ignoring the likely impact of COVID in 2021 and 2022) as suggested by Figure 6. Furthermore, in 2022, the proportion of publications in creativity and education has grown to its highest ever level (80% of all creativity outputs: Figure 2).

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[10] I use this term very broadly to encompass poor fitness-for-purpose as well as other factors such as validity and reliability.
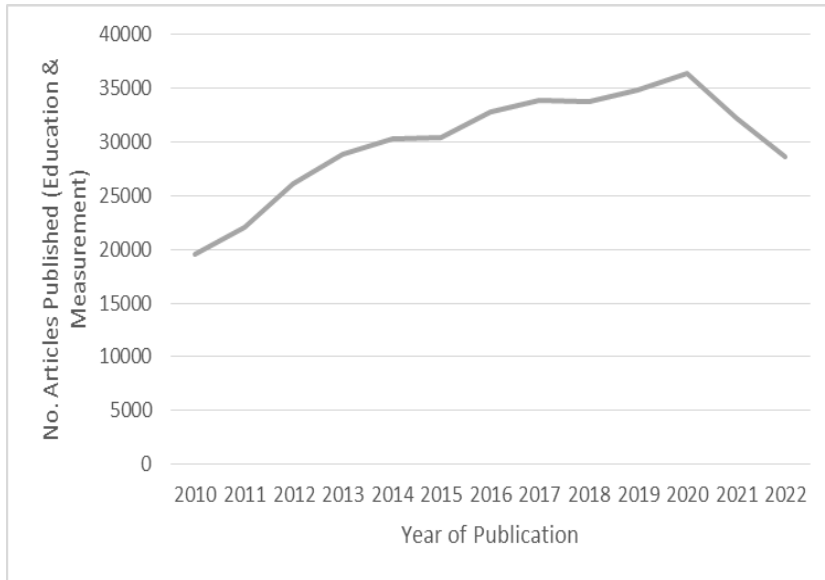
Figure 6: *The Growth of Research (>2010) focused on Measurement and Education in Creativity*

The following sections therefore explore the symptoms of poor fitness-for-purpose of measurement in creativity, before examining how creativity research may be tackling this issue. Although it is perhaps too early to draw firm conclusions as to the cause of this positive trend, it may well be that a solution to the measurement problem in creativity research is already making itself felt.

4. Fitness-for-Purpose and Measures of Creativity

A growing focus on the fitness-for-purpose of creativity assessments highlights additional weaknesses driven by end-users' (i.e., teachers, students) needs in educational settings. Race (2014) outlined criteria that define good (i.e., *fit-for-purpose*) measures in education that can be applied to measures of creativity. To be fit-for-purpose, measures should be: (a) valid (they should measure what they are intended to measure); (b) reliable (they should be consistent and fair); (c) authentic (they should be connected to real-life application and be meaningful to the student), and (d) transparent (they should be matched to subject descriptions and outcomes). Additionally, fit-for-purpose assessments should facilitate both formative and summative assessment (Burke, 2010) balancing the need for both criterion- and norm-based assessment contexts (Biggs & Tang, 2011). Driven by the forces of digitalisation and the future of work, and given the focus on creativity as a 21st-century competency, these criteria help to answer the question: Are current creativity assessments fit-for-purpose in educational settings?

To answer this question, we first set aside the broad technical and psychometric issues raised by creativity scholars (e.g., Plucker, Makel, & Qian, 2019), and discussed in Barbot, Hass, & Reiter-Palmon, 2019). From the point of view of *end-users* in education, and consistent with the theme of impact, current creativity assessments lack fitness-for-purpose because:

1. They fail to allow for creativity assessment tailored to specific domains (e.g., science vs art).
    a. If creative performance, as many researchers suggest, has limited domain-generality (see, for example, Barbot, Hass, & Reiter-Palmon, 2019, p. 234; Sternberg, 2020, p. 21), then creativity assessments in educational settings must reflect this. Creativity assessments specific to a diverse range of individual subjects must be made available to end-users.

2. They are inconsistent and therefore untrustworthy.
    a. Even creativity tests with a strong reputation for objectivity, reliability and validity (e.g., the Test of Creative Thinking – Drawing Production, created by Urban & Jellen, 1996) are susceptible to the variability associated with human raters. The TCT-DP, for example, demonstrates typical inter-rater reliability values of .90-.95 (e.g., Theurer, Berner, & Lipowsky, 2016). Even though this is considered *high* in a statistical sense, it reflects a level of inconsistency that impacts the fitness-for-purpose of creativity assessments. The more *subjective* creativity assessment methods (for example, the *Consensual Assessment Technique*, Amabile, 1982) are even more prone to this erosion of trust in creativity assessment in end-user contexts. Dollinger, Urban and James (2004), for example, noted an inter-rater agreement of just .78 using the CAT. The impact of this form of subjectivity is discussed by Beaty and Johnson (2021) in more detail. For creativity assessments to be widely adopted in schools they must be trusted, especially in high-stakes settings such as accountability systems or college admissions (Plucker, Makel, & Qian, 2019, p. 59). To be trusted, inconsistencies among human judges must be eliminated. Inter-rater *dis*agreements are akin to *misdiagnoses* and may lead to faulty, high-stakes decisions.

3. They fail to integrate, seamlessly or authentically, into the classroom context.
    a. General tests of creative potential (for example, *divergent thinking* operationalized in the Alternate Uses Test, Torrance, 1988) do not integrate smoothly with activities in most classroom subjects. In a mathematics class, for example, how would a test of ideational originality (e.g., *how many different uses can you think of for a brick?*) relate to a student's potential or performance in mathematical creativity, especially given the known difficulty that such tests have in correlating originality across two different stimuli

165

(e.g., Reiter-Palmon, Forthmann, & Barbot, 2019)? Many (perhaps most) current creativity assessments lack *authenticity* (Race, 2014) and force teachers to interrupt the flow of student learning in order to administer these inauthentic tests.

4. They do not provide rapid results/feedback.
    a. Many creativity tests are relatively quick and easy to administer regardless of whether they are assessments of creative potential or performance, or self-report measures. However, the critical issue for end-users is the speed with which results are available. The longer the gap between conducting the test and obtaining the results of creativity assessments, the lower the utility of those results. Formative feedback, in particular, requires fit-for-purpose creativity assessments that give end-users the flexibility to incorporate these assessments, with little or no delay, into the learning process (Burke, 2010).

5. They are expensive to use.
    a. Whether objectively defined test of creative ideation, assessment of related personality traits (e.g., Openness to Experience), or subjective measure of creative performance, creativity assessments usually involve what Beaty and Johnson (2021) define as *effort*. This effort – in other words, the human labour required to administer, score, analyse and report the assessments – results in creativity assessments that are expensive to use. This cost creates a barrier that leads to one of two outcomes. In the best case, end-users adopt methodologically weak measures because they are cheaper (e.g., Reiter-Palmon, Forthmann, & Barbot, 2019). In the worst case, end-users abandon the use of creativity assessment altogether. The paradox of creativity assessments is that good quality comes at a cost, and high cost deters end-users.

Although these criteria present an unfavourable analysis of current creativity assessment, the symptoms described serve one very important purpose. Together, they comprise a set of design criteria for novel, fit-for-purpose approaches to creativity assessment. Indeed, these criteria echo characteristics that have been called for previously in impact-focused scholarship (e.g., Lucas, Claxton, & Spencer, 2013). However, as discussed earlier, there is a glimmer of hope for creativity assessment. The recent, growing proportion of creativity research focused on measurement in the context of education (Figure 6) contains promising examples of new approaches to *fit-for-purpose* creativity assessment, focused on end-users. Broadly speaking, these are the development of *computational* approaches to creativity assessment that have begun to emerge only very recently. The final section of this chapter will outline some of the key computational methods and techniques that are shaping the development of fit-for-purpose measures of creativity.

5. Computational Methods Applied to Creativity Measurement

Computational approaches to creativity, in the broadest sense, are not new. From very early in the modern creativity era, researchers asked how creativity might be modelled, or even replicated, by computational systems (e.g., Newell, Shaw, & Simon, 1962). Bruner (1962), however, believed that *artificial creativity* would need to consist of more than just the automation of the *blind generation* of alternatives. Notwithstanding the dormant periods (or *winters*) of AI research, arguably driven by the inability of technology, tools and methods to deliver promised advances, Boden (1998) continued the scholarship of creativity and artificial intelligence (AI). While it is true that some efforts were made, as far back as the 1980s, to automate aspects of creativity (or related) assessment (e.g., Simonton, 1986, 1990) these approaches used computers only, for example, to *assist* in activities such as content analysis of blocks of text. Over the decades since the 1960s, research efforts in computational creativity seem to have focused onto three elements: (a) building an artificial system that is capable of creativity; (b) defining algorithmic descriptions of human creativity, and (c) developing artificial aids to human creativity (see Cropley, Medeiros, & Damadzic, 2022). Within this framework, many scholars (e.g., Wiggins, 2006; Colton & Wiggins, 2012) focus, in particular, on the idea of replicating human creative *behavior*.

It is notable, however, that across most of the history of computational creativity there is almost a complete absence of creativity *assessment* from the discussion. Boden (1998) attempted to explain why, noting (p. 347) that "…AI will have less difficulty in modelling the generation of new ideas *than in automating their evaluation*" [emphasis added]. Little, if any, research has attempted to apply computational approaches such as AI to the assessment of any aspect of creativity, in any meaningful way, until recently.

There is a certain irony that the same fundamental driver of digitalization and the future of work – Artificial Intelligence – that is causing the reorientation in creativity research (see the earlier discussion) is also the solution to the creativity measurement, *fitness-for-purpose* problem. What is rapidly becoming the dominant such approach centers on the concept of natural language processing (NLP) and, especially, Latent Semantic Analysis (LSA). Notable examples and discussions include Forster & Dunbar (2009), Dumas and Dunbar (2014), Harbinson and Haarmann (2014), Beaty and Johnson (2021), Altindis (2022), Acar (2021), Forthmann and Doebler (2022), Beaty et al (2022), Weinstein et al (2022) and Plucker (2022). Each of these used LSA as the basis of their approach to automate divergent thinking-based tasks such as the Alternate Uses Task (AUT).

Olson et al. (2021), however, is significant, not because the underpinning technique is different, but because those authors have attempted to bridge the vital gap between *applied research*, and *research that gets applied*, that is critical to the fitness-for-purpose of creativity assessments. While their verbal *Divergent Association Task* (DAT) does not necessarily address issues such as domain diversity and integration into the classroom (Race, 2014), it makes significant inroads into consistency and trust, speed and cost.

Other computational (AI) approaches to creativity assessment are also emerging rapidly. These have the potential to address not only trust,

speed and cost, but also the need for a diversity of domain coverage as well as seamless classroom integration. For example, Kovalkov et al. (2022) uses a machine learning approach to assess the creativity of computer programs, while Marrone, Wang, and Cropley (2022) apply natural language processing and concepts of latent semantic analysis to the assessment of mathematical creativity. Also important, particularly in terms of breaking away from an over-reliance on LSA and therefore a purely verbal operationalization of divergent thinking, is the recent work of Cropley and Marrone (2022), who used a Computational Neural Network (CNN) to automate the assessment of the (figural) Test of Creative Thinking – Drawing Production (Urban & Jellen, 1996) with high accuracy.

The advances that have been made recently are important and go a long way to addressing long-standing issues of fit-for-purpose creativity measurement specifically, and impact more generally. However, weaknesses remain in many of these novel approaches. While Beaty and Johnson (2021) and Olson et al. (2021) address issues in consistency (subjectivity) and effort (speed and cost), they may still retain weaknesses concerning domain-specificity and authenticity. If Cropley and Marrone (2022) and Kovalkov et al. (2022) are better focused on the assessment needs of end-users, they too retain weaknesses regarding domain-specificity or authenticity. What is clear is that many important advances are being made – all-based around AI and machine learning (ML) – that have the potential to provide end-users with truly fit-for-purpose creativity assessments.

6. Conclusions

Creativity research has struggled with impact for much of the modern era. However, since 2011, a new external driver – digitalisation and the impact of this on the future of work – has been the catalyst for a reorientation in creativity research. End-users are now demanding fit-for-purpose measures of creativity that will help deliver a workforce equipped with the competencies needed to thrive in a world where AI has taken over many of the routine, algorithmic physical and cognitive tasks that humans previously performed. Key to this reorientation has been the ability of creativity research to respond to the need for fit-for-purpose measures of creativity.

The effective response is not the development of *new* measures of creativity, but the *automation* of existing measures of creativity, typically using the tools and methods of AI including machine/deep learning. However, even as this new era of creativity assessment gathers pace, and the problems of end-user impact begin to lbe tackled, there is a danger that the focus again turns away from end-users. The rapid growth of articles exploring latent semantic analysis (LSA) as a method for assessing verbal divergent thinking must not lose sight of the end-user. Neither divergent thinking, nor verbal divergent thinking, are the entirety of creativity. While these measures may address some of the elements of fitness-for-purpose (e.g., speed, cost), they do not address all of them. Indeed, no matter how well creativity researchers address some of the technical issues of measurement, if we are not *measuring the right things*, from the point of view of end-users, we may, in the end, return to another period of low impact.

If creativity research is to deliver high end-user impact, as all applied research should, then the field must redouble its efforts to apply computational approaches to the broadest possible range of highly reliable and valid creativity measures. Automation of existing measures may be the most cost-effective and practical approach. The tools to achieve this are now available.

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CHAPTER EIGHT

HOW DIVERSE CULTURAL EXPERIENCES INFLUENCE THE CREATIVITY OF INDIVIDUALS: DRAWING CONCLUSIONS FROM EMPIRICAL WORKS IN THE FIELD OF PSYCHOLOGY

JESSICA J. STEPHENS

Abstract

This chapter examines empirical research contributed from the perspective of psychology on the nature of the relationship between cross-cultural experience– the result of which is a developed sense of intrapersonal multiculturalism– and individual creativity. The implications of this area of research– globally, occupationally, interpersonally, and individually– will be briefly discussed. Thereafter, this chapter will provide an understanding of the psychological perspective of creativity, cross-cultural experience, and the intersection of these two phenomena. The subjects of interest to this chapter include creativity assessment and performance, cultural experiences and cultural identity, and factors of influence to multiculturalism and creativity. Additionally, this section will give theoretical and empirical support for the ssociation between cross-cultural experience associates with creativity.

Chapter Key Questions

- How do individuals, companies, and broader societies benefit from fostering intrapersonal cross-cultural experience and creativity?
- How do psychologists understand creativity?
- How do psychologists understand cross-cultural experience?
- How does cross-cultural experience connect to creativity?
- What is cultural identity and how does cultural identity influence creativity?
- Which cognitive processes associate with cultural experience and creativity?
- What role does adaptability to culture play in influencing creativity?
- What are other influences on multiculturalism and creativity?

Introduction

Many years ago, for a college anthropology course, I attended a Grecian museum exhibit for a class project. I became fascinated by the art etched into practical implements that Greeks used in everyday life. Black paintings seared riveting stories onto hundreds of pieces of pottery and other household items. They seemed to make the practice of portraying stories through art integral to daily life. I appreciated their aesthetic, simple as it was. It seemed to allow them to be prolific in their artistry. For those moments, I found myself absorbed in the unique experiences of people who lived in vastly different ways than I did. I later visited ruins that were once inhabited by ancient Greek societies and drew upon this memory to find new appreciations of the culture.

Think of a time when you came face to face with another culture that was very different from your own culture? Did you find yourself faced with cultural concepts or practices that were wholly different from your *predominant culture*, or that which you draw from most frequently in day-to-day life? Did you feel anything different? Have you ever gained any new ideas or learned new behaviors from a different culture?

Encountering that which makes a culture stand out could give us mental pause. It could even inspire changes to how we think, feel, and behave. Encountering new cultures and interacting with peers from different cultures could even open our imaginations and enhance our creative potential. That leads to the question that I hope to answer for any inquisitive reader encountering this text: Is it possible that developing personal experience with diverse cultures can boost our creativity and innovation? It seems so. Otherwise, this would be a very brief chapter.

How Do Individuals, Companies, and Broader Societies Benefit from Fostering Intrapersonal Cross-cultural Experience and Creativity?

There is good reason to support and value this kind of research, as it has practical relevance to an increasingly globalized and technologically innovative world. Cross-cultural influences are, to some degree, embedded within each nation on the earth- making societies all over the world inextricably interwoven. This is a trend of *globalization,* which describes the dilution of cross-national boundaries and the bolstering of cross-national interdependence (Prilleltensky, 2012). The modern, cross-culturally synthesized world will only continue to enhance its globalized form.

For example, cross-cultural migration is a trend that has steadily risen in the preceding five decades (McAuliffe & Triandafyllidou, 2022). In 2020, an estimated excess of 281 million people left their resident country to find placement in a host country. This figure, while large, represented a slight dip from the preceding year that a concurrent global pandemic likely explained. In the coming years, this figure is likely to rise, particularly so, given the refugee crisis that developed in Ukraine in 2022. As such, it is becoming more necessary to determine ways to incentivize people to have affiliative cross-

cultural relationships and to use influences of other cultures to benefit them-selves and others.

In a globalized world, implementing the values and goals of unique cultures aids the progress of each society. Studies which encourage cross-cultural collaboration efforts, such as those which detail creativity enhance-ment incentives, could have a wide and powerful reach. This is because crea-tive thinking is intertwined with thinking about diverse cultural schemas (Vora et al., 2019). Furthermore, developing a better understanding of the processes associated with diverse cultural experiences and creativity will serve communities that increasingly identify as multicultural by giving them new opportunities to evolve, advance, and innovate together. For example, cross-cultural research can facilitate cross-national superordinate goal devel-opment, such as developing pacts to curb climate change and prevent nuclear crises, and improve cross-national relations (Der-Karabetian et al., 2018).

Research on the intersection of cross-cultural experience and creativ-ity has many additional positive implications. Greater intrapersonal multicul-turalism is associated with reduced harmful social biases, such as symbolic racism and stereotype endorsement, and reduced harmful social practices, such as discriminatory hiring decisions (Tadmor et al., 2012a). Enhancing one's creativity likely contributes to enhancing one's physical, mental, and emotional well-being, life satisfaction, and their sense of overall personal fulfillment (Kaufman, 2018). Developing one's intrapersonal creativity could also boost their reasoning and problem-solving capabilities. Creativity can also be catalyst in aiding societal harmony, human sustainability, and revolu-tions in science and technology (Shao et al., 2019).

Individuals who develop greater creative abilities can also benefit the companies they work for. Many modern organizations require that profes-sionals working within them deliver novel ideas and products. This emphasis allows businesses to remain competitive, enhance their services or goods, and advance and evolve the industry guiding them. Novel and imaginative ideas and strategies contribute to several organizational domains, including market-ing, advertising, growth, product development, and sales. Research suggests that businesses will benefit from hiring culturally diverse employees. For example, Greater cross-cultural experience predicts greater professional suc-cess and enhances how one performs occupationally (Tadmor et al., 2012b). Individuals with greater cross-cultural experience tend to also have better innovative ability, entrepreneurship, and productivity (Karlsson et al., 2021) than their less culturally experienced peers. Additionally, cross-cultural intel-ligence and cross-cultural adaptability are related to one's social and emotion-al intelligence (Jyoti & Kour, 2017). Individuals with greater cross-culturalism in their backgrounds might be better able to learn from and en-gage with diverse others, such as diverse colleagues, supervisors, and friends.

How Do Psychologists Understand Creativity?

Creativity and being human go hand in hand. Creativity is the reason not only for art, but for science and technology. Creativity brought humans to agricul-ture, so we may feed ourselves, complex mathematical systems, so we may grasp the world around us, language so we may understand each other, and

science, so we may discover the purpose of everything, perhaps even ourselves.

Creativity is a contemporary term, the invention of which seems to have coincided with positive societal shifts in views of individuality and innovation. Prior to the twentieth century, descriptions of modern creativity often discussed it as an exhibition, such as of ambition, talent, genius, or divine inspiration (Kaufman & Glăveanu, 2019). Art was meant to follow the rules of God and society. The term "creation" was reserved to mean something "from nothing". *Creativity* was only used to describe human craft and ingenuity since around the enlightenment period (17th-18th century). 17th-century Polish poet Maciej Kazimierz Sarbiewski is believed to be the first to apply the term creativity to describe human-attributed art in the form of poetry (Citko, 2019).

More recently, particularly in the mid-20th century, psychologists began to take notice and study the human ability to use the mind to create. In the mid-twentieth century, Guilford provided a call to the APA to support the development of creativity research by psychologists and also gave a basic definition of the construct. To be creative, essentially, is to provide ideas that are useful and new (Guilford, 1950). Currently, creativity psychologists understand and study creativity in a myriad of ways. There are over 100 definitions of the creativity floating around in the relevant creativity literature (Said-Melwaly et al., 2017). A modern and widely adopted definition used in Psychology describes creativity as the expression of ideas that are original (unique) and appropriate (adaptive) to the task at hand (Kaufman, 2021). As such, researchers often assess creative ideas for features of originality and usefulness. However, other oft-measured features of creativity include idea abundancy (ideational fluency), concreteness (abstractness), detail (i.e., elaboration), evidence of expertise (skill), and categorical offerings (creative flexibility; Cropley, 2000).

Creativity has an environmental component as well. Creative ideas are often compelled by a need to resolve pressing or unanticipated problems. Creative experience is based on how one acts and interacts with the environment around them. To have creative experience marks how willing one is to engage with the uncommon and to explore the common in unconventional ways. Additionally, having creative experience marks how capable one is of using their interactions with the world around them to think of multiple perspectives and to conceptualize in open, broad, and progressive ways (Glăveanu & Beghetto, 2020).

Creativity Stages

A well-developed creative imagination can give individuals continuous opportunities to better understand and contribute to society and to evolve in intrapersonal and interpersonal ways.

As far as humanistic elements are concerned, creative expression can support intrapersonal well-being by providing ever-increasing, self-guided enrichment opportunities (Kaufman, 2018). Additionally, human beings are often interpersonally motivated to be creative, as creativity assists people in

developing relationships, gaining affection, and contributing to the wellbeing and advancement of others (Benedek et al., 2020).

Mechanistically speaking, creativity can be discussed as a series of cognitive stages. Initially, a preparation stage occurs. This stage involves using preexisting knowledge and skills along with sought-after knowledge of experts in the domain of a new creative problem. If I want to find a way to build a better mousetrap, I should consult my current understanding of what a mouse trap is. The preparation stage often relies on neural connectivity in the brain, well developed cortical association areas and stored and cycled memories and terminology linked with processing in the left temporal region of the brain (Heilman, 2016). Previous expertise and stored cognitive information help prepare us to develop new ideas for tricky problems.

Second, a creative incubation stage takes place. This stage involves mind wandering and subconscious processing, both of which can facilitate forming new and previously obscure connections and ideas regarding creative problems. The incubation stage could allow is to dissolve rigid thinking patterns and develop an expansive mindset and synthesize mental material. If I want to build a better mousetrap, and I become stuck and unable to find a solution, proper rest and redirecting my attention to another problem could help my brain to cycle through scenarios and creative ideas in the "background" which could later synthesize in the "foreground" of the mind. The brain area known as the angular gyrus, which helps people to combine ideas and form disparate connections, tends to increase in activity during incubation periods prior to solving some creative problems (Li et al., 2019). Incubating on a creative problem appears to compel new perceptions and creative imagining to foster ideas in the final creative cognitive stage: Illumination.

In the illumination stage, a person determines the best possible idea to solve a creative problem. During this stage, an optimal solution is decided upon and evaluated for appropriateness. In wanting to build a better mousetrap, I might ultimately produce an idea for a new, non-lethal contraption made of inexpensive and biodegradable materials that allows me to free the mouse at my discretion. Thus, an optimal solution is illuminated. The prefrontal cortex appears, which allows for use of inhibitory control, focus, problem-solving, and working memory capabilities to be employed, is highly active during this final stage (Rominger et al., 2018).

Creativity: Convergent and Divergent Thinking Forms

Researchers typically distinguish creativity into convergent and divergent forms. These two forms of creativity are distinctive in some respects and similar in others (Cortes et al., 2019). Exhibitions of convergent creativity involve convening on a single, creative solution to a problem. Convergent creativity can result from scrutinizing multiple creative potentialities and selecting an ideal solution (Cortes et al., 2019). The associative, as in recombinative, nature of convergent creativity is a distinguishing feature of the construct (Heilman, 2016). In comparison, exhibitions of divergent creativity include the development of numerous, unique creative solutions. Divergent creativity describes as an expanded form of convergent creativity (Cortes et

al., 2019). This form of creativity typically evidences in the generation of fluent, original, innovative, elaborative, flexible, and useful ideas.

It warrants mentioning that Eastern and Western cultures tend to conceptualize creativity distinctively. Western societies, such as North America and Northern Europe, tend to value novelty and exceptionalism, while Eastern societies, such as China and Taiwan, tend to value the social and moral contribution a creative solution brings (Kharkhurin, 2014). As such, researchers located in different cultures often assess and describe the construct of creativity in distinct and culture-specific ways (Shao et al., 2019). Unique cultural backgrounds could partially explain why culture-specific creativity differences are often present in those participating in research studies on cultural diversity and individual creativity (e.g., Lau et al., 2013; Xinfa et al., 2013).

How Do Psychologists Understand Cross-Cultural Experience?

Cross-cultural experience results from of engaging with elements of a non-native society, either by observing them, interacting with them, or both (Maddux et al., 2021). Experiences with different cultures give us perceptions we might not otherwise have of different behaviors and perspectives. Cross-cultural experience brings with it new awareness of elements of life outside of the culture we typically draw from. These elements include the media, people, art, values, customs, history and norms derived from a region(s) and its citizens. These encounters are thought to stimulate an individual to take cross-cultural perspectives, freshly consider elements of other cultures, suppress stereotypes, and realign one's views to approximate the new culture more closely (Hodson, et al., 2018). Experiencing a unique culture also functions to provide meaning to our lives and connect us with societal advancement and social coordination (Chao & Kesibir, 2013).

Cross-cultural experience can be shallow or quite rich. Cross-cultural experience is commonly indirect or observational, such as with the viewing of a foreign film. While less common, experiencing another culture directly and interactively, such as by having a conversation about the unique cultural upbringing of a friend or traveling abroad, is likely more influential to mental change (Aytug et al., 2018). Still, various types and degrees of cross-cultural experience can induce psychological adjustments, changes one's sense of intrapersonal multiculturalism and cultivate new understandings of cultural identification. Culture of origin, personality, cultural intelligence, duration of time with different cultures, frequency of contact with diverse cultural peers, and depth of immersion within different cultures all play a role in how we adjust to other cultures (Maddux et al., 2021).

Cross-cultural experience fosters *multiculturalism* in individuals, and these terms can be considered interchangeable. That said, cross-cultural experience typically describes a broader phenomenon. Multiculturalism describes the presence of cultural diversity within a person (Leung & Wang, 2015). Multiculturalism is an intrapersonal sense of developed cross-cultural experience. A person alters their multiculturalism while engaging with cultural contexts, developing an intercultural identity, fostering cross-cultural skills, and considering and thinking in cross-culturally influenced ways (Vora et al.,

2019).   Vora et al. (2019) describes three spectrums of multiculturalism: knowledge, identification, and internalization. Cultural knowledge involves understandings about culture, cultural meanings and implications, and linguistic influences. Cultural identification involves constructing representations of the self-based on cultural membership, specificity, strength, number, and distinctiveness experiences. Internalized aspects of multiculturalism include all thoughts, feelings, and behaviors one cognitively associates with culture in developing a cultural self-schema. These multicultural dimensions are suggested to be continuously adapted, strengthened, and weakened over time, both within and outside of one's native culture environment.

As several elements influence and characterize a cross-cultural experience, including depth and breadth of experience, customs, norms, values, interpersonal interactions, culture-specificity, language, predominant religion, history, and art, most instruments currently used to evaluate intrapersonal cross-cultural experience assess a number of these elements at once. These instruments include the Multicultural Experience Questionnaire (MEQ; Narvaez & Hill, 2010), the Multicultural Experience Survey (MES; Leung & Chiu, 2010), and the Multicultural Experience Assessment scale (MExA; Aytug et al., 2018b).

The MEQ (Narvaez & Hill, 2010) has two main subscales. A Multicultural Experience subscale represents the quantity and nature of actual multicultural experiences. A Multicultural Desire subscale represents the qualities of motivation to engage with foreign cultures. The MES (Leung & Chiu, 2010) contains eight items about the following: bilingualism, percentage of one's lifetime spent living out of state, immigration of parents, the extent of multicultural exposure, and cross-cultural preferences consistent with one's five favorite restaurants, musicians, and friends. The MExA (Aytug et al., 2018b) taps the duration, location(s), exposure level, and interaction level of cross-cultural experience in a test taker. A subscale of six items measures the degree of test-taker cross-cultural exposures (i.e., instances of observing other cultures). A subscale of four items measures the degree of test-taker cross-cultural interactions (i.e., reciprocal communication and behaviors with foreign cultures and citizens). The MExA further assesses the number of years (i.e., duration) and specificity (i.e., breadth) of foreign cultural experience.

How Does Creativity Relate to Culture?

Cultural experiences are thought to associate with our making mental adjustments to suit our understanding of the benefits and drawbacks to adopting other cultural viewpoints and behaviors (Berry, 1997). The adaptive cognitive and behavioral modifications also appear to coincide with creative mental processes (Maddux et al., 2021). When we encounter new cultures, or new concepts related to culture, and we see potential advantages to adjusting to these discoveries, our thinking, can change to become more flexible, open, and adaptive (Goclowska et al., 2018). What is unique before us elicits something unique from within us.

Cross-cultural experiences provide us with opportunities to think about new and unfamiliar concepts we otherwise would not think about. When experiencing new and different cultures, we can find ourselves comparing elements of our own native culture with elements of the new culture. This could lead to new synthesized cultural ideas or a kind of mental recombinative effect. This forming of new combinations of concepts that we relate to culture could extend other mental synthesizing. We could be prepared by new cultural experiences to think of new and interesting combinations of ideas.

Cross-cultural experiences also give us new creative problems to solve, which boosts our creative abilities. The rationale for this phenomenon is that personal encounters with distinctive cultures, modify how we think in such a way that prepares us to adapt our knowledge and behaviors. This kind of mental preparation could drive out unhelpful and rigid attitudes and stereotypes and compel more open, unique, and integrative thought patterns. Those with long-term experiences abroad are said to become familiar with this mental process. It allows them to surrender elements of a familiar culture and to update their mental framework. In so doing, one experiences a related phenomenon of enhanced creative idea generation abilities (Goclowska et al., 2018)

Experiencing new cultures provides new information. We may use information garnered from our own culture with that of the different culture to help us adapt when in an unfamiliar cultural setting. Multiple studies associate multiculturalism with creative cognitive processes, including ideational density (Benet-Martinez, 2006), integrative complexity (Tadmor et al., 2012a), cognitive flexibility (Aytug et al 2018), attributional complexity (Laksham, 2013), cross-cultural adaptability (Maddux and Galinsky, 2009), cognitive frame shifting (Hong et al., 2000), and acculturation strategy (Mok & Morris, 2010).

Cultural Identity and Creativity: Acculturation Strategies

The *acculturation*, or cultural identification, strategy model proposed by Berry (1997) describes how we alter thoughts of our own cultural identity to adapt during, and after, cross-cultural experiences. In this model, when a person is faced with a new culture and feels pressure to align with it in some way, they psychologically change. Their perceptions of the value of adopting other cultures influences how readily they adjust their cultural identity. If there is less value in maintaining identification with relevant influences of one's predominant culture and more value in adopting the influences of a different culture, a person will likely strive to *assimilate*– or maximize their identification with the new culture. They could also choose a strategy to *separate* from the new culture and emphasize their predominant culture, to *integrate* by giving emphasis to both cultures, or to *marginalize* by minimizing the influence of both cultures. Berry (1997) also suggests that acculturation involves shedding of familiar cultural ideas to make way for learning of new cultural concepts. This culture shedding is coind *deculturation*. According to Berry (1997), deculturation immediately precipitates cultural learning and facilitates the cross-cultural adjustment process.

The Stress-Adaptation-Growth Model (Kim, 2008 & 2017) propose that a cross-cultural encounter causes anxiety, motivation to adjust, restructuring of our mental framework, and self-renewal and this leads to a newly recombined cultural identity. According to Kim (2017), culture shedding allows for a mental separation from the culture that primarily influences a person. By diminishing the importance of one culture, a person can more easily and successfully adapt to new cultural influences. Culture shedding does not work alone to influence adaptation to new cultures, though. Deculturation, or cultural unlearning, functions along with acculturation, or cultural comparing and combining, to influence our emergent cultural identities during a cross-cultural experience (Kim, 2017).

Cultural Identity and Creativity: Empirical Support

There is empirical research which supports that cultural identity relates to creative performance. Mok and Morris (2010, study 1 and 2) determined that cueing participants with either their native culture or a non-native culture influenced the degree of novelty, or newness, of their ideas. However, the novelty of their ideas depended on which acculturation strategy these individuals adopted. High integration of two cultures only predicted enhanced novelty of ideas for those primed with a *host* culture. Low integration of two cultures only predicted enhanced novelty in those primed with their *native* culture. This suggests that integration and marginalization cultural identity strategies can exhibit unique effects on creativity depending upon the *cultural context*.

Falavarjani and Yeh (2018) determined that acculturation strategy type relates to convergent creative thinking task performance for Iranian immigrants living in Malaysia. The acculturation strategy of marginalization related to the highest proportion of correct solutions to a convergent creativity task (51.7%), followed by integration (49.3%), assimilation (34.3%), and separation (13.3%) strategies.

Cognitive Processes Associated with Culture and Creativity: Cultural Harmony

Cultural harmony indicates perceived agreement and unity between the cultures one has experienced. It is theorized that cross-cultural experiences can coincide with a perceived lack of cultural harmony and that this recognition of conflict boosts creativity (Kim, 2017). The belief in a lack of harmony, or agreement, between one's predominant culture and a new and culture could initiate creative problem-solving processes. Furthermore, this conflict awareness, couple with an understanding of the benefits of adjusting to a new culture, could destabilize a person's cognitive framework. This cognitive destabilization could precede mental formation of new learning and adaptation strategies. A lack of agreement between cultures can be resolved by a cognitive shift which results in reappraising and reconstructing our cultural under-

184

standings (Fee and Gray, 2012). This cognitive destabilization could also precipitate enhanced creative idea generation.

There is empirical support for theories suggesting that low cultural harmony perceptions coincide with enhanced creativity. A lack of perceived cultural blending and cultural harmony appears to aid people in developing more rich and numerous creative ideas curing a culture-specific writing task, for example. Individuals who scored lowly for a measure of cultural integration, which suggests they perceive distance and discord between cultures, performed significantly better in how their essays were rated by judges for certain creative qualities, like cognitive density (Benet-Martínez et al., 2006). *Cognitive density* is an indicator of fluent, flexible, complex and dynamic ideas. This suggests the possibility perceptions of cross-cultural conflict, which could be inherent to some encounters with different cultures, elicits cognitive processes associated with creativity.

Cognitive Processes Associated with Culture and Creativity: Integrative Complexity

Integrative complexity describes the ability to use perceive similarities and distinctions between disparate ideas and concepts and to newly configure them to solve problems optimally (Tadmor et al., 2009). In a cross-cultural context, integrative complexity involves comparing, contrasting, and merging cross-cultural perspectives in preparation for the development of unified culture-specific schemas (Tadmor & Tetlock, 2006). Integrative complexity is often assessed by measuring the integration and differentiation of ideas (i.e., comparing, contrasting, and considering numerous concepts), such as by using the Lumpers and Splitters Questionnaire (Oleynick, 2015).

Individuals with high levels of integrative complexity likely share in a better ability to select from competing perspectives and to determine the advantages and disadvantages of unifying elements of disparate cultures into their cultural identity. Integrative complexity has been found to be a key driver of the relationship between levels of merging multiple cultural identities (i.e., acculturation) and creative fluency, flexibility, and originality (Tadmor et al., 2012a). The relationship between integrative complexity and acculturation can possibly be explained by the association these variables have with processes of deculturation (i.e., the disconfirmation of existing knowledge). It is possible that deculturation precipitates integrative complexity and that activation of integrative complexity processes results in decision making related to acculturation and enhanced creative thinking. Blending two or more cultural identities, which describes integrating the cultures you have experienced, could assist you in creative problem-solving.

Cognitive Processes Associated with Culture and Creativity: Frameshifting

The situated cognition (Hong et al., 2000) view proposes that deeper information processing capabilities result from developing and representing multiple cultural concepts simultaneously. This relates to a phenomenon described as cultural frameshifting. Cultural frameshifting could help a person to under-

stand the implications of their own behaviors in different cultural contexts. Some behaviors work well in one culture (e.g., handshaking in America) but not another (e.g., handshaking in Vietnam). Those with greater CCE likely share an enhanced ability to simultaneously grasp multiple and divergent cultural concepts.

Even brief and relatively shallow experiences of cross-cultural frameshifting, by exposing participants to diverse cultural images, altered their self-perceived cultural identification (Cheng et al., 2006). According to the situated cognition model, multiculturally aligned individuals are more capable of altering their own cognitive processes so they can control how they understand and resolve problems related to differences between the cultures they develop familiarity with (Hong et al., 2000).

Cognitive Processes Associated with Culture and Creativity:
Cognitive Flexibility
Cognitive flexibility describes one's proficiency in adjusting their conceptual framework. One can evidence cognitive flexibility when they attend to several tasks at once, hold competing ideas, alter their behaviors quickly to correspond to new circumstance, form new concepts, and rapidly shift their attention. In terms of its relationship to cross-cultural experience, cognitive flexibility could play a critical role in reorganizing our culture-specific thoughts and behaviors and allows us to generate new conceptual understandings relevant to new cultural learning.

Enhanced cognitive flexibility can also boost creativity by facilitating our ability to produce entirely new ideas and idea categories (Aytug et al., 2018). Enhanced cognitive flexibility help us readily generate "cognitive space" to develop in place of one or more displaced mental categories. This, theoretically, could allow new creative processing, such as the generation of new mental categories and new ideas, to be housed within this available cognitive space.

Cognitive flexibility has been found to associate with elements of cross-cultural experience and creativity. Aytug et al. (2018, study 2) found support for cognitive flexibility as a mediator of the relationship of interest. High scores for cognitive flexibility explained levels of fluency and flexibility associated with high scores for multicultural experience. Together, multicultural experience and cognitive flexibility scores explained 13% and 10% of the variance in fluency and flexibility scores, respectively. Kim (2016) concluded similarly to Aytug (2018, study 2), determining that cognitive flexibility explained the relationship between the presence of multicultural experience and superior flexibility and fluency performance. Additionally, Kim (2016) found that cognitive flexibility levels explained the relationship between the presence of bilingualism and superior performance in flexibility, fluency, and originality. These findings support a possible mediating role of cognitive flexibility in the cross-cultural experience and creativity relationship.

186

Cultural Adaptability and Creativity

Cross-cultural adaptability relates to one's expertise and understanding of cultural elements as well as one's motivation and ability to adopt different cultural ideas and practices. Those with higher levels of cross-cultural adaptability are likely more adept at vetting the appropriate cultural details to emphasize and deemphasize by being better able to appraise cultural information for potential advantages and threats and choice superiority. Cross-cultural adaptability levels likely explain how well an individual assesses cross-cultural behaviors and ideas for merit and suitability and how rapidly and continuously one can generate and implement suitable choices.

Maddux and Galinsky (2009, study 4) determined that individuals' extent of self-reported adaptation while living abroad explained the relationship between living abroad experience and convergent creativity performance enhancement. When adaptation was factored out of the model, the relationship between time spent living abroad, and creative performance disappeared. Additionally, Maddux and Galinsky (2009, study 5) determined that those primed to imagine and write about adapting themselves to a foreign culture received higher independent creativity ratings of drawings than three comparison conditions. These were conditions of being primed to imagine and write about merely observing another culture, being primed to imagine learning a new sport, and a control condition.

This could suggest that the element of adaptation is essential in generating the creative response difference undergone after having a cross-cultural experience, as priming of mere observation of another culture resulted in no significant difference to creativity scores in comparison to the other participant conditions in Maddux and Galinsky (2009, study 5). Continuous adaptation in a foreign environment could be a consequence of extended or repeated cross-cultural exposures. This could coincide with enhanced general adaptability, a feature proposed by Hennessey & Amabile (2010) to partially compose everyday creative problem-solving. Adaptation use may also explain why duration abroad (e.g., Maddux and Galinsky, 2009, study 4) seems to be an important factor in determining creativity enhancement levels.

Other Variables Associated with Cross-cultural Experience and Creativity

Benet-Martínez (2006, study 1) suggests a moderating role of bilingualism in the association between cross-cultural experience and culture-specific creativity task performance. Additionally, Maddux and Galinsky (2009, study 3) determined that the duration of time spent living abroad moderates the relationship between living abroad experience and convergent creativity test performance. Cheng and Leung (2010) results suggest that high distinctiveness-mindset orientation (i.e., heightened consideration of large differences) moderates the relationship between cross-cultural experience and convergent creative performance. Additionally, physiological arousal (Tan et al., 2018), number of languages spoken (Kharkhurin, 2007; Falavarjani & Yeh, 2018), age (Falavarjani & Yeh, 2018), bicultural identity integration (Benet-Martínez, 2006, study 2; Mok & Morris, 2010), and acculturation (Tadmor et al., 2012b) are likely moderators of the relationship between cross-cultural expe-

rience and enhanced creativity. Gender and socioeconomic status (Lee et al., 2012) also likely influence creativity in those exposed to multiple cultures, though gender tends to moderate the relationship differently, or not at all, between studies (e.g., Yi et al., 2013). Other positive moderators of the relationship include personality characteristics, such as openness to experience (Leung & Chiu, 2008) and extraversion (Leung & Chiu, 2010).

Lastly, conscientiousness (Chang et al., 2014), need for cognitive closure, time pressure, and mortality salience have been found to negatively moderate the relationship between cross-cultural experience and creativity (Leung & Chiu, 2010). It is also theorized that neuroplasticity acts on the neural networks associated with creativity and cross-cultural experience. Neuroplasticity describes the biopsychosocial process of neuroadaptive changes in the brain that result in continuous enhancement to mental processes that receive continuous usage (Garland & Howard, 2009). There is research to support that neuroplasticity strengthens neural networks associated with enhanced creativity. For example, participants administered a form of mindfulness training exhibited increases to gray matter in several brain areas, including the cerebellum, and this was associated with improved cognitive flexibility scores derived from the AUT (Ben-Soussan et al., 2015, study 2). The cerebellum is theorized to have a predominant role in learning about culture and synchronizing with members of other cultures (Vandervert, 2016).

There is also indication that creative cognitive training results in neuroplastic increases to activity levels and physical gray matter in the dorsal prefrontal cortex and other brain regions and this correlates with improved fluency and originality (Sun et al., 2016). There is additional support that physical changes to the dorsal prefrontal cortex result in long-term enhancement to a sum of creative fluency and flexibility scores (Chen et al., 2018). Other research supports that Western cultural identification is associated with enhanced gray matter volume in the prefrontal cortex (Huang et al., 2019). Additionally, there is support that culture-specificity is associated with some neural networks responsible for mediating creative processes, namely that Eastern culture identification is associated with creative inhibition processes (Ivancovsky et al., 2018). Together, this research provides a link between cross-cultural experience and enduring adaptive enhancement to creativity.

Current Psychological Theories: Cross-cultural Experience and Associated Creativity

It is possible that when a person experiences another culture, they have a new opportunity to cast stereotypes aside and this makes way for unique and practical creative ideas about culture to emerge. In successfully suppressing preexisting stereotype beliefs, one can more successfully adjust to new cultures (Crisp & Turner, 2011). It is possible, then, that stereotype suppression can become automated in those who have multiple cross-cultural encounters. This process can lead to enduring, enhanced generative thinking. Generative thinking, in this context, describes generating multiple forms of thought which lead to multiple problem solutions after supplanting outdated mental

categories. Stereotype disconfirmation could effectively destabilize formerly rigid cognitive structures, which could then spur creative thought processes, such as shifting and reforming of cognitive categories and adapting to cross-cultural influences (Crisp & Turner, 2011).

Maddux et al. (2021) posit that cross-cultural experiences lead to the formation of entirely new and adaptive ideas that are derived from previously foreign sources. It is suggested that expansive and complex forms of thinking are adopted because they allow a person to form new mental categories (i.e., flexibility) that are related to the cross-cultural experience. Leung and Chiu (2010) suggest that repeated encounters with diverse cultures facilitate continuous adaptive responses in the brain that are related to creativity because these experiences lower a person's resistance to adopting customs and norms that are continuously encountered. Aytug et al. (2018) suggest that experiences and interactions with diverse cultures can elicit an interruption to rigid thinking which can prepare the experiencer to accept and adopt new schemas.

Additionally, a person is can modify their existing cultural theoretical framework after interacting with individuals from disparate other cultures (Crisp & Meleady, 2012). The multicultural hypothesis of Crisp and Meleady (2012) suggests that a modification of existing schemas, or conceptual mental networks, occurs when one carefully considers cross-cultural perspectives and practices. This schema reorganization can compel dynamic changes to preexisting and fixed manners of thinking that assist an individual in adapting to an unfamiliar environment. Crisp and Meleady (2012) offer that this could also lead to collective gains. Societal level gains, such as a more rapid cultural evolution, could result from many individuals adapting their cultural knowledge and practices at once. Furthermore, a person could be more inclined to creatively incorporate the thoughts and behaviors of cross-cultural individuals (Hodson et al., 2018).

Conclusion

A culturally inspired creative frame of mind seems to elicit new creative ideas and opens the door to allow us to make great contributions to our own lives and the world around us (Sharif, 2019). Research projects on the relationship between individual creative performance and cross-cultural experience gives evidence of a connection between these two phenomena. Creativity enhancement is a reliable result of exposure to multiple cultural settings, people, influences, and knowledge (Maddux et al., 2021). It is likely that a number of factors interact and influence how one responds to cross-cultural experiences and how one portrays creative problem solving. Psychological theories and empirical works support that there are several connections between cross-cultural experience and enhanced creativity. The mental processes associated with adapting to cross-cultural experience likely relate to enhancing a person's creative abilities to (a) gain insight into solutions for convergent problems that require divergent thinking, (b) engage associative and adaptive learning, and (c) exhibit cognitive complexity and highly iterative conceptualizing.

The current theoretical and empirical understanding of this relationship seems to support that creative thinking is enhanced in those who develop

experience with different cultures because these individuals have more experience with mental processes associated with cultural adaptation and cultural identity development. One's ability to create more freely and effectively could be associated with their drive to resolve outdated understandings about culture, their thinking newly about disparate cultural concepts and behaviors, their development of strategies to identify themselves with cultures, and their ability to create new manners of thinking, feeling, and behaving that will suit themselves to one or more new and different cultures.

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CHAPTER NINE

ENGAGING ARTS-BASED INQUIRY IN A WICKED TIME

VACHEL MILLER
MEL FALCK
PEACHES HASH
HEATHER THORP

Abstract

As a site of knowledge production and professional training, doctoral programs for educational leaders can encourage students to engage creatively with their dissertation research. In this chapter, the co-authors share their experience with conducting arts-based research in the context of their doctoral studies in educational leadership. In addition to being a vehicle for deeper self-inquiry and embodied engagement with educational processes, we suggest that arts-based research contributes to the larger project of addressing "wicked" problems (Bottery, 2016) in education and the world.

Introduction

This volume offers a broad perspective on the role of creativity in addressing global problems. For this chapter, we take a much smaller-scale focus on creativity within doctoral education, as a window into the larger questions of the volume. One of the key sites of global knowledge production is university doctoral programs, in which future academics learn to produce scholarly research. Doctoral programs have a unique influence in shaping the kinds of research that are viewed as legitimate, and in shaping the boundaries for what research can look and feel like.

Traditional doctoral programs have been long criticized for training scholars who produce specialized knowledge that has little value for non-academic audiences. Even within the realm of professional doctoral programs in education (EdD), there's been a movement championed by the Carnegie Project for the Education Doctorate to give the EdD a more distinctive, action-orientation (Perry, Zambo, & Crow, 2020). Nationally, many EdD programs are moving in this direction, framing educational improvement (especially improvement that addresses equity problems) as the guiding beacon of dissertation work. Such "dissertations in practice" provide a pragmatic, change-oriented alternative to the traditional PhD dissertation (Belizer, et al., 2016).

Amid the move to make doctoral knowledge production more practical in education, what's happened to creativity? Our impression is that creativity, and the broader process of artistic engagement with the world, have not

been sufficiently appreciated as a rich source of knowledge production in doctoral education. In dominant educational research spaces, there's little affordance for non-rational ways of knowing and expressive engagement with inquiry. We submit that the limited role of creativity within doctoral education is a byproduct of the larger shift of education toward measurability, propelled by the neoliberal logics of outcomes and assessment.

What would it look like, if doctoral education provided more space for aesthetic, creative engagement with our subject matter, with ourselves as researchers, and with each other? What if our process of teaching and inquiry allowed for more open-ended expression of affect and intuition? In this chapter, we offer three different explorations of those questions, based on the authors' unique personal dissertation journeys. Rather than offering a singular, mono-vocal perspective, this chapter is offered as a collage of thoughts and images, with each author contributing their own experience in their own words. The reflections from Mel Falck, Peaches Hash, and Heather Thorp are grounded in their experience with arts-informed inquiry in our doctoral program in educational leadership.

An EdD program with a twist

The Doctoral Program in Educational Leadership at Appalachian State University is intended for scholar/practitioners who augment their established identities as educational leaders with their emerging identities as researchers. We introduce students to a range of research paradigms, theories, and methods. Along with the invitation to "taste" a rich menu of research possibilities, we also encourage students to turn inward, reflecting on their own subjectivity as scholar-practitioners and how they want to engage in knowing the world. Rather than starting with a research question, we ask students to listen to the ways of knowing that call their name, and consider how different ways of knowing open up different aspects of the educational problems they care most deeply about.

In recent years, several of our doctoral students have generated innovative dissertations through arts-based research (ABR). Working with arts-based research opens possibilities for engaging with multiple modes of creative expression, in the doing and representation of what is learned through inquiry, blending the arts with aspects of social sciences for more holistic insight (Leavy, 2018). Although their work still fits within the established form of a research text, doctoral researchers who engage with arts-based research often produce texts that look and feel quite different from traditional academic discourse. Such dissertations have included imagery, poetry, reflective interludes, and other non-traditional forms of expression. We give students permission to think and write outside the traditional 5-chapter model for a dissertation, which allows them to follow the lead of where their inquiry takes them, rather than squeezing their inquiry into a predetermined shape.

How did these possibilities for creative engagement with inquiry arise? This EdD program has benefited from connections with an eclectic expressive arts community. That community, centered in our College of Education, attracted faculty members and students from the arts, psychology, and other areas of the university, in the formation of a dynamic, emergent com-

munity of practice (Cornell, 2013). Members of the expressive arts community engaged in innovative, arts-informed pedagogies and research reflecting their commitment to process-oriented inquiry. Some years ago, a group of faculty and doctoral students collaborated on a creative reflection about epistemology and knowledge production, in the form of postcards and "love letters" about arts-informed inquiry (Miller, Plato, Clark/Keefe, Henson, & Atkins, 2013). This reflection offered one example of the creative experimentation and questions being asked in the community. The EdD program developed a concentration in Expressive Arts Education, Leadership, and Inquiry, as an outgrowth of an Expressive Arts Therapy graduate certificate program. This certificate program, in turn, was nurtured by a faculty collective who offered a rich array of arts-informed, experiential courses in which students engaged in dance, dream-work, visual journaling, sculpture, poetry and drumming, among other forms of expressive inquiry.

The rich ecology of arts-based inquiry that flowered at that time period provided ground for the authors featured in this chapter to pursue their own arts-informed inquiries for their dissertation research. In the section that follows, the contributing authors each share their own journeys and insights regarding the process and power of arts-informed teaching and dissertation inquiry.

Doctoral Graduate Voices

MEL FALCK

Arguing for the importance of an aesthetically sensible education, educational theorist and philosopher Maxine Greene (2001) discusses the necessity of an education that helps us to see, feel, inspire, and experience differently. Greene (2001) contends that an education in aesthetic awareness helps us to, "break through the 'cotton wool' of dailyness and passivity and boredom and come awake to the colored, sounding, problematic world" (p. 7). Surely, with its increased focus on assessment, standardization, and evaluative criteria and measures, stripping teachers and students alike from their agency, autonomy, and innate human propensities for imagination and play, education as usual, now, perhaps more than ever, has become the cotton wool itself to which Greene alludes.

The focus of my dissertation entitled *Why art? Ways of responding to the world around u*s (Falck, 2022) was an exploration of doing education differently, placing processes of art-making not on the fringes of the learning experience, but instead, centering them in the learning and research process for both my students and myself. Together we engaged as a community of arts-based researchers, who embarked upon a journey alone and yet together, through which we utilized Expressive Arts (EXA) based practices, as varied and unique as the individuals themselves who composed the study. Music, collage, painting, movement, visual journaling, and performance art, all wove together to create an aesthetically sensitive experience rooted in the celebration of the arts as a distinctive and necessary feature in the process of inquiry

and a proclamation of our sensual, imaginative, beautiful, and messy humanity that education as usual ignores at best and denies at its worst.

In this section I hope to introduce some of the movement from, with, and between the varied images, writing, thoughts, and feelings that grew from our individual and collective experiences of art making together. The study itself took place over two semesters, framed within an art class I taught as part of one of our university's undergraduate residential college programs. The class design was based on EXA pedagogical strategies, combined with arts-based research (ABR) theory and praxis to provide the students with the theory, tools, and practices necessary to set the foundation for their own ABR projects, the culminating experience of the class. Student projects ranged from songwriting and vocal performance as therapeutic intervention for trans individuals to explorations through visual journaling and meditation around society's influence on creativity and the climate crisis. Each student enjoyed complete autonomy in their choice of topics including the research questions asked and the arts-based modalities used to explore their inquiry.

Arts-based research by nature is an amorphous undertaking with little to no procedural structure to inform the process, therefore, I provided the students with a simple framework to help conceptualize the early phases of their research design. This four-pronged approach includes an interdependent movement between and amongst the students' research question(s), the scholarly articles that inform their research question(s), the artistic modalities used as part of the ABR process, and their written reflections on their unique ABR process. Other than this basic guideline for forming and conducting their research, the students were given full autonomous and creative reign over their ABR projects. Many of the students struggled with the level of openness and self-authorship granted them, alluding to the lack of creative jurisdiction they've been granted in their educational encounters up until this point in their learning within our increasingly policed educational structures and systems.

With its focus on organic emergence and its embrace of the aesthetic, felt sensorial experience and relational encounters over rational, procedural based practices, arts-based research serves to disrupt linear educational systems. The openness of ABR and EXA practices can be unnerving. It facilitates a different type of "rigor" in the academy, a willingness to embrace the unknown, mixed with a willingness to share the emotive journey that the arts frequently take one on. The added challenge to this project was determining artistic means to not only represent the art and meanings that were emerging, but also tie them together into an aesthetic whole, including that of each of the student-participants and my own work.

The arts-based process that emerged for me, quite organically, was the creation of what I later playfully titled the "Wall of Data" or WoD. The WoD became the aesthetic representation of the combined work of both myself and the student-participants and consists of a large collage of observation notes, student writing, and imagery produced both by myself and the students as part of their ABR projects, activities and assignments. Through this process I was able to bring to life common themes and ideas strung throughout all of our work, providing a cartographic rendering capturing the whole of our work as individuals and a collective in a visual arts-based representation.

"Wall of Data" or WoD

The foundational theme that wove its way across and throughout everyone's experience seemed to be the notion of perfection, tied to an inner criticality, actively thwarting play, spontaneity, and imagination, under the banner of "never quite good enough". One student-participant used their ABR project to reflect upon their struggle with perfection and its hindrance to the creative process, using a visual journal and painting as a means to understand and overcome her perfectionistic tendencies. Another student-participant used the project to reframe her experiences of perfection as they related to body image. As part of her study, she incorporated a powerful piece through which she wrote negative things she would tell herself about her body on a mirror, later smashing the mirror with a sledge hammer, serving as metaphor for smashing her negative views towards herself and her body. Of her experience she writes, "This project was very empowering and made me very aware of my emotions. It felt really good to destroy not only those words, but a symbol of the creator of those words. Smashing the mirror helped me recognize that the reflection of my body is not the problem, it's the framework I see it in."
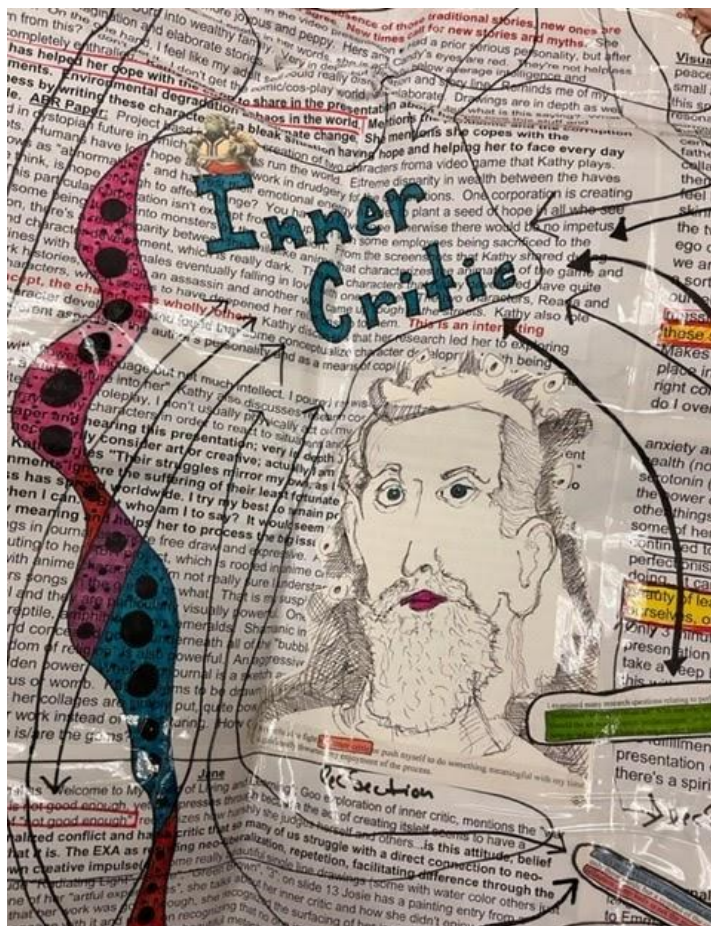
"The Inner Critic"

Arts-based practices like these afford students the opportunity to reflect deeply not only on their own personal experience, but their connections to broader social contexts and political, economic, and philosophical underpinnings that frame our perceptions of self and others. Another student-participant, using visual journaling as a means to understand our relationship to technology and its propensity to fragment relations elaborates, "What is unique about visual art is that it allows me to explore ideas in a highly subjective and emotional way. Furthermore, it compels me to perceive my life unconventionally, leading to the discovery of meaning in unexpected places." He goes on to discuss the benefit of using art to allow for the emergence of meaning organically: "And so, art making in this project did not feel like research. Rather, it felt as though I was taking often dryly presented, scholarly ideas and making them more relatable. However, this process did not lead me

to the discovery of a singular answer, but rather caused me to ask more questions. This is the best result I could have asked for, since more often than not, life is a complex, seemingly irrational mess that can be made sense of through art making."

Considering the deep impact that the incorporation of the arts has on sense making experiences, it is my belief that EXA and ABR practices introduce students to a new form of learning, helping disrupt many of the linear systems and structures in education which impede more imaginative and creative thinking and action. Arts oriented research offers a learning experience very different, yet genuinely necessary, to help capture the totality of human experience, honoring the aesthetic, the unknowable, both within ourselves and the world at large. It is a practice of making art for art's sake, expressing the deepest and most vulnerable parts of ourselves, if only we have the courage to allow ourselves to be seen in the fullness of the beautifully imperfect beings that we are.

PEACHES HASH

Early on in my doctoral coursework, I became interested in using expressive arts as a form of qualitative research. While in the doctoral program, I was also completing the Expressive Arts Graduate Certificate along with Mel and Heather and was struck with the depth of learning and engagement I experienced within those courses. Although I thought I had left behind the artistic piece of me with other childhood ambitions, expressive arts offered me a way to re-engage with art as a tool for learning; it was a tool where I could consider how aesthetic education, or learning through the arts (Levine, 2017a), could create meaning for myself and my students. It was a space where I could experiment and play with art and, in turn, my ideas through expressive arts' emphasis on the process of art-making over a studio-quality product (Knill & Knill, 2017). It was a way of knowing that encouraged me to embrace *poiesis*, the act of bringing something new into the world (Levine, 2017b), and, once I reached the dissertation stage in my doctoral coursework, I was ready to do so.

I came into the doctoral program with a relatively strong writing background. I hold a Master's degree in English, taught English at the secondary and postsecondary levels for over ten years, and by the time I was ready to begin writing my dissertation, I was published in a few academic journals (Hash, 2019a; Hash, 2019b). Additionally, I had been piloting my potential dissertation research for several semesters thanks to my doctoral-level curriculum course that encouraged me to take risks in trying arts-based methods with my undergraduate students. I was and am currently still teaching undergraduate first and second-year Rhetoric and Composition courses, which has allowed me to experiment with expressive arts for years. As I completed my own expressive arts courses, I began to wonder, "What would happen if I brought some of these techniques into my college writing classroom?" The anecdotal results were successful. Many students began taking both levels of my course specifically because they desired more art-making. I did not fully understand the nuances of their desire; I just knew that I enjoyed expressive

arts, so I set off to study the effects of using expressive arts through practitioner action research, where I could use my own students and serve as researcher as well as teacher.

My data collection involved interviewing voluntary student participants four times over the course of the semester to discuss their experiences with the different arts-based assignments I provided. I triangulated students' data through their visual artifacts they created (the expressive arts products) as well as their journal reflections about their experiences after each project was due. Aside from the exhaustion of working with multiple participants over the course of several interviews while also holding multiple jobs as a full-time doctoral student, this process was straightforward for me since I mapped out my plan in my doctoral qualitative research course. The real challenge, surprisingly, turned out to be writing the dissertation after all.

As I noted in two of my published articles on my dissertation process (Hash, 2021; Hash, 2022), I thought that writing my dissertation would be a simple process: Five chapters with a linear progression. But as I began thematically coding my data, I noticed that there were clear groupings between expressive arts' effects on students' mindsets and feelings about writing (Hash, 2020), curriculum, and students' emotions and abilities to express their lived experiences (Hash, 2021). My dissertation chair suggested that I write a nontraditional dissertation: One in which I wrote separate "chapters" in the form of individual articles I would send to different journals based on the themes I identified. As a student who desired to complete her dissertation within a year and graduate within the minimal three-year span, this option terrified me. I was not sure I could still meet my goals while engaging in this nontraditional form of writing.

Part of my love for expressive arts has been the way it supported me emotionally during my own learning. There happened to be an open studio on campus when I was considering my dissertation format, so I elected to attend and journal about my dissertation ideas. Visual journaling is a method of art-making that can be used as an expressive art to tap into one's ideas and emotions. Making images can create depth that words alone cannot achieve (Ganim & Fox, 1999) and can help people process their experiences to make further meaning (Hutchinson, 2018). The figure below is the image I made during this open studio. The image I ultimately created involves traces of my hands reaching out in different directions, eyes looking in different directions, and different bubbles labeled with words such as "doubt" and "how". In the middle, I created a spiral labeled "embark" and, out of it, I collaged different definitions from a dictionary that related to my dissertation such as "art" and "composition." When I sat back and looked at my visual journal, I understood that while a traditional five-chapter dissertation might be easier, I knew that a nontraditional framework would better illustrate my ideas. In one of my chapters, I describe this realization as the difference between a star with clear points and a paint splatter. As arts-based researchers, we may hope for clear paths to follow, but art is messy, and we have to be willing to follow the splatters rather than force data into our preplanned points (Hash, 2022).
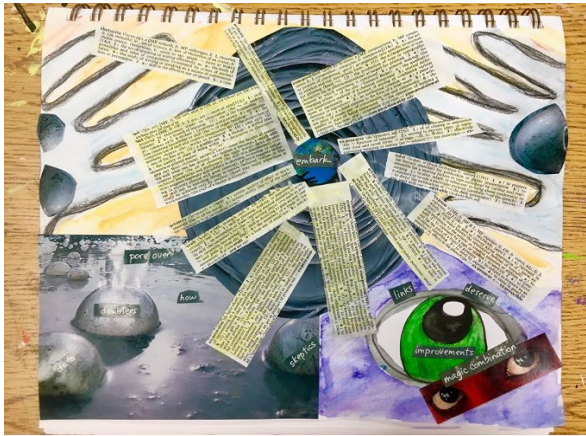
Visual journal on dissertation ideas

Another challenge I faced was how to showcase my own journey with arts-based research. All of my dissertation chapters included my students' visual artifacts (Hash, 2020; Hash, 2021), but as one of my committee members pointed out, my earliest thesis drafts were devoid of my own artistic creation. This bothered me especially considering how much research I presented exploring the intersections between written composition and art-making (Hash, 2020). If I believed in the use of expressive arts in writing courses enough to compose an entire dissertation on it, why had I not showcased them more in my own process?

Part of the divide in my own process was that in expressive arts, the researcher does not analyze participants' creations; only the participants may speak on the meaning, which caused me to rely heavily on participants' interviews and written reflections. But words and images do not always have to be separate. Like with visual journaling, they can create more meaning. With this in mind, I began to play with ways words and images could intersect to illustrate more of how expressive arts became a way of knowing (Allen, 1995) in my dissertation.

Claire's word art data (Hash, 2021)

The figure above is an example of my own artistic work with participant data. Word art is an accessible arts-based method of analyzing data because it requires little artistic skill with the use of digital technology, but can create additional depth of meaning than thematic or in vivo coding. Gulla and Sherman (2020) used what they called "word clouds" in their research with teachers to "allow [them] to see where [their] emphasis was when it came down to the actual words [they] were setting down on the page" (p. 3). As they created their word clouds, they were able to see words that appeared prominently based on how many times they were used. I chose to use this technique, but also create shapes based on what I saw within participants' data. I put all of my participants' interview transcriptions as well as their written reflections after projects were submitted into the word art program, then I looked at the largest words and their data again to create shapes.

In Claire's case, her journey throughout the semester involved grappling with negative emotions of being in school when she wished to pursue a music career, lack of motivation, and the desire to create, but feeling uninspired. The expressive arts activities in my course ultimately allowed her to express her feelings, form community within her peer group, and pursue her creative interests while also completing tasks for a course. I felt that the external demands of school were conflicting with her inner feelings and, at the same time, she was searching for understanding from myself and her peers; therefore, I depicted her data as two hands reaching towards each other, with different colors further illustrating her conflicting thoughts, feelings, and influences. While the hands are not touching completely, there is implied movement that could lead to connection, which is how I saw her journey through the semester. With each project, she not only expressed more of her-

self, but also put more effort into her assignments for my course, leading to her achieving one of the highest grades.

After completing the art for my student participants, I realized that my journey could be one of hands moving together as well. While I aspire to focus on expressive arts through my academic career, I too still have preconceived notions of what is expected of me as a writer, student, educator, and learner. My dissertation pushed me to move these "hands" closer together, and now that I have completed my degree, I find myself seeking out publication opportunities where I too can be more expressive. Throughout my dissertation, I wrote a narrative about my own journey that ended up getting published in the Carnegie Project's *Impacting Education*. At the end of this article, I wrote, "Though a dissertation is a 'result' of research, it really showcases one journey, and if executed effectively, foreshadows the promise of future journeys to come. I look forward to my next journey" (Hash, 2022, p. 31). I still do.

HEATHER THORP

My primary motive for seeking a Doctorate in Educational Leadership with a concentration in Expressive Arts Education, Leadership, and Inquiry was to learn more deeply about something that I loved. I was already a Registered Expressive Arts Therapist (REAT), taught in formal courses and workshops, provided REAT supervision, and served on the International Expressive Arts Therapy Association's board of directors. What I desired was to build upon my leadership history and creative interests. In my doctoral journey, I theorized the importance of stories and their ability to change our relationship to other people but also to what is considered the natural world, in order to create new possible futures with a greater focus on social and environmental justice. Atkins and Synder (2018) suggest that theories are a type of story. In the following paragraph I will tell a bit of my story that led me to this day, this chapter, my philosophy, and to my *theorystory*, a word I use to describe how the two are entwined.

In my early 30's I moved from the suburbs and cities in northern Ohio to southern Ohio to a rural community on 150 acres of land in the rolling foothills of the Appalachian Mountains. I felt as though I had moved to sacred ground. Prior to entering the doctoral program, I moved again to the Southern Appalachian Mountains and fell in love with the geology, the flora, and the culture. Along the way I developed my own personal theory which included creativity, sacredness, and social and environmental justice. My initial vision of these three concepts began as I drew a triangle each at a point of the figure. My later theorizing involved seeing these as a braid which later deepened into an integrated vision/theory that the three are actually felted concepts.

As I followed the path on my doctoral journey, I became inspired by other theorists that asserted that traditional science is not big enough and complex enough to tell some *theorystories*. I was inspired by Donna Haraway's writings that combined arts and science and justice (Haraway, 2016). I theorized within postmodern theories including feminist new materialism and

feminist posthumanism (Alaimo & Hekman, 2008; Chappell et al, 2021; Coole & Frost, 2010, Holmes & Jones, 2016, Murris, 2021), challenging the belief and practice that humans are the most important factor in our current geopolitical story. I proposed a *Story Family* composed of not only humans but also time, the Appalachian Mountains, and EXA intermodal processes and EXA supplies. So, while the dissertation story itself was expanding my leadership skills, the program also allowed and encouraged me to research creatively through arts-based inquiry (Clarke/Keefe& Gilway, 2016) which reinforced inquiry that allowed me to tell the complexity through making/ thinking/doing (Springgay, 2016).

I have a long history of creating handmade journals inspired by Ur-sula Le Guin's (1996) *Carrier Bag Theory*, posing the question about what our world would be like if we told the story of the first tool not as a weapon but as a vessel to carry food, a baby, water. How would that have changed our culture? I conceptualized the handmade journals that the participants and I made as the carrier bag for the processes of data collection/creation. I wanted to explore curiosities about education, leadership, creativity, and justice in nature–outside of the traditional classroom–with women who had finished their formal learning. In this *storyplace* of the Southern Appalachian Mountains, a site described as a type of art studio, lab, (Springgay & Truman, 2016), undercommons, (Manning, 2016), nature-based setting (Atkins & Snyder, 2018; Hofsess et al., 2019) play space (Hofsess et al., 2019) or a combination of these concepts, the participants and I were able to ask questions and explore creative processes.

In this educational space outside of the traditional classroom we were not constrained by traditional practices and were invited to pose questions to inspire further learning. Women participated in arts-based inquiry in the "classroom" which inspired learning about deep time, liminal time, and history and herstory, in this particular setting. This setting or *storyplace* included the geological journey of the ancient mountain range that resulted in

the current natural, cultural, and political landscape of the Southern Appalachian region. The current socio-political and geological times invite and challenge social scientists to *do* inquiry differently to address the complexity of the questions creatively. Each time the participants met we used art as a way of knowing (Allen, 1995). After each meeting I engaged in data creation, not data collection which supposes that data is inert (Bhattacharya, 2013). I wrote stories about each time we met over the year-long study and upon writing the dissertation I curated photos, stories, and the questions that remained of which I share a sampling below. The inquiry was undertaken not to study individual participants. Instead, the stories were an amalgamation of all the participants. Thus, the stories were written from the point of view of she, representing one member of the *Story Family* that included time, the mountains, and EXA materials and practices.

Felted throughout the inquiry process questions or curiosities arose. I proposed that questions, both within and outside of the academy, can invite paths to what we pursue, and later recount as story or theory. The participants and I began the studies with questions and ended with questions, learning to love the questions as well as the "answers" (Rilke, 1934). Through creating/making together or "sympoesis," (Dempster, 1998) and thinking/theorizing together or "symtheoria," (Thorp, 2022) questions arose. I leave the reader with a gift of questions to engage in, adding your own musings, an invitation to creative community inquiry.

◊ How can we embrace slow activism?

◊ Can we learn differently because we are learning next to trees?

◊ How do we take studies like these and put them into real-world use for teachers and students?

◊ Do I make a difference if I have an intention to learn by studying what is around me?

◊ How might formal and post-formal community education and gatherings be different with attention to *storyplace* and the arts?

Expressive inquiry for addressing wicked problems

We frame our individual reflections with an understanding that sustaining shared well-being in our communities and larger ecological systems has become increasingly precarious. The problems of our time–the tangled and terrifying problems of climate change, political instability and economic inequity–can be thought of as "wicked problems" (Bottery, 2016) We offer a brief review of the notion of "wicked problems" as a way of thinking about the value of arts-informed inquiry in doctoral education.

Building on the work of earlier authors (Rittel and Webber, 1973), Bottery's book on educational leadership and sustainability contrasts "tame" and "wicked" problems (2016). Tame problems are those that offer a clear definition and straightforward solutions. As such, tame problems are managerialist in nature: they can be addressed with known, ready-at-hand technologies in a procedural manner (Bottery, 2016). Wicked problems, in contrast, have no clear rules to follow and can be framed very differently by different actors. Further, the problem's causation may be non-linear and shifting over time. There are no standard, ready-made solutions to wicked problems.

212

In educational settings, tame and wicked problems often come wrapped together. Even situations with clear rules are embedded within complex human organizations and individual narratives; thus, there's an inevitable dimension of uncertainty and shifting of contexts/meanings in any problem-solving situation (Bottery, 2016).

In relation to the focus of this chapter, Bottery notes that fostering creativity among educators can itself be a wicked problem:

> *Whilst one can play a game of Monopoly simply by following the stipulated rules, there are no such clear-cut rules for tasks like enhancing creativity in educational institutions; even less so for enhancing creativity in particular classes or faculties in particular schools or universities at a particular time, with particular individuals, as all of these conditions increasingly make this problem more and more unique (p. 41).*

In the context of educational leadership, Bottery invites leaders to acknowledge the uncertainty and shifting meaning of wicked problems. Thus, it becomes imperative for leaders who can address such problems to be able to engage them creatively, to shift the location of their gaze and reframe what they're looking at, in order to appreciate how problems might be framed by others. They must also practice holding a large measure of ambiguity, and be able to invite others into a process of collective creative expression and sense-making. In this chapter, we suggest that arts-oriented inquiry within a doctoral program can be a powerful approach to developing the habits of mind/heart for encountering wicked problems as they are, in all their tangled complexity, without trying to tame them.

Conclusion

Arts-informed inquiry is not only about exploring alternative ways of being, teaching and learning; it's also about finding spaces to more fully express our own anger, confusion, despair, and joy living on a planet that feels so simultaneously vibrant and fragile. In terms of doctoral inquiry, we argue that creativity is necessary for expressing the powerful emotions that our global predicament has produced. Arts-informed inquiry can open an encounter with the raw, tangled emotions that inevitably arise from the unfolding crises around us, and inspire an imaginative, transgressive courage and sense of radical hope (Reed, 2017). Arts-informed inquiry makes space for acknowledging, rather than avoiding, the pain of perilous times and transforming that pain into creative possibility. Engaging with our affective experiences also enables us to tap into deeper sources of wisdom–generative, embodied ways of knowing–as we search for hope and possibility amid increasingly chaotic times.

Creative engagement with inquiry supports local/global problem-solving on at least two levels. At one level, opening spaces for college students for creative expression, as modeled by Mel Falck and Peaches Hash, validates their own creative energies and expands the possibilities that, in

213

their adult lives, they will engage with problems in a creative manner. In this respect, arts-informed teaching infuses creativity within the education of college students, who themselves may, in turn, lean toward creative engagement with their lives and future work.

At another level, arts-informed inquiry offers an avenue for engaging wicked problems in the fullness of possibility and humility. The work of arts-informed dissertation research, as illustrated in this chapter, provides a unique window into the processes by which educational leaders can engage with others in shared sense-making by embracing ambiguity, multi-vocality, and the possibilities of emergence. Falck's "wall of data" becomes a physical externalization of the inner process of "holding the mess" of a rich array of data that results from trying to understand arts-based pedagogy. Falck's wall held images and ideas in unruly juxtapositions and, through multiple iterations of embodied engagement, non-linear connections and unexpected insights emerged. Similarly, Thorp's project allowed her to see/taste/feel emergent meanings among a community of women, deepening their moment-to-moment relationship with Earth and each other, as they created data and new stories of connection. In a classroom setting, Hash's teaching opened space for students to create expressions of their experience that traditional essays couldn't contain.

Courses in arts-informed inquiry are best done hands-on, requiring bodies together in space/place. As our doctoral program has moved online, our students now have limited access to expressive arts courses on the main university campus. This barrier, coupled with other programmatic changes and the limited audience for training in expressive arts, has produced a situation in which we have not been able to sustain our formal doctoral concentration in Expressive Arts. Nevertheless, given the ways in which we value expressive inquiry, our program will continue to invite students to consider arts-based research options and creative expression of their learning.

We suggest that arts-informed teaching and inquiry is a unique mode of engaging wicked problems that offers possibilities for collective sense-making that reaches beyond the limits of the rational. It's daring work that isn't guaranteed to produce "results" on a pre-determined timeline. Given the wicked nature of so many educational and global problems, we believe that arts-informed processes offer a unique and powerful avenue for holding the uncertain, ambiguous, shape-shifting dimensions of these problems in their wicked fullness.

It's the work of the arts-informed leader not to create clear, rational solutions, but containers for the processes and rhythms of expressive truth-tellings and shared sense-making. Bottery (2016) notes that the stance of leadership here is one of radical humility, in recognizing the limitations of one's own understanding and welcoming the richness and complexity of multiple human (and non-human) experiences that can inform how we address our shared predicaments.

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CHAPTER TEN

ENHANCING CREATIVITY AND OTHER 21ST CENTURY COMPETENCIES AMONG YOUTH BY SOLVING GLOBAL CHALLENGES THROUGH AN ONLINE INTERCULTURAL PROGRAM

MACARENA-PAZ CELUME

Keywords: online learning, creativity, global challenges, interculturality, innovation, 21st century competencies.

Online learning and intercultural exchange

International organisations (UNICEF, 2020; World Economic Forum, 2021), agreed, that because of the health crisis developed by the covid-19 pandemic, our world needs effective online learning solutions that can be achieved entirely remotely. According to Aitizi and Bozkurt (2014), the world is experiencing an e-learning revolution where online learning (or e-learning) can be defined as the use of new information and communication technologies (or more simply of electronic solutions, means and tools) for the purpose of learning or training. Song and Bonk (2016) explained that because of the rapid advancement of technology, a multitude of online tools have fostered learning through informal ways, letting students and informal learners to study, learn, or enrol on demand and only when they believe is necessary. In other words, the fast expansion of online learning tools has had a dramatic influence on the concepts and attitudes that surround learning. For example, people may study from internet resources while travelling, using the transportation time to learn something new. Virtual educational settings, such as schools and online colleges are becoming popular among students, either to follow a whole degree online, or in order to take one or two online classes as a learning experiment (Song & Bonk, 2016). Tools, apps, and platforms have been developed to provide and facilitate learning in the most innovative ways in order to adapt to the learner. In several cases, we observe how they support active learning actions like visiting a museum, going on a holiday, riding a bike, etc. Online learning has provided people with internet access a range of learning possibilities wherever their computer or mobile devices may access learning materials. This poses an ethical question regarding access to learning in remote places, but it appears to be that the rapid expanding market of online tools will provide such connectivity in rural and underserved parts of the world (Song, Karimi, & Kim, 2015).

These online solutions can not only facilitate the access to learning content from people who live in remote areas, but also it can be a powerful

tool to promote intercultural exchange, as people from different cultures and countries could be put together to interact towards a common learning goal. According to Lewis and O'dowd (2016) the concept of online intercultural exchange (OIE) can be traced back to the 90's when, virtual engagement was utilized by educational actors to connect their classrooms with partner classes that were in remote places, allowing real dialogue, meaningful cooperation, and first-hand experience working and learning with colleagues from diverse cultural backgrounds. Such online transaction programs can help to build learner autonomy, language correctness, intercultural sensitivity, intercultural competence, and digital literacies. OIE has progressed beyond individual classroom activities to become a key instrument for internationalisation, intercultural development, and virtual mobility at institutions throughout the world.

Competencies for the 21st century

Besides online learning and the intercultural exchange that can be enhanced thanks to it, the 21st century requires other non-technical skills and competencies to be developed among youth. These skills and competencies can be gathered under the concept of "soft skills", although no real consensus exists towards a definition of "21st-century skills" or which are the specific group of competencies that are concerned. Voogt and Roblin (2010) explained that this lack of consensus regarding the concept and its definitions can be explained because of the multiple ways in which such skills are been taught. According to Jyones, Rossignoli, and Fenyiwa Amonoo-Kuofi (2019) '21st-Century Skills' is a concept that underlies all the knowledge, competencies and traits that people need to be able to contribute to the society. Our globalized society requires a diverse set of competencies adapted to the 21st century to increase innovation, adaptability and the ability from people to meet complex global challenges (Ananiadou & Claro, 2009; Cimatti, 2016; Kyllonen, Lipnevich, Burrus, & Roberts, 2014; OECD, 2018; Trilling & Fadel, 2009).

According to (Fadel, Bialik, & Trilling, 2015) the Four-Dimension Educational model or CCR framework (from the Center for Curriculum Redesign) summarizes a set of competencies fundamental for the education of youth for the 21st century. The model is focused on twelve competencies for the 21st century divided in three main axes: Skills, Character, and Metalearning. As observed in the figure below (Figure 1), it gathers four skills, six character traits, and two meta-learning processes.
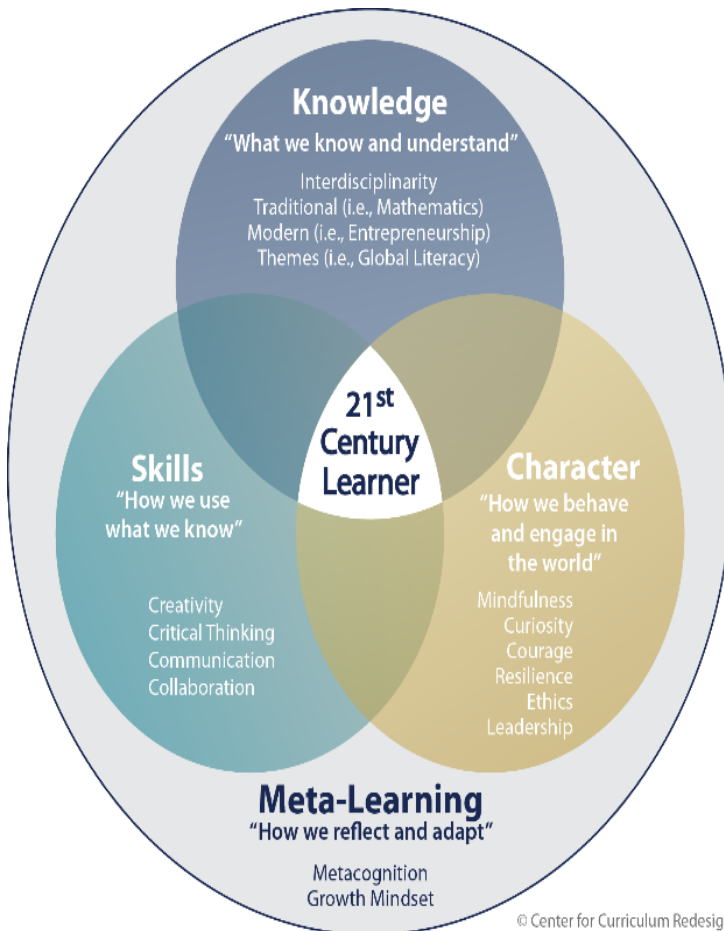
Figure 1: *The Four Dimensional Education Model from The Center for Curriculum Redesign. Image retrieved from Fadel, Bialik, & Trilling (2015).*

A skill can be defined broadly as a disposition or competency attained through practicing and training, which related to social interaction can be defined as a set of learnt skills that allow a person to behave properly and responsibly in a particular social setting (VandenBos, 2007). The way a person employs what he or she has learnt is referred to as his or her skills (Bialik, Martin, Mayo, & Trilling, 2016). These skills are referred to in the CCR frameworks as social skills, because they gather four key competences said to be fundamental for social interactions: Critical Thinking, Communication, Collaboration, and Creativity. The "4Cs" commonly used in 21st century educational discourses that has its origins in the works of Dewey (e.g. 1966).

Character and character attribute are frequently mistaken, jumbled, and used in place of terms such as personality, temperament, or mood. It will be more broadly understood as the set of personality traits and features that include, among other things, the set of social, moral, belief, and ethical aspects of persons (Allport & Allport, 1921; VandenBos, 2007). It encompasses twelve of the CCR framework competencies: Mindfulness, Curiosity, Courage, Resilience, Ethics and Leadership.

Meta-learning is concerned with self-reflection and the idea that a person is always adapting, growing and learning, and achieving one's objectives and purpose (Bialik & Fadel, 2015). It gathers the two final competencies of the framework: Metacognition and Growth-Mindset.

To tackle the challenges faced by youth during the covid-19 pandemic, and in order to develop this set of competencies online, a group of researchers and educational actors created a set of online programs in order to develop these 21st century competencies among youth. The first program developed was called *BE a Global Citizen*, and it was split into an individual and a group pathway. The individual pathway let participants explore their own global citizen competencies and put them into practice in their environment through individual activities. For the group pathway, the program proposed youth to interact with other young people from different cultural backgrounds in order to solve a global challenge.

The following chapter will focus on the outcomes of this first program, and will review some of the results presented in the study of (Celume & Maoulida, 2022a), adding further analyses and results, pointing out the relation of these findings, with interculturality.

Method

Participants

Ninety-six participants between 14 and 21 years old were recruited from schools in different countries of Europe (e.g., Portugal, Slovakia), Latin America (e.g., Colombia), and Africa (e.g., South Africa). All of them were english speakers and started the program at the same moment. The final cohort was constituted of 23 students (M = 16.88 years SD = 1.58), mostly girls.

Variables and Instruments

21st Century Competencies' development:
CCI-36 (Celume & Maoulida, 2022b)

In order to measure the development of 21st century competencies it was used the Compound Competencies Inventory for the 21st Century, 36 items version (CCI-36). The CCI-36 is a self-reported measure that brings together twelve competencies identified as fundamental for the 21st century. In this line, it gives a specific score on each of the twelve competencies measured, as well as an overall score on 21st century competencies development. The overall score is calculated by the interaction of scores for each of the twelve skills, providing a mean score that can be understood as the average level of participants regarding their set of competencies for the 21st century.

Motivations and Learnings:
In order to gather information concerning the elements of the program that motivated students and their learnings, a satisfaction questionnaire and an interview grid were created.

a) Satisfaction Questionnaire
At the end of the program, a set of questions related to their satisfaction (or dissatisfaction) with the program were proposed to the students. They responded with three elements that motivated them to stay in the program, and three elements they believe the program could improve. Then, students were asked to write three main learning points.

b) Interview
After finishing the satisfaction questionnaire, semi-directive interviews were carried out and recorded asking them about their experiences in the program. There were 2 first introductory questions to ask them about technical aspects of the platform, followed by two main questions regarding learning, motivation and things to be modified. It is important to note that only 7 short interviews were carried out.

Procedure
Students enrolled in the program and one week before starting the program, they responded to the CCI-36 test in a platform dedicated for the program. After finishing the program, between the first day after finishing the program and until one week after finishing, students were invited to respond to a post-test where the CCI-36 was conducted again, as well as a satisfaction questionnaire. During this time, some students were randomly selected to participate in an interview to gather deep information about their experience in the program.

Results

Analyses
Quantitative analyses were carried out through JASP and JAMOVI open source software and were analysed in terms of difference of means of pre-post tests.

For the qualitative analyses, a thematic analysis was carried out, and the chapter will focus particularly on the responses of students' motivation and learnings, as things to be revisited or to be modified were focused only on technical issues they encountered, such as internet access and platform bugs.

As the interviews were carried out with a limited sample and responses to our questions of interest were extremely succinct, results will be presented only to illustrate a trend but will not be part of the final discussion, and thus should be considered carefully.

Competencies development
The CCI-36 was applied at the beginning and at the end of the program. The original final sample was composed of 26 students. After testing for social

desirability, we proceeded to the evaluation of the data from the 23 students who presented scores below the threshold of 10 points. According to (Celume & Maoulida, 2022a) six competencies were significantly developed: creativity (t (22) = −2.508, p = 0.002, d = −0.523), critical thinking (t (22) = −3.210, p = 0.004, d = −0.669), communication (t (22) = −2.421, p = 0.024, d = −0.505), collaboration (t (22) = −2.675, p = 0.014, d = −0.558), curiosity (t (22) = −2.232, p = 0.036, d = −0.465), and leadership (t (22) = −3.826, p <0.001, d = −0.798).

Motivation and Learning

As explained above, questionnaires and interviews were carried out in order to gather information concerning the motivative elements of the program and its key learnings.

Motivation and Learning: Questionnaires

The double question we analysed for this chapter concerned what had motivated them the most, and which learnings were related to it, both within the program. We analysed the content following a collaborative coding (Guest & MacQueen, 2008; Saldaña, 2009) through a thematic analysis procedure (Braun & Clarke, 2006) in order to avoid inter-judge agreement scores. This means that a lead researcher proposed a codebook that was later modified after feedback from two lead researchers and two student interns, who coded part of the content at the same time, agreeing later on every code in order to create themes.

There were found 10 themes around motivating elements of the program. Themes will be presented below from the most referenced one, to the less referenced one. The number of references will appear between parentheses, right next to the theme title. As presents in the figure below (Figure 2), themes were divided in three main categories: "Most referred" ones, which gathers themes with more than 20 references, thus correspond to the main outcomes; "Fairly referred" ones, which includes themes with references between 4 and 8, thus correspond to outcomes to consider carefully; and "Less referred", with themes with 3 or less references, which can be considered as themes out of the scope of the sample. Examples of each category will be presented below in the discussion part.
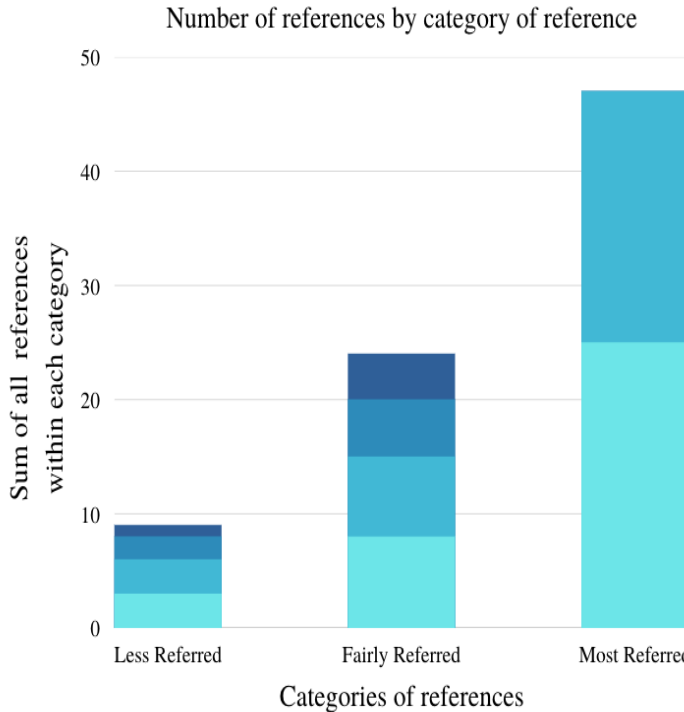
Figure 2: *Bar plot of the number of references stated by participants according to its category of reference.*

Most referred:
- **Collective international aspect** (25). It describes the fact of working together with other people around the world and trying to solve an issue collaboratively. This theme is related to the fact of being part of a team and feeling the support from other teams and teammates. It is also related to the fact of having the opportunity to meet people from other countries, and make new friends.
- **Foster competencies** (22). It describes the appreciation of learning competencies to boost their self-development as well as to help others through their competency gain.

Fairly referred:
- **Curiosity and Novelty** (13)
    - **Novel learning** (8). This topic is related to the fact of learning new things they haven't learnt before that was unique and never seen at school.
    - **Curiosity** (5). When students spoke about an inner curiosity to see what would happen in the following session, or curiosity about other people's perspectives.

- **Certificate or award** (7). It is related to the motivation linked to having a reward after the program. Some of them mention an award, and some explicitly speak about peer competition.
- **External motivation** (4). It describes when family or peers keep motivating the student to complete the program.

Less referred:

Other themes that appeared with less references were learning english (3), fun (3), intrinsic existent perseverance (2), and working on miro board (1). The cloud of words below shows better the words that were mentioned the most by participants regarding the appreciated aspects of the program.

A semantic observation was also carried out in order to see which were the most frequent words regarding participants responses to open-ended questions. In the figure below (Figure 3) we can observe that the most frequent words are related to community (people, members, group, team), with global and world as highly frequent words as well.

Figure 3: *Word cloud representing student principal motivation to stay in the program*

Motivation and Learning: Interviews

The few interviews highlighted three main themes concerning the program:

- **Community support**: either them giving support, either the community giving them support.
- **Self-discipline or self-purpose**: students explaining that their already present traits are related to be self-disciplined.
- **Teambuilding:** Within the group activities, the type of activities proposed fostered teambuilding and were helpful for their group challenges.

Discussion

One fundamental part of the data presented in this chapter was focused on motivation and learning of students. The interest of this research was to understand what motivates youth to follow a program of this kind and which 21st century competencies they can develop while participating in the activities. In this line, we crossed the results of the CCI-36 regarding competencies' development with the thematic categories we created when analysing their declarations regarding motivation and learning within the program.

In this line, students declared two main elements: 1) the aim to foster their competencies; and 2) the intercultural collective relationships. Both categories were related in most of the cases to the group challenge part of the program. The focus of the group challenge was on solving a global issue in teams using the help of the Design Thinking (DT) methodology, where students were proposed to live their group challenges by experiencing different roles, such as: coordinator (in charge of scheduling group meetings); spokesperson (in charge of communicating on behalf of the team); moderator (in charge of moderating the speaking); rules keeper (in charge of time/instructions) respect; facilitator (in charge of reminding the team to focus on the task); following the idea of a collective problem solving process within an intercultural context.

The first element described above as a motivation (the aim to foster own competencies) can be directly linked with a predisposition of students towards the objectives of the program. The program was presented to students as a means to foster competencies concerning global citizenship, and this could have already influenced some of the significant results. In another words, establishing the objective of developing competencies as a motivating factor, speaks about a population that is intrinsically motivated and thus it could have helped with the significant development of competencies that was observed in the study. In this line, our findings are consistent with literature on intrinsic motivation and the self-determination theory (Deci & Ryan, 2008), as they showed that when people have an inner motivation towards a task, they are more willing to foster social and emotional competencies within such task (Ryan & Deci, 2000; Ryan, Kuhl, & Deci, 1997).

Within the second element (generate intercultural collective relationships), students mentioned "building international relationships", "to make friends from different parts of the world", or even "contacting with people outside my community" as motivating factors of the program that fostered learning. We observe a desire from students to establish international relationships and to communicate with students from other countries, as a sort of intrinsic motivation (Ryan & Deci, 2000) to communicate internationally. According to Bialik et al. (2015), communication is the ability to listen to and understand information and ideas as well as to pass along or give information though different methods. In other words, competent communicators can actively listen, comprehend others, and communicate information and ideas effectively and precisely by changing their communication style to the audience and communicate their message in a variety of ways. Students in the program needed to able to listen, understand, and pass along information

adapting to the audience as they were asked to tackle global issues with participants all over the world to solve a group challenge. These groups, were in purpose constituted with students that came from different parts of the world, with the objective of communicating and collaborating with people from different cultural backgrounds and perspectives. In this line, students who participated in the program expressed that they were able to "develop communication [skills] with people from different parts of the world" and that they understood others' perspectives, explaining that they "learnt to look at things in different way [...] learnt a lot about human's mind and the relationships between people" as "everyone [no matter their cultural background] has different values and responsibilities and therefore their thinking is different" and "[...] even though *their* opinion might differ from others' opinion [...] that doesn't mean they are wrong!". These declarations could also argue in favour of critical thinking, which will be discussed further on.

This kind of declarations where students made links with communicating with others and understanding others ideas, can be linked with the significant results of the *communication* and *collaboration* competencies in the CCI-36 (Celume & Maoulida, 2022b). This inner motivation to develop an intercultural communication probably allowed them to be more receptive regarding cultural openness (Bruneau & Saxe, 2012) and international collaboration (O'Dowd, 2006) preparing the pathway to work on collective problem solving within intercultural contexts. In this line, collaboration can be described as a coordinated, synchronous action (Bialik et al., 2015) that occurs thanks to communication. In other words, through the development and maintain of a shared understanding of a situation (Fadel, et al., 2015), a result of an ongoing effort to fully communicate can be understood as collaboration, which could explain the strong relation between these two concepts and how they might have impacted each other.

In any case, it appears to be that motivation towards collective intercultural relationships might had an impact in the development of both **communication** and **collaboration** skills, facilitating the intercultural collective problem solving that was proposed to the students as part of their group work. According to (Guazzini, Vilone, Donati, Nardi, & Levnajiæ, 2015) any action that is essentially social in nature necessitates a high level of collaboration among the interacting subjects. Meaning that social interactions, in this case towards solving a global challenge, would necessarily use collaboration as a main strength. In this sense, a student claimed that both main motivations were indeed: "The driven force of collaboration and the focus for transforming the globe". Moreover, Lewis & O'Dowd (2016) explain that online intercultural exchanges are opportunities for social interaction between international members through a reciprocal interaction. This means, that participants do not only observe and ask questions, but should also express their own opinions, with the means of permitting collaborative tasks or collective inquiry. In this sense, the online international collective problem-solving process is intrinsically linked to collaboration.

According to Guazzani, et al. (2015) collective problem-solving advocates for the fact that someone that is alone confronted with a problem-solving task has a far lower likelihood of finding a solution by him/herself than if she/he was in a group. They employ the term *crowdsourcing* to ex-

228

plain the *collective intelligence system* of engaging citizens in gathering constructive ideas, practices, and solutions where all participants will feel free to contribute with their independent suggestions and share their own ideas.

The process of sharing ideas in order to find a collective solution or make decisions, needs a specific set of strategies and mental processes that will permit to critically assess ideas and general information (Bialik et al., 2015 ; Fadel, et al., 2015), and this can be understood as **critical thinking**. In this line, students expressed being motivated by "the concept of global citizenship and how we will be critical thinkers and problem solvers", highlighting learning around differences in thought: "everyone has different values and responsibilities and therefore their thinking is different". The group challenges presented to students the possibility to confront their own ideas to other participants within their own group in order to choose the best possible solution, but also, present and test the acceptance to their solutions to other groups. In this line, a student added: "Thanks to texting with other students I found out interesting facts about their countries… Now I consider others' points of view more. Seeking out new perspectives helps me in my day-to-day life because I am aware that even though my opinion might differ from others' opinion [...] that doesn't mean they are wrong. It helps me especially in understanding conflicts or arguments". As part of the DT process, students were asked to give feedback to others' solutions, which could have influenced to be more aware of the flops of their own solutions and thus contribute to develop critical thinking. According to (Celume & Maoulida, 2022b), people who use critical thinking are able to consider alternative and even contrasting views identifying values and fragilities of solutions or decisions taken. Nevertheless, not all literature agrees on this line, as some authors (e.g. Stasser & Stewart, 1992) explain that members of a team may see the challenge only as an issue that should be solved and therefore believe that there is a vital collection of knowledge that will permit them to find the single right answer and to defend it through logical thinking. In this line, during the process of finding a solution, such a problem-solving set would encourage the search for a definitive collection of knowledge instead of multiplying the ideas. This might explain why some students shared a certain level of dissatisfaction with the level of their solution (M = 7.3 out of 10; Be a Global Citizen unpublished report).

Decision making, besides of involving a certain level of critical thinking, needs a mechanism to guide the decision-making process in order manage everybody's ideas to achieve the collective goal. According to Guazzini, Vilone, Donati, Nardi, & Levnajiæ (2015), if an operational mechanism for managing these ideas is established, *crowdsourcing* (as explained above) can reach outstanding results in terms of collective problem solving. This "mechanism", understood as collective intelligence, might need someone to facilitate the process of ideas sharing, or guiding the team towards a solution. This facilitator can be also found in literature as a "leader". According to Fadel et al. (2015) **leadership** can be defined as a social and ethical process where individuals can set and pursue objectives while inspiring other people to follow them in order to achieve a positive change. In this line, when students were confronted to make decisions in order to find solutions to their chosen global issue, they were pushed to accomplish a solution together, and

to try "leading" roles proposed by the Design Thinking methodology, which could have influenced the significant results of leadership competency within the CCI-36 test. During the collective sessions where students discussed their group challenges, the proposed roles were focused on ethically guiding the discussion, or as Fadel et al. (2015) explained, ethically managing all resources. In this regard a student clarifies: "Teamwork really matters. It's the way our motions can be acknowledged and can be worked on global issues and solutions". This is aligned with (Chemers, 2000) work on leadership within groups, where he explains that leaders have been identified in literature as people that express concern regarding team's emotions considering everybody's points of view, or at least making sure that everyone gives his/her opinion.

In this line, the international collective aspect of solving challenges together, was not only highlighted by the fact of being able to freely share opinions, but also in regards to **creativity** and the level of creative solutions that could be found thanks to this intercultural exchange. In this line, a student shared that she learned that "Understanding and respecting the perspective of others [from different cultures] is essential for the creation of new ideas : you can combine ideas and turn them into a much better solution." This student's reflection is aligned with the original definition of divergent production or divergent thinking (Acar & Runco, 2019; Guilford, 1950, 1968) where fluency, the number of ideas produced, is one of the three main indicators of creative divergent thinking. These ideas combined, as the student outlined, turned the ideas into a better solution, meaning that the interaction of ideas helped them found a new solution that was better adjusted to solve the issue they had to tackle. In this line, working together towards finding an adapted solution, is consistent with the general definition of creativity and creative thinking (Lubart & Sternberg, 1995; Runco & Jaeger, 2012) which explains that creativity is involved in the development of a creative work that is both novel and useful as defined within a specific context. The context here being an adapted solution to their group global challenge.

These exchanges, permitted students identify peers that had same objectives and thus were able to produce quality creative ideas. In this line a student said: "I learnt that there are many young people in the world that are thinking more global, they are the same as we are (normal students), they are interested in global issues and are creative and have very good ideas", implying a validation for other's ideas within the collective, permitting collective innovation in finding solutions, which could have influenced the development of creativity among participants. According to (Reiter-Palmon, 2011) both **innovation and creativity** are intrinsically linked, although sometimes defined separately: creativity can be understood as the primary steps of problem solving (identifying the problem and idea-generation), while innovation is commonly defined regarding the implementation of the idea generated through problem solving, and the acceptance of this idea by several stakeholders (Mumford, 2001; West, 2003). In this line, the process of finding an innovative solution to a global issue might have influenced both elements, as they appear to be intrinsically involved. In this line, Fadel, Bialik, & Trilling (2015) and Bialik, Martin, Mayo, & Trilling, (2016) explain that creative people are able to propose and accept multiple solutions, adjusting previous ones

in order to achieve a goal (finding a solution to their challenge). Similarly, Mercer (2000) explained that the fact of thinking together, might impact the objective of collectively finding sense to an experience and collectively solving problems. In this line, this interthinking (Vass, Littleton, Jones, & Miell, 2014) provided by these kind of dialogic spaces (Celume, Besançon, & Zenasni, 2019) could have an impact in significantly developing students creativity.
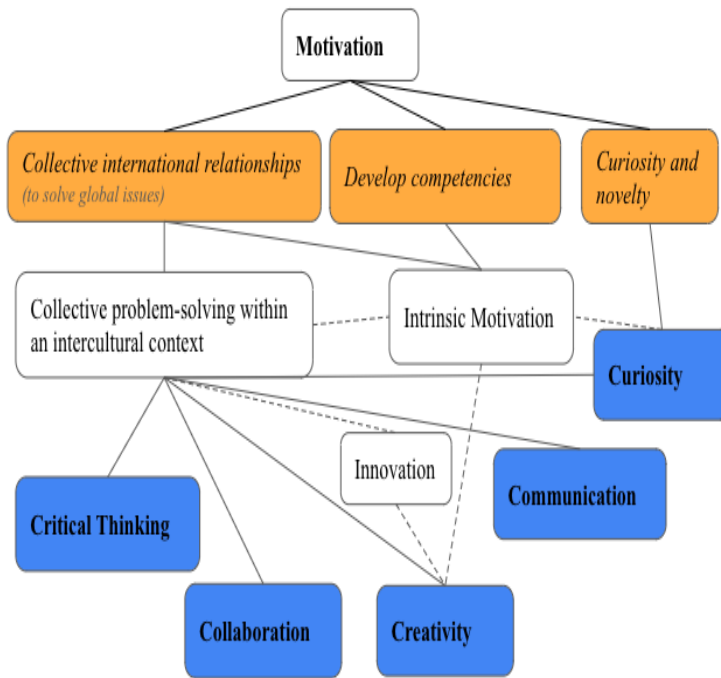
Students were mostly motivated by the fact of finding innovative solutions together, focused highly on the fact of being able to make an impact in the world. Regarding this, students shared that they learnt about "the power of having different opinions [from different countries] and how they better society" insisting that their main motivation was "solving issues with people around the world" because they "really want to make an impact in the world". In this sense, an intrinsic motivation is observed towards finding this solution as they are focused on leaving a mark in the world. Regarding this another student added: "Participating in this program means that you would like to do something more than just things you have to do. It means that you are wondering about global issues like climate change or social problems. And this was motivating me - that I am doing something which can have some impact." In this line, the significant development of creativity, through innovating in finding a solution for their challenge might been influenced by their intrinsic motivation. According to (Ryan & Deci, 2000), when people whose motivation is authentic or intrinsic are compared to people whose motivation is merely externally, intrinsic motivation people typically have more interest, excitement, and confidence, which is manifested both as improved performance, persistence, and creativity (Deci & Ryan, 1991; Sheldon, Ryan, Rawsthorne, & Ilardi, 1977).

This **intrinsic motivation** was shared by students in several forms, mainly when talking about the collective international aspect of the program. In this sense, a student highlighted: "My main motivation was curiosity - how others feel about global issues/how other nations think about it/their perspectives…" This is in line with Fadel et al. (2015) definition of a curious person, where they explained that these people present a love of learning and understanding things that they don't know, permitting them to develop an open and playful mindset. With reference to the educational issues of the twenty-first century, understanding the mechanics of curiosity and which elements of educational activities might make them "interesting" and generate motivation is critical (Oudeyer, Gottlieb, & Lopes, 2016). In this line, a student explained: " Thinking and talking about global issues can be fun when you are talking about this topic with young people and in a funny way." (Oudeyer et al., 2016) continue in this line, explaining that curiosity is an innate motivational factor or a *form of intrinsic motivation* that promotes active learning and spontaneous inquiry. This could have permitted students to enjoy the fact of finding global solutions by being curious of their environment and others, and make an impact through it. This, can be observed in another student's declaration where he explained "I was really motivated because I knew I can learn a lot and those competencies won't only help ME but also others around me as I hope they make me a better global citizen :D". These motivating factors seem to be aligned with the fact of finding global issues solutions within an

international context, which, as mentioned at the beginning of the discussion, could have put the participant in the mood for competencies' development, which could have had an influence in students competencies' development.

In order to clarify all the ideas presented above, the following model (Figure 4) summarises the main findings proposing a nexus among motivation, culture, innovation-creativity and other competencies.

Figure 4: *Model of the nexus (intrinsic)motivation > (inter)culture > innovation + creativity.*

Although the results presented above on motivation themes seem promising for the development of 21st century competencies, there is a special awareness that several points need more attention.

First, it is important to mention that, even though motivation towards international problem solving was mentioned by students, their motivation could also have been enhanced by the competition game that was proposed for the teams, where the best solutions would be awarded. In this line, some authors argue for the potential of intergroup competition for enhancing group

member task motivation (Erev, Bornstein, & Galili, 1993; Kerr & Tindale, 2004), which could have influenced students' motivation beyond the intrinsic motivation to interact with youth from another countries. This could be addressed in future research.

Also, it is believed that a more systematic approach could be used in further research, replicating the study with a control group to compare quantitative results, enlarging the sample of study, and adding other instruments that could help cross the data collected by Celume and Maoulida's (2022b) tool.

Finally, the study should be replicated enhancing the questionnaire grid to be more precise regarding the objectives of it. This exploratory procedure has several points that need to be addressed in this regard, particularly establishing the hypotheses behind the questions, analysing data separately, and a deeper work in the production of the codebook. It is understood the seriousness of qualitative research establishing codes to generate categories and themes, and thus, approaching data from the perspective of collaborative coding (Weston et al., 2001) could help develop this work further and present more significant results.

Nevertheless, data analysed presented a good pathway to continue exploring this subject. We presume that competencies were significantly developed because they were necessary and useful during the group sessions allowing their significant increase during the program. The elements of this model show how the fact of working collaboratively with people from different cultural backgrounds had a positive impact on the motivation participants showed towards innovation in solving global challenges, proposing a relation between interculturality and the increase of creativity and other related competencies.

Conclusion

BE a Global Citizen program showed a significant improvement of creativity and leadership (among others), and qualitative analyses presented a link between interculturality and the motivation to innovate by solving global issues. Youth within the program showed increased levels of creativity, among other 21st century competencies, and mentioned a high motivation related to the intercultural implications attached to the program. It appears to be that the fact of working collaboratively with people from different cultural backgrounds might had a positive impact on the motivation participants showed towards innovation to solve global challenges, and that this might be related to an increase of creativity and other competencies, such as leadership, critical thinking, collaboration and communication. Future research could explore more in depth the relationship between youth motivation and intercultural problem solving, as youth seem to be an important and fundamental clue to tackle the global issues that our *global* societies are still waiting to be solved.

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CREATIVITY MODELS IN A SOCIETY OF NETWORKS

DAVID CASTAÑEDA

Abstract

Many prominent creativity theorists highlight the process of creativity as being a cyclical process between an individual and their social environment. The advent of the digital age has dramatically increased this social environment to create an exponential number of new and diverse spaces for this cycle to take shape. This chapter reviews creativity models and analyzes them alongside the sociology of networks to explore the potential impact on interpretations of creativity.

Keywords: Creativity Models, Society of Networks, Digital Media, Social Media, Social Construction

Creativity Models in a Society of Networks

Digital media platforms are changing the landscape for creativity across the globe by giving individuals unprecedented access to the tools and services needed for launching creative products. That which once required established sponsors, agencies and studios is now increasingly available to individuals on their computers or their mobile devices. Indeed, a variety of software and services have empowered individual creators with the tools needed for the creation and editing of art, outlets for the publication of text, platforms for disseminating ideas, equipment for the manufacturing of products, resources for problem-solving, and even by making funding opportunities more available than ever. Businesses large and small are having to think about what it means to live in a world of borderless inspiration, global collaboration, and international creativity. One platform that exemplifies this international space is Spotify, a music platform that, according to its founder Daniel Ek, is "driving record revenues for the music industry" and supports "more artists sharing in that success than ever before." (Wright, 2022).

To get a sense of the scope of Spotify, in February 2021 Spotify's co-Head of Music proclaimed that 60,000 new tracks are uploaded to the streaming service every day (Ingham, 2021). That's approximately one new music track every second of every day. Spotify is among the most popular music streaming sites in the world with 456 million users and 195 million subscribers (Spotify, 2022). The site has made sure to increase its functionality by being more than just a place to listen to music, it is also a social media platform with community groups, forums, interactive podcasts, and blogs. It

is a space for individuals and groups of people to share, influence, critique, rank, curate, and collectively decide what is and what isn't creative.

As a social space, Spotify offers a window to the reality of our new networked experiences of creativity. This site, like many similar social sites, has become a primary conduit for many people across the traditional borders and boundaries of time and space to express their creativity. It has also become the place where creative expression finds influence, participates in feedback, and can quickly gain a global audience. Social platforms provide content creators with templates, social markets, and innovative tools for creative novelty. This chapter will consider how the underlying connectivity that digital global platforms like Spotify, Instagram, YouTube, TikTok, and many more create social spaces that disrupt and challenge some traditional models of creativity. The chapter will briefly review two established models of creativity alongside a sociological perspective of networks that accounts for this digital shift, and then offer a discussion on how creativity theorists may interpret these as we look to the future.

Creativity as a Social Construct

The idea that creativity is a social construct is based on the premise that human perceptions are developed in a process of codified social agreements. This is not to suggest that an objective world does not exist or that everything is relative, rather that human perception of objective reality is shaped, nurtured, and continually impressed upon by social systems (Eberle 2019). This supposition draws in part from the sociology of knowledge proposed by Berger and Luckman (1967) better known as the social construction of reality. In this framework, individual perceptions are reciprocally reinforced or challenged by interactions, mostly through codified knowledge that humans have constructed and share in the form of socialization and through institutions. Simplified, this cycle involves the process whereby individual perceptions are expressed as externalization, confirmed or denied by the social world as objectivation, and then accepted by individuals as internalization (see Figure 1). Even more simplified: I see, you (collectively) agree or disagree, then I understand.

Figure 1: *Social Construction of Reality process diagram*
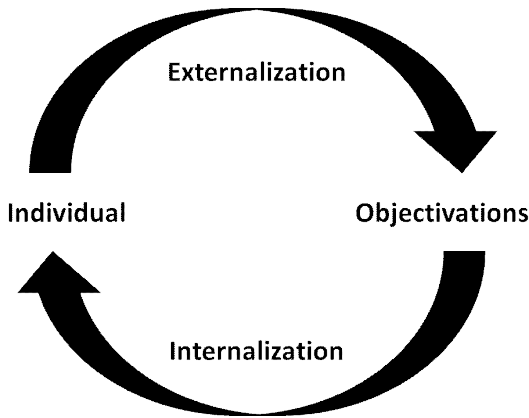
Diagram of the three phases of the social construction of reality. Adapted from Social Construction as Paradigm? The Legacy of The Social Construction of Reality (Pfadenhauer & Knoblauch, 2019).

Though this theoretical framework has often been co-opted by postmodernists to mean that all human perception is relative and there is no collective reality, as a sociological paradigm that is not its purpose. Instead, social construction as a concept is more focused on the collective side of the cycle: the codification of knowledge built over time. Rather than addressing the question of how individuals interpret reality, it is really looking to address how a society collects information about reality and accepts it as real (Hiebert, 2014). This distinction is important to stress because it takes the emphasis away from the individual and moves it instead to institutionalized knowledge that can take the form of culture, religion, and other educational and formative institutions. These institutions traditionally act as the gatekeepers of reality on the right-hand side of the cycle in the diagram in Figure 1. It is through this cycle that we traditionally understand the interaction of individuals with greater human social systems. And it is in recognition of this interaction that many social theories find their grounding.

Creativity theorists have also grappled with the premise of social construction or constructivism in their work (Runco 2014; Sternberg et al., 2004). In order for creativity to be recognized, it must interact with the greater sense of human reality in some way. How else does creativity stand out if not as a contrast to everything else that exists within a context or culture? As a recognition of this need for social contrast, the systems model proposed by Csikszentmihalyi (2004) suggests that creativity is only discernible within the interaction of three social elements: the domain, the field, and the individual (see Figure 2). In this model, the domain represents the institutionalized social repository as the genre or classification of creative products; the field comprises the gatekeepers or established judges of the products; and the indi-

vidual is the person acting within. Creativity, thus, is found within the interaction of these three, where at times the individual can persuade the field to change some aspect of the domain, the domain influences an individual, or any other combination of interactions that has an outcome of novelty.

Figure 2: *Systems Model of Creativity*
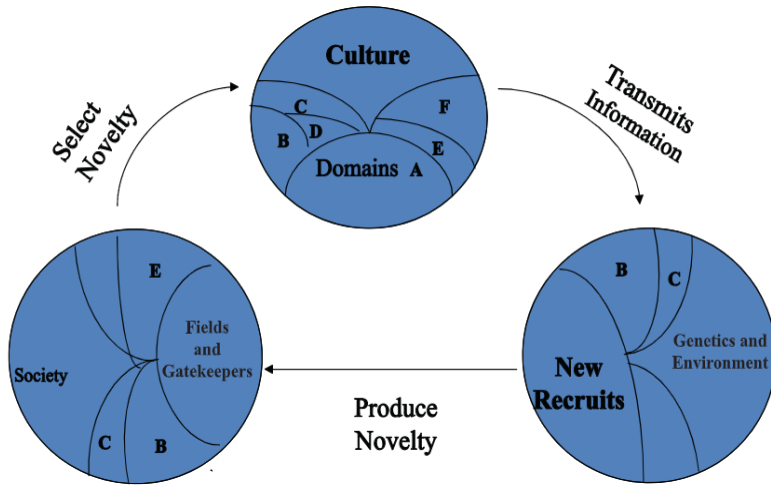
Diagram of the systems model of creativity from The Systems Model of Creativity and Its Applications (Csikszentmihalyi, 2014).

Csikszentmihalyi also pays special attention to explaining how institutionalized social entities, in this case culture, play a contextual role as the arbiter of the various domains. He stated:

> The first element is the culture. In this context, I will define culture as the system of learned rules regulating human consciousness (i.e., thoughts, emotions, beliefs, and intentional acts – as well as their products, such as the various technologies developed or adopted within the culture). By 'learned,' we mean here that the rules are not programmed into the genetic instructions we inherit but are absorbed through interaction with other members of society. (Csikszentmihalyi, 2014, p. 538)

In this quote we can understand that though creativity can be perceived as an individual contribution, the Systems Theory recognizes that its expression is only understood within the context of its domain, the influence of its field, and the overall lens and rules provided by culture.

Like Systems Theory, Amabile's Componential Model of creativity also asserts the importance of the social context in recognition of- and as influence to- creativity (Plucker et al., 2004). A simple description of this model proposes that creativity is influenced by three elements within the individual — skills, process, and motivation — as well as by the elements of the sur-

rounding social environment and organization (Amabile, 2012). Since being proposed as an original theory in 1983, the model has expanded to name several additional social environmental factors like affective states, motivation, and specific organizational contexts, all of which continued to add to the importance of social spaces and influences on creativity, and specifically on creative output (Runco, 2014). Indeed, much of Amabile's research includes the interplay between external and internal factors that allow for creativity and innovation.

The concept of social construction is embedded in the componential model and within Amabile's theorization of creativity. For example, she has stated that her own ongoing definition is "grounded in the assumption that creativity and innovation are subjective constructs, socially bound by historical time and place" (Amabile & Pratt, 2016, p. 158). By adding the anchor of time and place in her definition, Amabile has acknowledged that this interplay of social institutions and contexts contributes to seeing creativity as embedded in the socially constructed situation of the environment. The componential model illustrates this social context as a complex cyclical interplay between organization and individual, and all the components that are factors within. It provides clear conceptualization of the organizational environmental impacts on creative output and has proved instrumental to organizations seeking to foster creative work.

These two influential models of creativity interact with the concept of social construction as an embedded concept for understanding creativity. Each highlights the interplay between individual and social context as instrumental to the expression and evaluation of creativity. The premise of social construction, social systems, and social contexts becomes important as we consider the dramatic changes brought upon us by the opportunities and challenges of the digital age. It is helpful not to consider these changes only as technological or accessibility to content, but as portals to exponentially more social spaces — meaning more domains, more fields, more components, more external factors, and more people. The implications that these exponentially available spaces may have for creativity are, well, exponential.

Networked Shift of Social Spaces

Much research has set out to discover what a digital world means for human experience. Within sociology, the seminal work *The Network Society* (Castells, 2010) provides a helpful theoretical framework to ground this research. Castells describes a transition from an industrial/post-industrial society that was primarily location and time bound, to one that is establishing itself within networks. In the past, an organization or an individual would need to situate themselves in a particular place and mostly operate locally without much access to others outside a physical radius. Moreover, these actors would only be able to operate fully within the bounds of time that allowed for collaboration to occur well. However, in the present and future, these factors are less important (though not irrelevant). In a network society, organizations and people are able to collaborate through the networks themselves and so do not have to be *primarily* concerned about location or time. This framework repre-

sents a monumental shift from most of time and space bound reality of human history.

Several theorists have expanded on this framework to consider the effects of a networked reality on the individual and group experience of everyday life. Rainie and Wellman (2014) discuss the potential of networked individualism as a direct result of this new social organization. Networked individualism suggests that this societal shift has changed the landscape of social interaction, displacing individuals' own sense of belonging so that now they must act as the center of their own networks (Rainie & Wellman, 2014). Within this conceptualization, institutions lose their primacy in everyday life as the source of human understanding, such that instead of individuals attempting to become part of institutions, institutions are vying to become part of individual networks (See Figure 3). This concept flips the social construction reality concept a bit upside down, where individuals gain a more equal footing in the curating of human experience. While theoretical, this idea raises many questions in regard to the established understanding of social systems.

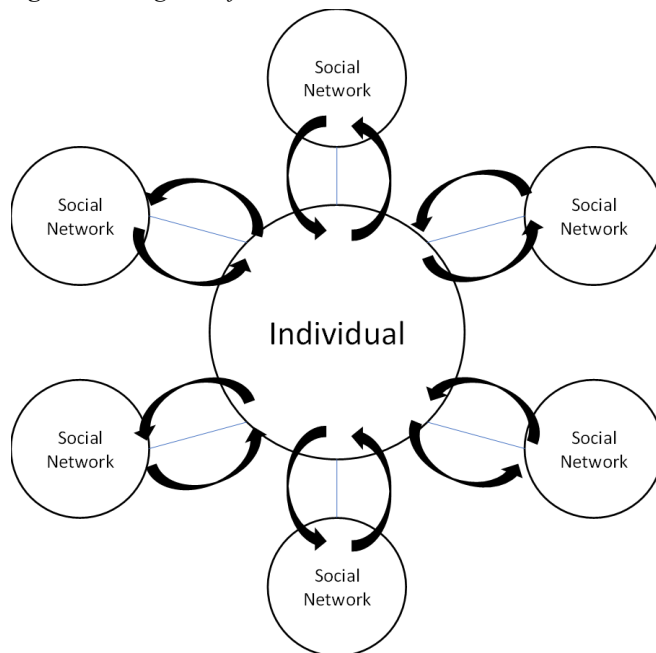**Figure 3:** *Diagram of Networked Individualism*

Diagram of individual as center of a variety of social networks.

Beyond an individual network mentality, Raab & Kenis (2009) proposed that the plurality of networks has actually multiplied to the point that this shift should be called a society of networks rather than a network society. Other contemporary authors studying this new social landscape have also

considered the effects of this flipped social dynamic. Twenge (2006) discussed this multiplicity of networks as disrupting our previous understanding of community and connection, leading to isolation. Turkle (2015) also studied the disruption of traditionally understood norms of interaction and its toll on the human ability to interact. Research into online gaming networks has brought about mixed discussions about whether people are more connected or less connected to increasingly variable social groups (McGonigal, 2011; Barany & Foster, 2021). Certainly, research into the impacts of social networks will continue to be an important part of understanding human interaction in a digitally enhanced world. There does, however, seem to be an agreement in the current literature that networked experiences have disrupted the traditionally understood relationship between individuals and their social spheres.

New Models of Creativity in a Society of Networks

The models of creativity reviewed in this chapter emphasized the importance of social institutions for the process of creativity. Like the sociological concept of the social construction of reality, these models hold that social organizations and institutions play an important role in gatekeeping the collective understanding of creative expression. However, they have yet to factor in the new interactions that come from our societal shift toward networks. In a society of networks, there are more social spaces, and their reach becomes expanded, even global. These network spaces allow individuals access to an increased number of potential social spheres and change the traditional perspective of which social spaces inspire and determine creativity. Furthermore, if the potential of networked individualism is to be considered, networked life has placed the individual as the focal center of their own network, turning the established norms upside down.

This change may require an adjustment in some of our current models on the relationship between creativity and social spaces. In the current models, of creativity is conceptualized in a singular closed loop between the individual and their environment. In these closed circuits, the dynamics of feedback, power, and creation are illustrated as binary and the gatekeepers of creativity have a much stronger position of power. Adding a networked perspective opens and expands this model. Rather than a single circuit that loops from individual to a social entity to individual, a society of networks creates a far more complex field of varying network spaces and open interwoven loops. Individuals find themselves with more power and more options to search for different gatekeepers, challenging the idea that domains can be contained by a singular field. Indeed, even our understanding of "domains" or "environments" may be more difficult to contain within the same defined parameters that have existed up to this point.

While theoretical models have yet to grapple with what this means, in practice, the effects of networked creativity are already widespread. As mentioned in the introduction, platforms like Spotify have individuals developing content at an incredible pace. To increase activity, these platforms are continually designing new production tools and services to encourage creators to develop content. Soundtrap by Spotify, as an example, offers a variety of

templated tools and options for creators. This service provides music creators with ever-growing libraries, templates, and ideas from which to draw to express creativity. Similar creativity templates and applications are arising across the internet, from Canva to Grammarly, to those embedded in other social creativity platforms. These applications are designed to provide individual creators with more tools to enter platforms and develop content and to further place the individual in the center of their creative environments.

In their examination of these expanding spaces, some creativity theorists like Gardner and Davis (2013) have suggested we will see a rise in middle-c creativity as networks promote more creators, but a potential stifling of big-C output as networks multiply. Because a society of networks diffuses the one traditional environment into multiple, there could be fewer possibilities for singular stars to rise in them all. So even as individuals developing creative content find themselves able to do so more freely, they may find themselves in an even more competitive space. Though individuals have tools that let them reach a variety of audiences and social spaces directly, without having to jump through the hoops of traditional gatekeepers, the lack of gatekeepers may also make the environment itself more difficult to navigate. Moreover, the variety of social creativity platforms opens possibilities for them to create content in multiple environments, while making it more difficult for them to define creativity for themselves.

The disrupted traditional loop between established social spaces and individual creators presents a challenge for creativity models and a potential paradox for creativity itself. As digital platforms continue to pop up and provide new social spaces, the possibilities for creative output grow, but so do the challenges. Without the traditional arbiters of creativity that are present in the singular loop models, who will define creativity, and how will these definitions find traction? Thus, the society of networks brings about a paradox for creators and a challenge for creativity theorists: an expansion of individuality, a plurality of social spaces, a marketplace of infinite resources and tools; but also a virtual wild west, a variety of competing gatekeepers, a deficit in historically established norms, and an over-reliance on templated pathways to novelty. As social creativity platforms continue to disrupt, definitions and conceptions of creativity will need to evolve to become more inclusive of these network spaces.

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CHAPTER TWELVE

GLOBAL CREATIVITY IN DANCE

SUSAN R. KOFF

Introduction

When dance or any art form is mentioned, the popular conception is that creativity goes hand in hand with the arts. However, there is a much more nuanced definition of the arts and creativity, and it depends on the role one plays in the arts. Specifically in the performing arts, there are teachers, performers, all those who technically and practically support the actual performance, as well as the creator(s). More specifically, this chapter is focusing on dance, when there is involvement of creativity within dance, and how this is both limited and supported in a global context.

Dance, music and theatre, as performing arts, are expected (in a western paradigm) to be experienced in performance. However, creativity occurs in the performing arts in the process of creation, and not in the product of representing the creative process. From the viewing perspective, clarity is expected in the presentation of the process, without focus on the creative activity of the actual process. By the elevation of performing arts within western contexts to the concert or performance stage, the performing arts are often not observed nor experienced in their creative stage. The mystification of this important element of process leads to a misunderstanding of the value of the creative process.

Creativity in dance can be observed by an audience who is watching the product of that creativity. But there is an untapped amount of creativity that can be practiced, experienced and explored through well-constructed dance education, with or without resulting in a performance. This creativity is nurtured and developed through dance education. Dance education is a misunderstood term, often confused with dance technique teaching (Koff, 2021) however it is a term that is frequently used when one is learning to dance, which is necessary to be a performer. This term is rarely applied to the dance education that is inclusive, supports creative development, and is culturally specific. Further, any time dance is mentioned, one assumes creativity is involved. Contrarily dance technique rarely involves creativity. This chapter will first define why creativity is not consistently involved with the art of dance, and how this varies in a global context.

Colonialism

In order to examine how dance has been so misunderstood in multiple contexts, I am examining colonialism as a contributor to this perception. There is no universality to cultures and societies throughout the world, just as there is

no universality to dance throughout the world. Dance has mistakenly been referred to as a universal language, however that non-verbal language is not identical throughout contexts. This mis-perception of universality spread as the art of classical ballet spread through colonialism. Systems of government, systems of education, religious practices and other cultural experiences traveled from conquering nations in Europe throughout the world, as they colonized these "new" lands.

Educationally, UNESCO (United Nations Education Scientific and Cultural Organization) has taken steps to neutralize the hierarchy of events surrounding locations of education throughout the world. Dance is experienced and learned in many contexts that are defined as UNESCO different fields of education "formal, non-formal and informal" (Keuchel, 2014.) The nuances of these different locations or types of education have been co-opted by forces from outside education and certainly outside of the arts. Western styles of concert dance (most often referring to ballet and more recently, forms of modern dance) have been spread throughout the world through colonialism (Mabingo, 2019). Globally dance education in these contexts existed long before the colonial spread of western concert dance. The dominance of colonialism dictating thought and approach to politics, life and education created a hierarchy making the western dance forms more respected and revered than forms that had existed longer. One result was often removing indigenous dance from any formal education causing indigenous values and lifestyle to be de-legitimized. This resulted in eliminating or repressing integration of arts, religion and socio-cultural functioning.

Though the major European colonizing empires no longer operate in that fashion, colonialism had a lasting impact on dance and how it is considered and taught throughout the world. First, many indigenous forms were suppressed and are only now reclaiming their legitimacy. The western curriculum model has spread throughout and now the energy is spent to "decolonize" the curriculum (McCarthy-Brown, 2014) without much guidance and often with inadvertent pitfalls. Colonialism emphasized the Cartesian mind/body separation (Damasio, 1994) that may not have been present in indigenous dance. The emphasis on Cartesian thought caused indigenous practices to be referred to as "primitive," a moniker that is difficult to remove, and that ultimately created a hierarchy of dance forms.

Commercial Dance

The current iteration of colonialism and its hierarchy of dance forms is commercial dance on a global scale. This intellectual leap from colonialism to current forms of commercial dance is considering this rapid spread through media (TV, TikTok, the internet) that becomes replicated, focusing on movement alone. Commercial dance takes place predominantly off the concert stage and focuses, instead, on techniques that are replicated and create their own standards of excellence through a westernized value system. This enforces the Cartesian split and focuses on bodies excellent in replication of these techniques. Creativity is simply not present.

Commercial dance is "dance used in service of selling a product that draws from a blend of jazz, hip-hop, and contemporary styles that is per-

formed in the entertainment industry by heteronormative, highly gendered, young dancing bodies" (Schupp, 2019, p. 59). In Schupp's definition, this leads to appropriation of styles into one that results in "the invisibility of influences and the unstated naming of technique as ballet" (2020, p. 210) regardless of the stated style of dance. When not appearing as ballet, it still values balletic lines and tricks. In many instances of globalization, commercial dance has also been infused with dance competition, as exemplified by So You Think You Can Dance (SYTYCD), which has been replicated in 28 countries. Competition in dance is not always commercial, and has existed for far longer, sometimes as a central element to a dance form. Another expression of dance (competition) has been colonized through commercialization and globalization.

However, global commercialism of dance, while increasing worldwide popularity, has relegated dance to techniques that are to be perfected in order to succeed. Since success is commercial/monetary, this becomes the driving force at the expense of creativity and expression.

Foster (2019) then connects this to the values in commercial dance competition: turning dance in these settings into the "labor market" with values set by measurable competencies that are easily quantified. "...In place of the dance recital format that supported a notion of public good through its collective presentation of shared understanding about dance, the dance competition substitutes a machinery of the marketplace that privileges individual accomplishment, replacing public with private values" (Foster, 2017, p. 7).

The current form of commercialism in dance through a global market "...is only the latest iteration of colonial imperialism" (Tuck, 2013, p. 325). Tuck defines neoliberalism as "Epistemology, economic strategy, and moral code rolled into one, neoliberalism refers to the reliance on market-based relationships to explain how the world works, or how it should work" (2013, p. 325) referring to neoliberalism and education. Considering neoliberalism and dance competition together in the university, thought to be a location of creativity through dance, DeFrantz states "University-sponsored hip-hop workshops and master classes align black social dance with identity formation within the state-sanctioned context of the university, a revision that dilutes the capacity of these forms to function as creative resistance to mainstream hegemonies" (DeFrantz, 2012, p. 135). Neoliberalism, therefore, circulates popular dances without the sources of their creative energy nor their cultural context. In other words, these dance forms are appropriated for popular culture, and therefore colonized, stripping them both of culture and creativity.

Creative Movement /Dance

Creativity in dance is exemplified by divergent thinking and student-centered teaching. In formalized practices of dance teaching creative movement has been the focus for children. As children grow, the emphasis has moved to formal techniques and creativity has been decentered. As mentioned earlier, education has been defined as taking place in three contexts: formal, non-formal and informal. Examining these settings further leads to comprehen-

sion about where creativity is nurtured or not in dance education. Summarizing the definitions again:

- "The **formal field of learning** is concerned with curriculum offerings within education and training institutions" and often is recognized by relevant authorities.
- "**Non-formal** is learning that has been acquired in addition or alternatively to formal learning. In some cases, it is also structured according to educational and training arrangements, but more flexible."
- "**Informal learning** is learning that occurs in daily life, in the family, in the workplace, in communities and through activities of all individuals" (Keuchel, 2014, p. 43)

When examining these contexts and what occurs to dance within them, the pathway of creativity can be traced.

The formal field of dance education teaching and learning includes PK-12 (pre-kindergarten through grade 12) schools, colleges and universities. Within dance, the PK-12 teaching is through certified dance educators, physical educators and classroom teachers at the earlier ages. Teacher preparation emphasizes creative movement for the earlier years, and moving into formalized techniques for the later years. In the USA, teacher preparation and curriculum are government regulated. This occurs in many other countries as well. In areas where dance curriculum is taught through Physical Education, the teacher education does not typically include creative movement, but recent research has shown that adding expressive (i.e., creative) movement augments the physical education instruction (Mattson & Larson, 2021). Within colleges and universities, neither teacher preparation nor curriculum is government regulated, however, all these settings lead to a credential, which is another definition of formal education. College and university curriculum emphasizes techniques and performances more than creative practice, but include creative process in small doses as needed in composition courses. The tertiary education focus on techniques is emphasized through the conservatory model of dance in higher education. Creative process and exploration in PK-12 is limited to earlier years. Within colleges and universities, it is limited to special composition courses. These arbitrary separations of creative movement from technique training become tacit norms.

The non-formal landscape of dance education is broad and ill-defined. "Education that is institutionalised, intentional and planned by an education provider… Non-formal education mostly leads to qualifications that are not recognised as formal or equivalent to formal qualifications by the relevant national or sub-national education authorities or to no qualifications at all" (ISCED, 2011). Within dance, this includes the private sector of studios throughout the world that are normally responsive to business regulations rather than educational regulations. Additionally, this is the sector that has given rise to the very large commercial dance sector. Creative dance is rarely emphasized within this sector.

Informal dance education is "the most common way people around the world learn dance culture" (Vissicaro, 2004, p. 128). It is also the least struc-

tured and the most creative because there are no set or expected outcomes. Locations of informal education are varied and wide and can be familial, communal or solo. Possibly informal education in dance has been in existence for much longer, and is the very type of practice that was discouraged and sometimes banned under colonialism (Koff, 2021). The act of colonizing and dismissing of these practices are what has removed creative dance and exploration to the margins of dance education. Globally, the focus on returning to culturally based practices in the settings in which they naturally occur has led to the resurgence of creative dance.

Focus on Teaching

Types of education and teaching are always influenced by the type of education expected or developed within each of the three settings discussed. Creativity and exploration are least limited within informal settings, as they have no formal teaching and no parameters. However, the values and growth potential of creative development in teaching (not necessarily in dance) is frequently discussed (Amado, et al, 2014; Sowden, et al, 2015). Within formal and non-formal settings creative dance is frequently focused on young children (Cone & Cone, 2005; Stinson, 1988) and more often on the practice and not the theory (Gilbert, 1992; Gough, 1999). Theoretical discussions began with dance educators (Chappell, 2021) first looking to analyze creativity within dance, and then spreading expertise about creativity to other disciplines (Chappell, 2021; Cremin & Chappell, 2021). This discussion exists in western conversations about pedagogy and education. Most notably, the values of creativity within education are discussed more frequently outside of dance than within (Sternberg, et al, 2022).

Within formal instruction and dance, creativity and perfectionism become polar opposites as so much of the formal instruction is striving for a perfected technical skill (Nordin-Bates, 2020). This research continues with an exploration of basic psychological needs, and discovers that denying basic needs also squelches creativity. This can be seen most frequently when, in the non-formal sector, commercialism has become a driving force. Looking at dance education from outside the profession, some assume that it supports convergent thinking and mind-body connection, leading to creativity (Frith, Miller & Loprinzi, 2019). But this does not account for all the instances in which divergent thinking is the focus.

Within dance and dance education creativity is assumed, but not frequently the focus beyond working with children. Outside of dance and dance education, creativity is considered an important value of dance and one that is sought within dance and other arts. The different foci begin with naming the desired outcomes. Creative dance is discussed through dance education; creativity is discussed from an outside perspective. What is being taught? This disconnect is evident in both anecdotal as well as research evidence. Now is the time to emphasize creative values in dance education and expand those values to include all settings for all participants.

Global Efforts

Globally, we are continuing to emerge from the limitations imposed by colonialism. At the same time, we are fighting colonialism that is spread, not through armies, but through the innocuous forces of social media. Whereas previously, western ideas were imposed through power imposed through conflict, now western ideas are spread through social media so that these ideas, frequently western, are imposed through ubiquity.

Lost in this media imposition is the idea of personhood through dance. Through international suggestions, UNESCO has created several documents to establish the rights of people throughout the world to appropriate education and cultural recognition, among many foci. Most significant for dance education is the Seoul Agenda: Goals for the Development of Arts Education (2010), which guides many governmental policies on action about arts education. Fully global conversations on arts education are complicated because the USA withdrew from UNESCO in 2017 and does not adhere to its policies.

However, those of us working in the arts education arena on a global platform focus on UNESCO because of its clarity and ability to focus efforts with consideration of cultural backgrounds and differences. Through UNESCO guidelines, daCi (Dance and the Child International) makes policy suggestions to ensure that:

> Every child has a right to dance. We believe that all children and young people should be able to express themselves through dance. Our aim is to create possibilities for children and young people around the world to experience dance as creators, performers and spectators. Through dance they can be physically engaged in the world and connect with others across boundaries of culture, language, age, or socio-economic status. (daCi international website, n.d.)

Through this claim, enacted through the organization and brought to life at triannual conferences, all members are encouraged to create opportunities for expression through all facets of dance. This vision keeps the focus on expression and creativity in a non-competitive and sharing environment and has been expanded to be inclusive of all ages, not just youth and the young children.

Those working within the USA can use research and contacts globally to promote fair and equitable engagement in arts education focusing on expression and creativity. Those working outside the USA can begin their conversations with UNESCO and international efforts to provide fair and equitable arts education with a focus on creativity and expression. Working together globally we can capitalize on our collective strengths to put creativity at the forefront and counter commercialization that ultimately works against creativity.

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CHAPTER THIRTEEN

THE FRENCH CREATIVITY INSTITUTE

JOHN BREDIN

A Brief Note on this Chapter
What you're reading here is both a rigorously researched book chapter on cutting-edge developments in the field of creativity (with a French twist) and an actual proposal for a brand new, bricks-and-mortar creativity institute entitled the French Creativity Institute (FCI). This chapter is itself a form of scholarly justification (more erudite than a "marketing plan") on the vital public need for this new institution. One that will be equal parts think tank, educational and cultural center, and media apparatus. Its initial two sites, based in Paris and NYC, will nurture a rich, exploratory, playful Franco-American dialogue on creativity. As the 'ripple in the pond' effect sends creative reverberations around the world, we'll respond in kind by opening new FCI branches internationally to meet the needs and desires of local populations.

Abstract

This article proposes the creation of the *French Creativity Institute*, a non-profit organization designed to educate the world about the best ideas in creativity studies: with a French twist. Based in Paris, it will have offshoots in major cities around the world, including London and NYC. France was chosen as the h.q. of this unique new institution due to this country's long historical association with humanistic culture, philosophy, literature, and the Enlightenment tradition. The institute's main purpose is to channel creativity toward the civic goal of preserving democracy. In addition to offering courses in creativity, it will feature a robust artistic program of film screenings, literary readings, and theatrical events. It includes a café as a hub of social life, and a media platform to share its creativity insights with the world.

The French Way in Creativity

Welcome Francophiles! And everyone else who wants to expand their creative capacities, with a focus on the "French way." And what exactly is the *French way* in creativity? In our rigorous examination of creativity traditions from around the world, we've discovered a particular French emphasis on joy, leisure, beauty, love, imagination, utopia, and happiness in life. Take romantic love, for example. Did you know that the very concept of romantic love was invented in the South of France, by the famous 12 century troubadour poets?

Fast-forward to the 20th century. Consider the groundbreaking work of artists in several mediums, from Monet and Matisse in painting, to the revolutionary sculptures of Marcel Duchamp and Louise Bourgeois, to the French New Wave filmmakers (Godard, Rohmer, Vardes, et al) who critiqued the formulaic fluff of Hollywood with their humanizing and critical experiments in cinema. Anyone with even a passing interest in creativity would have to ask themselves: What are the French eating for breakfast? Is there something in that French toast we should know about? Perhaps creativity is rooted in the French DNA.

Maybe the wine and cheese could offer a clue. Aha, now I think we're onto something! Especially considering that the salon, a convivial space for looking at and discussing art, has long been associated with France. Most famously with Gertrude Stein's early 20th century soirees in Paris. Given that a good salon can be measured by its level of conviviality, it appears that social interaction itself…often cheered on by a little wine and cheese...is part and parcel of the French creative sensibility. Indeed Henri Bergson, an influential French early 20th century philosopher, turned away from the dry, mechanistic views prominent in his day (how French!) by relating creativity to imagination, dreams, and even joy.

Bergson looked at the unconscious and affective aspects of creativity. He also believed that "moral creativity" must be the ultimate goal (2006, p. 105). In a similar vein, the notable French pedagogue Célestin Freinet believed educators need to motivate their students by "arousing the desire to learn." (2006, p. 112). Such ideas are deeply aligned with the work of American educational philosophers like John Dewey (1916), who believed in "student centered learning," and Maxine Greene (1995), the pioneer of aesthetic pedagogy who argued for the centrality of arts and imagination education curriculums. One of Maxine's favorite quotes was "imagination gives us the capacity to think of things as if they could be otherwise" (1995); an idea that connects creativity to both a personal and political sense of agency.

As a member of Maxine's vaunted Sunday Salon in her Manhattan apartment from 2000 to 2010, I consider myself her protégé. I'll be channeling her ideas into the French Creativity Institute. In addition, I'll be building on the work of the modern-day creativity movement, spearheaded in 1950 via an historic speech by Joy Guilford at the American Psychological Association. Guilford was part of the "big 3" of American creativity innovators, along with Alex Osborne (inventor of the technique of "brainstorming"), and E. Paul Torrance: creator of an early test to measure creativity. These innovators all had a practical side. They brought structure, rigor, and a sense of discovery to an unwieldly and slippery topic so that "applied imagination" can harness the magic of creativity - a process that could benefit the domains of culture, education, business, politics, and everyday life.

American Education's Wrong Turn

Ironically, despite the presence of such towering figures in the fields of creativity and education, for the past 50 years American education has been moving *away* from creativity, imagination, and the humanities. As host of the nonprofit TV show *Public Voice Salon*, an open dialogue on education, the

arts, and social change, this point was made by several of our notable guests, including education historian Diane Ravitch (2019), literary critic Harold Bloom (2018), education activist Ira Shor (2015), and public intellectual Stanley Aronowitz (2012). It's also a frequent point made by Henry Giroux, most recently in his new book: *Pedagogy of Resistance: Against Manufactured Ignorance* (2022), published by Bloomsbury Academic.

In subservience to a neoliberal ideology that valorizes the free market over and above humane, moral, and civic concerns, American education has been jettisoning creativity and the arts for a narrow, mechanistic, "teach to the test" approach designed solely to prepare workers for the market economy. Not only does this approach fly in the face of the work of Bergson (who championed joy and imagination), it ignores the beliefs of another French thinker, Ribot, who saw a crucial link between cognition, affect, and imagination (2006, p. 101). It also rejects the more utopian (Fourier, 1808, 1996) and morally grounded aspects of creativity in education that have long been a hallmark of the French way.

Voltaire, the French Enlightenment, and the Birth of American Democracy

Considering the shocking rise of ignorance, wild conspiracy theories, and growing authoritarianism in recent years—including in the U.S.—never have the ideals of the French Enlightenment (1685 - 1815) been more in need of a revival. The work of Voltaire, a key figure in this movement, is especially valuable given his crusade against tyranny, bigotry, and superstition; work that got him into "good trouble" (as John Lewis would've put it) with the powers-that-be; most especially with the Catholic Church. Keep in mind also that the Enlightenment ideals of liberty and equality not only sparked the French Revolution (which overthrew the monarchy), they also helped catalyze the American Revolution in 1776.

It was not for nothing that two of America's most important founding fathers, Thomas Jefferson and Benjamin Franklin, spent a lot of time in France. Soaking up the radical, liberating, humanistic French spirit. Even the war itself might've been lost if not for the critical, last-minute French intervention under Lafayette. And America's most durable symbol of freedom, the Statue of Liberty, happened to be a gift from (guess who?) the French. Interestingly, an effort to revive Enlightenment thinking—along with a renewed focus on civic education—is being led by the American actor Richard Dreyfuss. Dreyfuss has spoken about this vital issue on mainstream media (CNN, MSNBC, and Fox), and as a guest on our TV show *Public Voice Salon*. A few years ago, I engaged in several productive brainstorming sessions with Richard to help him grow his project, The Dreyfuss Civics Initiative, and integrate it into the educational establishment.

Creativity and Democracy

In his introduction to *The International Handbook of Creativity* (2006), the eminent psychologist Robert J. Sternberg writes:

> Many of the world's governments depend on ignorance for their existence. In autocracies, education and especially creative thinkers pose perhaps the greatest threats to their existence. In democracies, one would hope that creativity would be more valued, and it probably is. Nevertheless, many of the governments that are elected got into place only through the ignorance and narrow-mindedness of the people who selected them. The last thing these governments want is critical and creative thinking that would threaten their existence. Indeed, the level of political discourse in many of the world's so-called democracies is only slightly above the autocracies, if it is above that level at all.

These words of wisdom by Sternberg (who owns 13 honorary doctorates from universities in Europe, Russia, and North and South America), though written in 2006, offer a chilling warning for our time. How much more prescient they are in our age when the chickens of the pervasive dumbing down in American education appear to be coming home to roost in the form of fake news, the proliferation of wild conspiracy theories provoked by groups like QAnon (whose supporters now include two elected U.S. congress members), intensifying racism, and the overall growing threats to democracy.

Indeed, using our imaginations, we might speculate on a juicy missed opportunity. Had Sternberg's brilliant thesis (the posing of an intimate link between creativity, critical thinking, and democracy) been read in the halls of congress at the time it was written (a decade before the election of Donald J. Trump, the first American president to display overt authoritarian tendencies)—and, crucially, *had it been taken seriously by politicians!*—it may have sparked a wake-up call to protect democracy via a radical transformation of its education system.

That being said, I find it shocking that a year-and-a-half after a violent coup attempt almost snuffed out America's democracy, there's been no educational response to this event. There needs to be one. Yesterday, if not sooner. In the same way Russia's launch of Sputnik in 1957 invigorated America's math and science curriculum, we believe the current threats to its democracy require just as dramatic a response—but from the Humanities side of the Academy this time. We recommend an immediate infusion of creativity, social imagination, history (and the other liberal arts, like literature: which nurtures empathy for others), critical thinking, and basic civics into the curriculum as part of an emergency, "save democracy" education plan. Note that when I brought up this idea at a meeting of the Village Independent Democrats (a political club based in NYC, of which I served for five years on their Executive Committee), Senator Chuck Schumer agreed with me. Alas, a beginning! Since President Joe Biden's wife, Dr. Jill Biden, happens to have a doctorate in Education, might she become an ally in this noble cause?

Global Creativity Laboratory

Absent America's glaring lack of leadership (up to now) on the educational front, the French Creativity Institute (FCI) will take the lead in making de-

mocracy a priority in education by emphasizing creativity, social imagination, critical thinking, utopia, and civics in educational curriculums. It will also utilize the media as a crucial site of pedagogy. While we'll emphasize the work of French creativity pioneers, in addition, we'll draw on the best creativity research from around the world. From South America we'll import the critical pedagogy of Paulo Freire, and Chili's emphasis on critical and creative thinking in their education system. From Spain, we'll hold up their Education Act of 1970—which highlights the importance of creativity and sociability as vital components of a well-educated person—as a model to be emulated by other countries.

Likewise, from Turkey we'll import their love of fantasy and color. We'll also try to emulate their volunteer-based, grass roots, community-model of civic education; in particular their "I am a Person, an Individual, a Citizen" program. From Russia, we'll make use of their emphasis on dialogue and sociality—in particular the work of Vygotksy (1990) and Bakhtin (1981)—while also making use of Ponomarev's metaphor of a 'dialogic ladder' that helps intuition climb toward logic (1960). From the Scandinavian countries up north, where Ingmar Bergman filmed his cinematic masterpieces, we'll channel their "welcoming warmth and community" (Sahlin, 1997). At FCI, we agree with the Scandinavian view that a positive mood enhances creativity, that intellectual fellowship among researchers matters, and that chance meetings and exchanges are a powerful catalyst in the growth of science.

From Israel and South America, we'll incorporate their respect for psychoanalysis as a creative endeavor (with a nod to Austria and Freud's seminal contribution to psychoanalysis). But France also has its own strong psychoanalytic tradition, one that sees therapy as a creative process in which one's "self-concept is constructed or revised through the therapeutic process." (2006, p. 116). Taking seriously this link between analysis and creativity, every FCI location will have a low cost, sliding scale-based center for psychotherapy to serve the psychological needs of the community. From Africa, we'll honor their belief that a higher value be placed on community welfare (living in harmony with one's neighbors), than the personal creative achievement of a single artist. (I played with this concept in my 2015 book, *A New Theory of Fame*.)

This community-based view of learning is reinforced by an emerging mindset that sees creativity as a "collective" rather than an isolated, singular endeavor. In the world of theater, this dialogic flavor can be seen in the rise of Improv, a movement which began at Chicago's Second City Theater in 1959 and has since swept the world (Wasson, 2017). Eastern cultures, heavily influenced by Confucian and Buddhist philosophies, also emphasize this holistic, "let's all get together," communal view of learning. Note that as the "peace and love" movement of the 1960s was gathering steam, a visit by the Beatles to India helped shepherd these Eastern views of creativity into the American counterculture.

Literature, Cinema, and Theater

FCI will include its own bricks and mortar bookstore, café, art gallery, and theater for staging plays and screening films. In alignment with the French concern for sociality, audience Q & A's (and talk backs with directors, actors, and playwrights) will occur frequently. So will literary open mics, lectures, and comedy shows. Multiple book clubs, to accommodate a variety of literary tastes, will be formed. The best works of literature, theater, and cinema—with a French twist—will hold a place of prominence in our portfolio of works. Using French philosopher Pierre Bourdieu's concept of "cultural capital" (1998), which posits a vital link between cultural knowledge and success in life, while also considering the link between humanistic education and democracy posited by scholars like Dewey (1916) and Giroux (2022), FCI will provide a vital (patriotic?) public service by repairing deficiencies in cultural knowledge. We seek to do this not in a dry, stuffy, boring "academic" style, but in a fun, playful, joyful, community-based way.

The great French psychoanalyst Lacan once famously said that people "don't know what they don't know" (2009). Here at FCI, rather than blame people for not knowing stuff (considering the rampant deficiencies in education systems), and in line with Freinet's notion that "arousing a desire for learning" is the key for educational motivation, we'll create a gentle but stimulating, nonjudgmental (Rogers, 1961), dialogical space for folks to perhaps *learn what they didn't even know they didn't know*.

Considering France's literary achievements, from Rabelais' 16th century bawdy, erudite, and comic masterpiece *Gargantua and Pantagruel* (1532)—a watershed in world literature—to Flaubert's convention flouting *Madam Bovary* (1856), to the postmodern critics Derrida, Baudrillard, and Barthes, right up to today's Annie Ernaux (the octogenarian winner of this years' Nobel Prize in Literature), one wonders why literature (rather than fashion) isn't the first "cultural export" which comes to mind regarding the French. Do the fasionistas have better marketing? Perhaps. We think this situation must change. Quickly. For obvious reasons, fashion, however beautiful and ornamental its role in society, should come way below literature in any thinking person's list of cultural priorities. Because literature nourishes deep, soulful, humanistic, psychological, critical, and democratic capacities in a way that the more vapid fashion world—with its focus on surfaces—simply cannot.

To emphasize the civic importance of literature over fashion, there is a fascinating, important, and relatively unknown "French Connection" which posits an intimate link between literature and democracy. It involves the work of Louise Rosenblatt, a pioneer of "reader response theory." Rosenblatt's groundbreaking book, *Literature as Exploration* (1938, 1995), shook up the field of English Education. A student of John Dewey, Rosenblatt was a roommate of Margaret Meade's at Barnard in NYC, from whom she absorbed an anthropological respect for cultural variety. She did her graduate work at the Sorbonne in Paris, earning a doctorate in comparative literature. She was also deeply influenced by her time in Paris, where she met Gertrude Stein, and was part of an elite coterie of artists and intellectuals which included Andre Gide and Marcel Duchamp.

Because Rosenblatt emphasized democratic dialogue as the best way to make (hermeneutic) meaning out of literary text, a methodology good for learning *and* democracy, we'll apply her unique pedagogical invention at FCI. Interestingly, Rosenblatt' methodology has been reaffirmed by new research in creativity which envisages two kinds of creative acts:

1. The creation by an artist
2. the creative *encounter* between a viewer or reader and a work of art.

An art encounter may also include the "hermeneutical" act of making meaning from the work. This process can be enriched through dialogue with others. Having studied at NYU's forward-thinking graduate program in English Education in the 1990s (a program that Rosenblatt herself founded in 1947), where I studied with Rosenblatt's protégé Gordon Pradl (*Literature for Democracy*, 1996), I want FCI to be a shining beacon to the world of Rosenblatt's hopeful, humanizing, democratic vision of literary democracy.

The strong literary bent of FCI, to honor France's historic love affair with literature, will be the guiding star that determines what cinema and theater we choose to curate. High on our cinematic priority list is the French New Wave (Jean-Luc Godard, Eric Rohmer, and Agnes Vardas) because of their deep respect for literature and philosophy. If the humanities are ever to become "cool" again, like they were in the 1960s—when one in five American students was a humanities major, as opposed to one in twenty today—we hope today's filmmakers take their cues from the French New Wave rather than the shallow, commercialized Hollywood blockbuster model: which values profits in the "China market" over humane and civic concerns.

As for theater, we prefer an experimental, Off Broadway approach— the kind first incubated in downtown NYC in the 1960s, at places like La Mama, The Living Theater, and Judson Memorial Church (Moody, 2009)— than the current dumbed down, fluffy, commercial Broadway model. Given our civic bent, the theatrical work we'll champion will emerge from the political theater traditions of Augusto Boal, Bertolt Brecht, Judith Malina, and Reverend Billy & the Church of Stop Shopping (Lane, 2002). Given our French focus, we'll keep alive the commedia dell'arte tradition of Moliere, while encouraging the most creative and innovative new playwrights in France (the future Brechts).

Funding

FCI will be set up as a nonprofit 501C3. We'll seek funding from private citizens, governments, and philanthropic organizations. Given the recent rise of polarization in the U.S. and Europe, and growing threats to democracy worldwide, there's a newfound interest by philanthropists (like Jeff Bezos and George Soros) to fund organizations which promote democracy and civic unity. Given our pedagogical focus on creativity that nurtures civic dialogue, community, and democracy, FCI can make a strong argument to procure such funding.

Café Culture

A central feature of FCI will be a café that's open to the public. The café will symbolize the Parisian Left Bank culture which incubated so much of France's artistic and intellectual development in the 20th century, best exemplified by the café dialogues of Jean Paul Sartre, Simon de Beauvoir, Maurice Merleau-Ponty and the rest of their genius cohort (Bakewell, 2016). Likewise, the German philosopher Jurgen Habermas talks of the vital importance of the "democratic public sphere" (1961), the space "in between" the workplace and home, as being crucial to the health of a democratic society.

Café life makes up a critical component of this vital public sphere. The kind of open, spontaneous, improvisational conversations which occur in cafés help nurture what in France is called the "multivariate and differential" approach to creativity (2006, p. 117). This approach sees creativity as being produced by "nonlinear interactions between cognitive, conative, affective, and environmental factors" (Lubart, 1999). In the stimulating, off-the-cuff, improvised dialogues typical of café culture, each of these creative "boxes" might be checked off in just one conversation! Once inside the cozy FCI café, customers can also learn (via posters and flyers) about our greater mission and projects.

Education

Though FCI will nurture the growth of creativity in a variety of ways through our arts programs, we'll also feature an outstanding lineup of university quality courses on creativity and the various arts. In addition to a comprehensive History of Creativity class, we'll feature courses such as Global Creativity, Business Creativity, Creative Activism, and Creativity in Everyday Life. Courses on literature, cinema, theater, improv, humor, storytelling, the visual arts, aesthetic pedagogy (for teachers who want to better integrate arts into their classrooms), will also be offered. Due to our nonprofit funding structure, tuition costs will be kept low.

Media Apparatus

At FCI, we notice a strange paradox between the booming field of creativity research on the one hand, and the abysmal lack of coverage of these potentially transformative ideas (both for people and society) in the mainstream media. We see this as a peculiar silence that needs to be repaired. Barack Obama one said that in modern day society, if it's not on TV, it doesn't exist. We at FCI wholeheartedly agree. Because we'd like to see creativity exist even more in the world, each FCI campus will have its own TV and Podcast studio to keep the public informed about the latest news on Creativity with a French Twist.

Since my wife Claudia and I already have a TV show, *Public Voice Salon*, we'll produce the pilot episodes at our NYC and Paris locations. The "salon structure" of our programming style is perfect for capturing the kind of dialogic, Socratic learning FCI will promote. Nominated for the prestigious Yidan Prize (the equivalent of a Nobel Prize in Education…Carol Dweck and

Linda Darling-Hammond have also won the Yidan), our show has been en-
dorsed by prominent education historian Diane Ravitch; John Johnson: the
first African American producer, director, and writer at a TV broadcast net-
work; and Joe Franklin: inventor of the TV talk show. In addition to airing
weekly on Spectrum TV in NYC (and a few other media markets), our show
has garnered over 100,000 unique views on YouTube.

Cultural Lineage: The Legacy of Sarah Bernhardt and Blanche Walsh

To solidify its artistic integrity, FCI will pay homage to two of the 20th centu-
ries greatest actresses: France's Sarah Bernhardt and America's Blanche
Walsh. Our film and theater spaces will feature portraits of these superstar
thespians of Herstory. Though Bernhardt remains a household name (at least
in well-educated homes), Blanche Walsh—who was known as the "American
Bernhardt"—has sadly faded into the memory mist of obscurity. This despite
creating the prototype of a movie star in the lost 1912 film, *Resurrection*:
based on a Leo Tolstoy novel on love and social justice. Walsh was also the
original advocate of an American National Theater, an idea she co-created
with her friend Mark Twain. Motivating her national theater plan was a de-
sire to preserve the integrity of theater (by warding off the banal incursion of
formula plays), while allowing everyday folks to see quality theater at a low
cost.

   Because Blanche Walsh was also my relative, I see FCI as shepherding
forward my beloved ancestor's dream of a humanizing, unifying, innovative
creative learning space—similar to her National Theater idea but on an even
grander, international scale. Because Blanche insisted that once a week there
should be a lecture at her imagined (but never yet realized) National Theater,
FCI shall name its lecture series (our version of a TED Talk) after her. I
would be happy to give the inaugural lecture.

Role of Drexel University

As a doctoral student at Drexel University's School of Education, where my
focus is on leadership and creativity, FCI will collaborate with Drexel's Fred-
die Reisman Center for Translational Research in Creativity and Motivation
(FRC) (a pioneering international creativity lab) to ensure that our protocols
adhere to the latest, cutting-edge theories in creativity research. FRC is
helmed by Dr. Fredricka Reisman, a colleague of E. Paul Torrance, known to
many as the "Father of Creativity." She also is the creator of the Reisman
Diagnostic Creativity Assessment: a free, online creativity test. Collaboration
with the FRC will bring a valuable component of intellectual rigor, scholarly
integrity, and creativity history to FCI and its mission.

Other Potential Partners

To strengthen the crucial French-American locus of FCI, we're exploring
possible collaborations with the following institutions: The French Alliance;
NYU's Dept. of French Literature, Thought, and Culture; the Albertine

Bookstore; the Pompidou Centre (in the process of opening its newest outpost: in my hometown of Jersey City, NJ: what magical serendipity!); the Cultural Services of the French Embassy in NYC; the Sorbonne in Paris; and France's National Centre for Cinema and the Moving Image, an agency of the French Ministry of Culture: once helmed by Frederique Bredin—who I share a last name with. More serendipity! Given my past work and friendship with the actor and civics advocate Richard Dreyfuss, we shall also try to forge a connection with his Dreyfuss Civics Initiative.

Conclusion

My dear friend Sandra Laredo, a choreographer based in Paris, is one of the few people who asks me, "Are you happy?" when we meet. How very French! Sandra, who's on FCI's emerging advisory board, has significant contacts within the cultural, academic, political, and business communities in Paris and NYC. But her wonderful, "Frenchified" interest in happiness offers a clue as to what makes FCI so unique and valuable in this dark and troubling political age. Of course happiness really ought to be an American political concern as well, given the word's prominent placement in the Declaration of Independence. And did you know that the tiny South Asian nation of Bhutan, nestled in the Himalayan mountains between India and Tibet, measures the success of its country not in monetary terms (like the U.S. does with GNP: Gross National Product…how gross) but by a unique, humanistic scale known as Net National Happiness.

Inspired by Bhutan, FCI's philosophy of creativity will draw on Henri Bergson's interest in joy and happiness, Ribot's link between feeling and thinking (or affect and cognition), and the use of psychoanalysis to improve our relationships and outlook in life. We'll cultivate a light, playful, humorous touch, building on the work of Israeli creativity scholar Ziv—whose work looks at the psychology of humor (2006, p. 308). Our focus on dialogue will draw on the ideas of Martin Buber (*I and Thou*, 1923), Vygotsky's connection of intellectual growth with social life (1986), and Jerome Bruner's belief in stories as a "way of knowing" (1986). Stories are best told in a community. Often, they are the key to *building* community. Bruner also made a key link between agency and collaboration (1996, p. 93). At FCI, we'll encourage the growth not only of personal agency, but also of the moral and political agency needed to nurture a more just, loving, and peaceful world.

There is a Korean view that equates creativity with interdependence, believing that "human relations are the ultimate principle in everyday life" (2006, p. 409). This perspective even correlates interpersonal relationships, which it cherishes, with good luck; like when we find ourselves in the "right place at the right time." At FCI, we hope to be that right place at the right time to make creativity—a subject that, given its vital importance, has yet to inspire the depth and breadth of research it deserves—a subject less strange and mysterious to the general population.

Given the immense potential of creativity to both enhance our personal lives *and* solve pressing civic problems (like the loss of democracy and

environmental crisis) we cannot wait for our current media and education systems to take creativity seriously. We must create a brand new system. Now. Welcome to FCI! To learn more about the FCI community and how you can get involved, please email me at johnbredintv@gmail.com.   Thank you for your time and interest.

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CHAPTER FOURTEEN

CREATIVE LEADERSHIP IN EXCEPTIONAL CIRCUMSTANCES

HEINZ NEETHLING, TARA GREY COSTE & KOBUS NEETHLING

Abstract

In these times of ongoing uncertainty, it is critical that leaders build capacity with multicultural workforces that can function effectively in multinational environments. It is only with the adoption of an attitude of world citizenry and a global perspective that today's organizations are well-positioned to thrive moving forward. Thus, it becomes imperative that we challenge traditional mental models and adopt more expansive, more fully creative ones so that we might strategically enhance our corporate positioning and readiness to meet the demands of the future.

Creative Leadership in Exceptional Circumstances

The world economy has had scarce time to fully recover from the financial crisis of 2007 that rocked world markets (UN Department of Economic and Social Affairs, 2020). A recent International Monetary Fund survey predicted a global slowdown of growth to 2.9% with rising inflation and cost of living. We are still emerging from the COVID-19 pandemic which saw world-wide shutdowns and severe economic downturn (Braga, 2022). A current publication by The World Bank remarks that COVID-19 triggered the largest economic crisis in nearly a century. Poorer countries saw inequality worsen, and very few households were in any way prepared to endure such an extended period of economic downturn and income shock ("World Development Report 2022," 2022).

Compounding the financial difficulties, new reporting on the mental state of the world indicates that family relationships keep deteriorating, and the idea of a *social self* followed by *mood and outlook* have deteriorated the most (Thiagarajan & Newson, 2022, pp. 5-6). A troubling downward trend shows that friendships are deteriorating as well, with less people likely to confide in their friends about personal issues and troubles. This trend is particularly troubling in light of the fact that the risk of mental health issues are ten times higher in individuals who lack close relationships with family or friends (Thiagarajan & Newson, 2022).

A growing disconnect between individuals and groups is having notable impacts on the health of the world and its citizens. The war in Ukraine has had a particularly large impact on world affairs, coming so shortly after the world had begun to slowly recover from the COVID-19 pandem-

ic. In Africa alone, the war has threatened food security across the region as both Ukraine and Russia are major food suppliers to the continent. Pandemics, policies, wars, and political instability are simultaneously contributing to the current state of world affairs.

We are indeed in exceptional circumstances. The Merriam-Webster Dictionary defines *exceptional* as an exception to the norm, something that one would not consider or expect to happen in normal circumstances or something that is unusual ("Exceptional," 2023). In 2015, there were 52 armed conflicts being fought across the world ("Global Peace Index 2022," 2022). In 2020, 335 million people lived in extreme poverty (Baier, Kristensen, & Davidsen, 2021), and those living in war and poverty ravaged countries were then forced to live through a global pandemic, food scarcity, increasing poverty, and economic despair.

Exceptional circumstances can also be viewed as instances when people find themselves facing uncertainty in much less dramatic forms of extremities. Uncertainty is defined by the University of Michigan's Counseling and Psychological Services as

> the result of having limited knowledge about an occurrence or event, making it difficult to control, plan, or predict a future outcome, which can often be distressing. Most people are creatures of habit and prefer to have a plan or routine in place. When things deviate from our plans it can feel like losing control, contributing to increases in anxiety or stress. ("*Coping with Uncertainty*," n.d.)

The impact of uncertainty can manifest itself in a variety of ways, not least of which is anxiety and thought distortions, such as exaggerating the impact of events and jumping to conclusions about stimuli ("*Coping with Uncertainty*," n.d.). Thus, uncertainty can lead to the creation of limiting beliefs which misform one's mental models. These beliefs, if left unaddressed, can lead to opportunities not taken and challenges unanswered.

In contrast, history is ripe with those who thrived in uncertain environments, those who handily embraced ongoing uncertainty with "other" peoples and environments. People who were creative, assertive, and confident were able to negotiate the uncertainty surrounding them. These were our creative leaders over the centuries.

Creative Leadership

But what is creative leadership? The field of creativity has yet to come to a universally embraced definition of the term, but a fairly standard definition is that creativity is about making changes or producing ideas that are novel and make a difference (Puccio, Mance, & Murdock, 2011, p. 13). The definition of leadership is also fuzzy and often depends on context. Leadership on a global scale would include the ability to work across cultures, whereas public leadership might focus on the ability to marry public opinion and public talking points. However, leadership in general is usually associated with the ability to motivate and empower individuals to engage around issues (Puccio, Mance, & Murdock, 2011, p. 13).

Creative leadership can be defined as the ability to guide groups toward a new or novel idea or goal by deliberately engaging their imagination. This ultimately culminates in a positive and creative change (Puccio, Mance, & Murdock, 2011, p. 13) that can have a remarkable impact on the members of the group within the context. In order to create new futures, we must develop leadership flexible and engaging enough to act effectively in all types of circumstances, even those that are exceptional.

When working with leadership teams, we ask them to consider whether their thinking is "above or below the line." The foundation of this exercise can be found in work presented at the time of the origins of positive psychology. Positive psychology emerged in the early 1990s and focuses on "strengths, virtues, and talents that contribute to successful functioning and enable individuals and communities to flourish" (Walters, n.d., History of Positive Psychology section). As you can see by the image below (which builds upon the work of Pransky & Mills, 1995), above the line thinkers situate themselves to make a difference.

Above the Line	Positive	Cheerful	Passionate
	Extraordinary	Courageous	Energized
	Optimistic	Grateful	Perspective
	Creative	Empowered	Possibility

On the Line	Average	Lackluster	Bland
	Pedestrian	Typical	Okay
	So-So	Mundane	Mediocre
	Ordinary	Uninspiring	Dull

Below the Line	Aggressive	Malicious	Resentful
	Finicky	Paralyzed	Cynical
	Negative	Corrupt	Impatient
	Dominating	Pessimistic	Apathy

On the other hand, individuals below the line can become paralyzed by pessimistic thinking. Below the line thinking is driven by negativity and influences our expectations of the world around us. Individuals who spend more time below the line tend to view the world gloomily and expect failure

276

more often than success. Individuals who slip deeper below the line tend to become resentful and show general apathy to most situations. Individuals who have slipped deeply down below the line tend to lash out at others and can become a toxic influence on others.

Those on the line are committed to protecting the status quo, keeping their environments steady. They are comfortable with just managing and getting by. These individuals experience moments of optimism and moments of negativity, and they don't get too excited by opportunities. Their attitudes are often tempered with below the line thinking, even if they don't always live below the line.

Our creative leaders, those above the line, will see the big picture, connect the dots, and find the opportunities. They are empowered and courageous, actively seeking the extraordinary. Individuals who spend more time above the line acknowledge negativity and negative situations, but they are able to focus on the actions they can take to address those situations. They do not view themselves as victims of their circumstances but rather as champions of their own fates.

Mental Models

Key to the success of this championing is a robust understanding of the cultural forces that press against behavior and decision making. Culture is often described as "how things are done around here" and incorporates the hidden assumptions and meanings that guide how members of the culture interpret and react to what's happening (Anderson, 2020, p. 40). A culture can be defined in many ways, but it usually refers to larger entities (from the national to the organizational). However, there are many subcultures that exist as well. It is these cultures and sub-cultures, this diversity of lenses, that lead to the richness of perspectives in which creativity lies.

Diversity is key to the creative landscape. It is often conceived of as differences in race, class, or gender, but that imagery is an over-simplification of a much more complex issue. The concept of self is one that is embedded deep within individuals, and people often have multiple affiliations that shape their sense of who they are. Simplifying the concept of diversity can cause leaders to seek fits for a "correct" culture rather than valuing a complexity of input (Anderson, 2020, p. 41). The creative leader sees the "other" as a resource rather than a threat, a new perspective on the environment under consideration.

Sadly, othering is a concept well established in modern psychology. The concept was first coined by the French philosopher Emmanuel Levinas (Boyce & Chunnu, 2019, p. 7) and is used to explain how we create barriers between "us" and "them." Othering is commonly weaponized to help divide people and garner support for a particular perspective. It shapes individuals' mental models of the world and themselves. Challenging these models, or even becoming aware of these models in the first place, often leads to significant discomfort. Change often depends on the belief that change is possible (Berwick, 1998, p. 135).

Changing people's mindsets, how they think about issues, is challenging, but it is ultimately the most important way to modify behavior and

achieve positive results (Pfeffer, 2005, p. 125). To do so, we must adopt an adaptive approach. Adapting to this challenge requires that leaders manage themselves within a complex environment, as well as helping others deal with their discomfort (Heifetz, Grashow, & Linsky, 2009, p. 29). Our complex global context requires a complex cognitive response (Osland, 2018, p. 98).

Understanding individual's mental models starts with genuine engagement and dialogue, gaining insight into individuals' preferences in how they think about the world and illuminating their expectations. When engaging in a dialogue cognizant of "the other's" mental models and preferences, it is important the leader highlight that separate individual efforts don't translate into collective productivity. In essence, it is the willingness to engage and understand the other that is at the heart of collective achievement. Scharmer refers to this process as presencing (2018, p. 27), a state in which there is genuine engagement, a suspension of personal beliefs and assumptions to effectively collaborate with others so that we may cooperatively create new futures. It follows then that to commit to the challenge to change mental models, ongoing and deep dialogue needs to be had. Clearly, creative leadership in exceptional circumstances requires a flexibility and a dedication to these engagements.

Although this exercise might start with dialogue, what must follow is a suspension of personal beliefs and assumptions so that people can engage in "thinking together." These engagements allow for a growing awareness of patterns of interaction and require practice and a commitment to continuous learning. Open and genuine interactions across boundaries and philosophical divides will provide an opportunity to create new futures together and allow ongoing learning between individuals, teams, and organizations.

In truth, it is a continuous effort to seek clarity of vision, develop patience, and engage with the world objectively. In growing a global perspective, leaders must possess an ongoing dedication to enabling individuals to engage within a system, to recognize how their mental models have a space within it. Systems thinking is about seeing and understanding that everything is connected and has an impact (Senge, 2006, p. 6), how existing structures mediate behavior and how operations interrelate. Thus, building a shared vision requires fostering those skills that aid in unearthing shared pictures of the future (Senge, 2006, p. 9), crafting a common identity and understanding of the future that brings people together to realize this future. Creating a shared vision across deeply embedded boundaries might seem a large task, a utopian vision of the future that seems unattainable, but it can be done.

Whole Brain Thinking

We utilize an eight-dimensional model when working with organizations and their executive teams to explain thinking preferences and how they influence behavior and decision-making. The model consists of four quadrants and eight-dimensions which can briefly be described as follows:

- L1—L1 thinking is associated with a preference for performance and efficiency. L1 thinkers are focused on the result. The
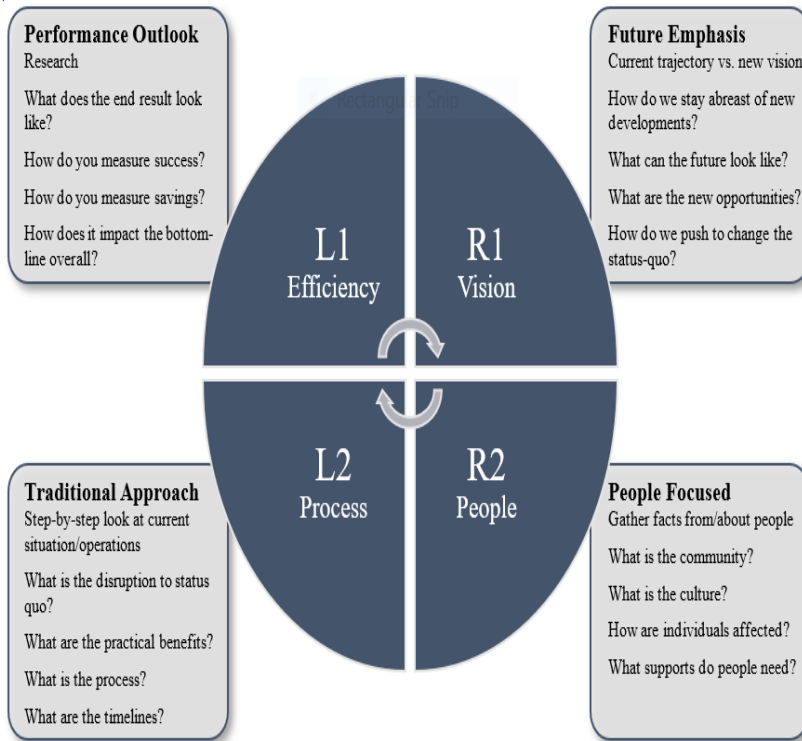
two types of people who primarily utilize L1 thinking are Realists and Analysts.

- L2—L2 thinking is focused on processes and structure. L2 thinkers prefer following a proven methodology. The two types of people who primarily utilize L2 thinking are Preservers and Organizers.

- R1—R1 thinking focuses on new opportunities and seeing the bigger picture. R1 thinkers focus less on day-to-day operations and more on vision and the direction the organization is headed in. The two types of people who primarily utilize R1 thinking are Strategists and Imagineers (dreamers).

- R2—R2 thinking focuses on giving attention and taking action to benefit people and communities. R2 thinkers emphasize building and nurturing relationships. The two types of people who primarily utilize R2 thinking are Socializers and Empathizers.

When using a whole brain conceptualization to optimize leadership effectiveness, we seek to consider the kinds of questions asked by people with thinking ranging across the entirety of the thinking preferences spectrum. In this way, we are able to access multiple frames of reference in a systemic fashion.

Of course, no one exclusively utilizes just one thinking preference all the time. In fact, people often exhibit a combination of two or more preferences. However, the thinking preferences model is an effective tool for allowing us to identify potential blind spots in whatever arena they might occur. People with a low preference for a certain quadrant of thinking often do not go to that thinking for a solution, and decisions are often made from the perspective of the quadrant an individual or team prefers. Unfortunately, this often leads to solutions and opportunities being unexplored.

At its very core, leadership involves an awareness of self and self in relation to others. The depiction below explains how one might operationalize whole brain thinking no matter what your natural preferences are.

Performance Outlook
Research

What does the end result look like?

How do you measure success?

How do you measure savings?

How does it impact the bottom-line overall?

Future Emphasis
Current trajectory vs. new vision

How do we stay abreast of new developments?

What can the future look like?

What are the new opportunities?

How do we push to change the status-quo?

L1
Efficiency

R1
Vision

L2
Process

R2
People

Traditional Approach
Step-by-step look at current situation/operations

What is the disruption to status quo?

What are the practical benefits?

What is the process?

What are the timelines?

People Focused
Gather facts from/about people

What is the community?

What is the culture?

How are individuals affected?

What supports do people need?

(adapted from Neethling, Snyman, & Rutherford, 2021)

Let's look at two global leaders who utilized whole brain thinking, Nelson Mandela and Vladimir Zelensky. Nelson Mandela was known for his generosity and drive to create equality and dignity for all (R2). What differentiated Nelson Mandela from his peers, however, was his considerations of the other quadrants as well. He was driven by a vision (R1) for a new South Africa ("Rivonia Trial," n.d.), but he also showed times of decisiveness (L1) and making decisions without consultation (Garba & Akuva, 2020, p. 58) and stayed the course and showed perseverance (L2) over the 60 years he was in a leadership position.

Vladimir Zelensky has been in the news regularly since the invasion of Ukraine. His speeches offer vital inspiration (R1) for a better tomorrow ("What Makes Zelensky," 2023). What makes Zelensky so effective is that he's not afraid to stand his ground and be realistic about what still needs to be done (L1), and he makes a habit of regularly disseminating information (L2) and engaging with families and individuals on the ground (R2). He clearly embraces, and makes others believe, that his and his country's efforts are an integral part of the global ecosystem. In fact, we would all do well to remem-

ber that we are global citizens, with impact extending beyond geographical and political identities.

Global Citizenry

Oxfam defines global citizenry as having an awareness that a decision being made in one part of the world can have an impact on people in another ("What is Global Citizenship," 2023). This implies that a global citizen engages in good faith and has positive engagements with those possessing other identities and cultures to uphold and maintain everyone's equal worth. Global citizenry requires an active cmmitment to "make our planet more peaceful, sustainable and fairer" ("What is Global Citizenship," 2023). The UN expands on this definition by adding that global citizenry enables individuals to "embrace their social responsibility to act for the benefit of all societies, not just their own" ("Global Citizenship," n.d.).

A recent UNESCO publication makes the following argument about the future and our role within it:

> This new social contract must be grounded in human rights and based on principles of non-discrimination, social justice, respect for life, human dignity, and cultural diversity. It must encompass an ethic of care, reciprocity, and solidarity. It must strengthen education as a public endeavor and a common good. ("International Commission," 2021)

Some see other peoples as extreme because they have made limiting assumptions about them. Those with a global perspective see themselves as aware, knowledgeable, and connected to others in the world. They figure out how to connect with those that are different so that they themselves become aware of larger opportunities and a part of the change being sought. Creative leaders know that global citizenry is not mutually exclusive with national or personal identity, and if we can get beyond that in our thinking, we can flourish.

Conclusion

In what ways might you show creative leadership in exceptional circumstances? Lead with a whole brain approach, with passion and clear purpose. It is not enough to simply implement creative ideas. Ideas must be placed in human context. To get people to follow your vision, they must internalize it, they must feel it. There must be an end goal that everyone can get excited about and see as something that will make a real difference. Thus, truly impactful creative leaders must possess both compelling vision and exceptional discipline so that they can draw and maintain their followers' support. If leaders prioritize people over things, if they look at creativity holistically from a connected global perspective, it is truly possible to better the human condition. The circumstances we face in today's world can seem exceptionally overwhelming, but dramatic results can be achieved.

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CHAPTER FIFTEEN

COLLECTIVE CULTURAL PRESERVATION: UYGHUR CREATIVITY IN CHINA

ALYSHA MELOCHE & REBECCA CLOTHEY

Abstract

Current innovative research in creativity studies have demonstrated the significant role that cultural specificity plays in defining and recognizing creativity. This chapter will present findings from an attempt at using democratizing research methods in order to explore the ways in which creativity is defined by an ethnic minority culture, the Uyghurs, an ethno-linguistic minority group within China whose creative outlets are currently under threat due to the oppressive political environment in their home region of Xinjiang Uyghur Autonomous Region. Within countries there are often dominant cultures and minority cultures. Historically, it has been common for the creative products made by minority cultural groups to be labeled as 'folk' arts or 'traditional crafts', often in a way that humbles that group and belittles their cultural significance. Resultingly, dominant cultures will often assume that minority culture groups are less capable of entrepreneurship and making technological innovations. Findings suggest that Uyghurs consider a product to be creative if it *benefits the community* and *preserves Uyghur culture*. Uyghurs also emphasize a creative person's *hard work* and *selfless motivations*.

Collective cultural preservation: Uyghur creativity in China

Minority cultural groups enact unique forms of resistant creativity and innovation to solve complex problems, such as how to preserve and promote their Identity (Clothey & Meloche, 2022; Meloche & Clothey, 2021). The "East vs West" model of cultural comparative creativity serves as a foundation for understanding how cultural understanding is necessary for equitable creativity assessment (Celik & Lubart, 2016; Lubart, 2010; Morris & Leung, 2010; Weisberg, 2015; Yue et al., 2011). It is unjust to judge the creativity of a certain group using the culturally specific definition of another group (Glăveanu, 2013b; Glaveanu, 2017; Glăveanu, 2019; Hennessey, 2017). An equitable solution would be to allow cultural groups, particularly minoritized, non-dominant groups, to establish their own parameters and qualities for defining creativity. Researchers should look at the ways that the culture defines and recognizes creative, with as little of their own bias as possible. The following study uses historic data from an online interactive website run by the Uyghurs in China, to show that qualitative open coding methods can come close to allowing reserchers access to a unique, culturally-defined assessment of creativity, even in the extreme case of an endangered minority culture. This study

can also serve as a potential model for assessing other minoritized, non-dominant cultures, particularly those who are unable to speak for themselves. This study is only made possible because posts were preserved by a US researcher before being permanently removed from internet at the behest of the Chinese government.

Dominant culture has historically established the definition of creativity as used by modern creativity researchers and these definitions may be culturally specific (Glăveanu, 2013b; Glaveanu, 2017; Glăveanu, 2019; Hennessey, 2017). When the definition of arts and creativity is formulated by dominant, majority cultures, those definitions do not consider the unique interpretations and applications of minority culture groups and indigenous populations (Celik & Lubart, 2016; Logan et al., 2019; Lubart, 2010; Morris & Leung, 2010; Weisberg, 2015; Yue et al., 2011). As a result, the visual arts, music, dance, and literature of minority culture groups and indigenous populations gets contrasted against dominant culture and labelled 'folk' or 'traditional' (Barton & Barton, 2014; d'Azevedo, 1973; Hallman, 1970; Martin et al., 2017; Wabende & Park, 2017). This in turn leads to that minority culture group not being represented in mainstream or 'high' creative cultural institutions. For example, even seemingly mundane food vessels from 17th century Europe are placed in a museum of fine arts but an indigenous American ceremonial vessel of deep religious significance may be relegated to archaeological, anthropological or even Folk art museums. While many museums work to correct this situation, unlearning creative cultural biases will be a lengthy process.

Dominant culture has also historically established the assessment tools used for determining how creative a person or group of people are. However, when dominant culture determines these assessment tools, the tools often do not take into consideration culturally specific factors from the non-dominant groups. As a result, the creative performance of a minority group may be misinterpreted or misunderstood (Lubart, 2010) as lacking in comparison to the dominant group. Soon the narrative around minority culture groups wrongly becomes that they are not capable of developing creative ideas (Hartwig et al., 2017; Junius, 2007; Ruyembe, 2017) or using the most current technology (Czermak et al., 2004). Additionally, dominant cultures will often form the assumption that those minority culture groups are less capable of entrepreneurship and innovations (Sardana, 2018). Recent literature describes how to assess culturally-appropriate creativity (e.g. "East vs West"), but less is understood about minority cultures functioning under the auspices of a dominant culture (e.g. ethnic minority groups in China) ((Meloche & Clothey, 2021).

Understanding how creativity is defined in ethnic minority culture groups can lead to the creation of more equitable education assessments and pedagogical practices. In order to explore the ways in which creativity may be defined by an ethnic minority culture, this study explores the creative aspirations of the Uyghurs, an ethno-linguistic minority group within China. In this paper, the following research questions will be addressed:
1. How do Uyghur groups living in China assess creative products?
2. How do Uyghur groups living in China describe creative people?

Culturally Constructed Creativity

In creativity research, Chinese culture has been one of the first examples to arise as a compelling example of a cultural definition of creativity that does not fit examples of popular Western creativity (Celik & Lubart, 2016; Lubart, 2010; Morris & Leung, 2010; Weisberg, 2015; Yue et al., 2011). Western conceptions of creativity, which favor radical novelty 'ground-breaking' creativity, has resulted in Eastern culture, which often favors incremental innovations on tradition, being devalued as ritualistic and unoriginal (Celik & Lubart, 2016; Lubart, 2010). In fact, when understood in cultural context, it is precisely these ritualistic and traditional qualities that have historically made Eastern creative products so culturally valuable (Hallman, 1970).

The comparison of "Eastern" to "western" conceptualizations of creativity awoke many researchers to the fact that much of the creativity research has historically been studied under the narrow perspective of Western primacy (Helfand et al., 2016; Westwood & Low, 2003), and that Western theories about creativity lack applicability to other, global cultures (Glăveanu, 2016a). For example, Western definitions of creativity require that an idea or product have both novelty and task appropriateness (Amabile, 1988; Cropley & Oppert, 2018; Rietzschel et al., 2016) with a strong extra emphasis on novelty (e.g. the term 'groundbreaking idea'). However, this theory does not apply to certain Eastern cultures that may value replications of tradition with gradually increasing novelty (Celik & Lubart, 2016). Glaveanu's theory for cultural creativity argues that creativity should be defined within the context of the creative culture from which it emerges (Glăveanu, 2013, 2017, 2019; Hennessey, 2017).

Although "Eastern vs Western" creativity is a compelling argument, it conflates "Eastern" with China. Further, China is essentialized as the characteristics of the Han Chinese and the Confucian philosophy (Gladney, 2004), effectively neglecting the cultural creativity of socio-linguistic minority groups within China. Considering creativity from the point of view of cultural context gets even more complex when describing the creative values of non-dominant culture groups (Glăveanu, 2013a; Magyari-Beck, 1992). Non-dominant tangible and intangible creative culture can be devalued or even lost when evaluated in contrast to a dominant culture (Clothey & Meloche, 2022; Czermak et al., 2004). Real musical, linguistic and technological advances are then replaced by false stereotypes about the non-dominant culture (Meloche & Clothey, 2021). This loss can lead to younger generations not learning about their artistic and creative cultural history, which has been linked to a lack of fostering creative identity (Ruyembe, 2017).

Culturally Specific Assessment of Creativity: people and products

Similarly to how there can be multiple cultural constructions of creativity, researchers have identified that there can be differences in the ways that cultures assess and recognize creativity (Celik & Lubart, 2016; Lubart, 2010; Morris & Leung, 2010; Weisberg, 2015; Yue et al., 2011). Once again, Eastern culture has been one of the leading examples of culturally constructed

creativity that is not completely compatible with Western-constructed creativity. Creativity researchers have noted that, historically, in western cultures, leaps of progress and extreme change are valued as more creative than subtle or gradual changes in creativity and respect or knowledge of tradition (Lau et al., 2004; Lubart, 2010). Therefore, Eastern creative products such as artworks tend to feature small changes on traditional motifs and designs, rather than revolutionary novelty. Additionally, it has been theorized that, because Eastern cultures tend to be more collectivist than Western cultures which focus on individualism, recognition of eminent creative individuals may be handled differently in the East than in the West (Morris & Leung, 2010). Lastly, some have suggested that collectivist cultures may encourage that creative products have more utility to society than novelty, or newness (Morris & Leung, 2010; Wong & Niu, 2013). In a comparative study of undergraduate students in China and Germany, Yue, Bender, & Cheung found that Chinese undergraduates associated creativity with politicians, scientists, and inventors while German undergraduates associated creativity with philosophers, artists, and writers. The researchers associated this difference with Chinese students focusing on meritorious salience based on social contexts (usefulness and cultural value).

Divergent Thinking

In a review of empirical literature comparing differences between Eastern and Western students' performance in creativity tests, Leung, Au, and Leung (Leung et al., 2004) found that in empirical research, Western students performed better on creativity assessments than Eastern[1]. However, an alternative explanation for lower test results among Eastern individuals is that many of the creativity assessments being utilized were created to measure a Western cultural definition of creativity (Celik & Lubart, 2016). Many instruments for evaluating creativity and innovation feature divergent thinking tasks, elements that are culturally specific to Western nations— often to the detriment of non-Western participants (Hempel & Sue-Chan, 2010; Lubart, 2010). For example, when given a task of coming up with novel and useful ideas, an individual may provide ideas that are more useful than novel, or they may spend more time elaborating on the details of an idea than coming up with many, all depending on the culture in which their creativity was fostered (Hempel & Sue-Chan, 2010; Morris & Leung, 2010; Nouri et al., 2008).

Self-Assessment

Celik and Lubart (Celik & Lubart, 2016) theorize that, as societies move to a more globalized world in which cultures frequently interact definitions of creativity are going to become more unanimous as "East meets West." However, some studies are finding that globalization has instead caused individuals to internalize stereotypes about how their cultures' creative abilities are perceived. For example, Wong and Niu (Wong & Niu, 2013) found that Chinese and American undergraduates demonstrated how cultural exposure to stereotypes had partially formed their perceptions of creativity, as both populations believed that American students have better creative abilities than Chinese students and that Chinese have better deductive reasoning skills than Americans.

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[1]Although many of the studies that they reviewed used the word "Eastern," most of the studies were referring primarily to Han Chinese students (Leung et al., 2004).

Non-Dominant Cultural Creativity

Despite potential creative cultural devaluation and inaccuracies in potentially biased creative assessments, there is a lot to suggest that non-dominant culture groups could be potentially more creative than culturally dominant peers. Much research has been conducted to suggest that individuals who have exposure to multiple cultures leverage their knowledge and experiences and social connections in order to increase their creative abilities (Çelik et al., 2016; Tadmor et al., 2012). For example, Celik, Storme, and Forthmann (2016) found that individuals who are active in social environments that contain people with different values, and who report regularly having their values and lifestyle challenged by others are more creative than people who do not regularly have to defend their values and lifestyle. They conducted an online survey that targeted individuals with diverse multicultural experiences, sampled people who reported not living in their or their parents' country of birth, and they asked participants to indicate how often they interacted with ethnic minorities in their country of residence.

Researchers have identified integration strategy as a factor that allows for bicultural individuals to reap the benefits of multicultural creativity (Benet-Martínez et al., 2002; Mok & Morris, 2010). Integration strategy is the ability to perceive compatibility between two or more cultural orientations. Benet-Matinez et al. (2002) sampled first generation immigrant Chinese American undergraduates. They measured bicultural identity integration by asking participants how much they agree with statements such as "I feel as someone who is caught between two cultures." Results found that when researchers tried to encourage 'western' characteristics using cultural primes, participants who did not perceive their two cultures as integrated would reinforce 'eastern' cultural characteristics. Uyghurs, who live as a minority cultural group within a country dominated by a different (majority) ethnic group may have low integration strategy because of the stereotypes and legal restrictions which do not allow them to express cultural identity (Clothey & Meloche, 2022).

Understanding creativity as defined by Uyghurs adds to the current literature on creativity research and culture because it is an example of a non-dominant cultural group that is acting within the dominant "Eastern," Chinese culture. This study helps to gain a more nuanced understanding of non-western creativity, which should not be studied as one monolithic culture. Looking into the Uyghurs specifically also increases current understandings of how creativity is defined by a persecuted culture. Current theory on multiple cultures and creativity (Çelik et al., 2016) suggests that Uyghurs, who are living in a situation in China that causes them to regularly have their values and lifestyle challenged, should be very creative. However, what happens when this talent is not met with opportunity or recognition?

Theoretical Framework

Cultural Capital

Bourdieu's theory of cultural capital suggests that dominant cultures will assert their authority to ensure the continued dominance of their culture (Bourdieu & Passeron, 1990). While the 'culture of reproduction' takes place

in many formal education settings, it also can come from other environments such as media. Alternatively, Jerome Bruner suggests that empowering people about their creative culture will also empower those people to understand what creative culture is (Bruner, 1996). Culturalism studies the ways that culture affects our minds and the way that people create and process truths. Brunner states that cultural constructs can come from parents, religious upbringing, language, local history, pop culture exposure, among innumerable other things. Theories by Bourdieu and Bruner lead to the conclusion that, in order for equality of cultural capital to be reached, non-dominant cultures should be studied and understood in a way that gives them agency over how they are perceived, creating a cultural democracy.

Scholars who are concerned with issues of social justice have written about creating cultural democracy by increasing access to cultural institutions and education. However, Gaztambide-Fernández recommends that social justice should be more focused on democratizing culture, which is about "ensuring that communities have access to resources and opportunities for expanding local cultural practices as means of actively participating in a democratic society" (p.642). While Gaztambide-Fernández was writing about visual arts aesthetics, the same has been theorized for creativity (Glăveanu, 2016a).

Culturally constructed creativity

Most creativity research comes from the field of psychology, where it is often studied by examining individual creative characteristics or creative thinking, by giving participants creative thinking or process tasks to complete in a lab. Psychology has also looked at creativity by examining historical, eminently creative individuals. Chaudhary and Pillai, however, suggest that creativity should be taken "from the Western psychological traditions to the world of culture, where it truly belongs, as viewed through the lens of academic research" (Chaudhary & Pillai, 2016, p. 392). They state that creativity belongs in cultural studies. There are others who wish to see creativity in cultural studies because culture is the output of creative making (Glăveanu, 2016a).

Glăveanu noted some flaws in creativity research, mainly from the field of psychology, that contribute to "not noticing or downplaying relationships and context, valuing one aspect over others and, finally, building systems of evaluation that discriminate against those who don't conform" (Glăveanu, 2016b, p. 207). Essentially, treating creativity as one theory that should apply to all has contributed to a cultural creative reproduction that favors a Western definition of creativity and dis-privileges those who's culturally specific definitions of creativity differ from Western standards. He posited that researchers have put a lot of emphasis on creativity being an aspect (trait, skill, characteristic) of an individual and this has allowed psychological researchers to dominate the creativity discussion. This focus on the individual creative person also contributed to the privileging of individualistic cultures, over cultures that are more collaborative. Glăveanu wrote that, "[c]reativity is not a personality trait, a cognitive process, a feature of objects or ideas, a neutral or social structure for as such as it relates to the activity of brains, individuals, groups, and society; creativity is, first and foremost, a quality of human action. To create means to act in a flexible, novel, and

meaningful way in a given context" (Glăveanu, 2016b, p. 210). He therefore calls for a making-first approach to creativity, in which creativity is an action and culture is a result of creativity.

Uyghur background and history

Uyghurs have long made claims about ethnic discrimination, oppressive religious controls and cultural infringement under Chinese Communist Party rule (Smith Finley, 2019). However, the time period during which the research for this project was conducted, between 2014-2016, represents a period of change amid increasing restrictions on many Uyghur cultural traditions. After a series of violent acts within Xinjiang that the Chinese government attributed to Islamic terrorism, the situation became more oppressive. In 2015 the Chinese central government passed counterterrorism legislation which effectively criminalized "any Uyghur expression of dissent or religiosity as well as many Uyghur cultural traditions as signs of terrorism or extremism" (Roberts, 2018, 246). China's stated goal for more recent restrictions is to maintain stability by preventing the emergence of radical Islam in Xinjiang, which the government assumes to have fueled ethnic strife and violent attacks and that they attributed to Uyghur terrorists (Roberts, 2018). Although many scholars dispute the characterization of Uyghurs as Islamic terrorists (cf., Roberts, 2018; Rodríguez-Merino, 2019; Smith Finley, 2019), state sanctioned ethnic repression targeting Turkic Muslims, including ethnic Uyghurs and others, has resulted in multiple forms of extrajudicial detention, internment, incarceration, and forced labor. Over 435 intellectuals and scholars who were important Uyghur cultural leaders, including professors of Uyghur literature, anthropologists, writers, and musicians, are among the detained (UHRP, 2019).

According to a report by the Uyghur Human Rights Project (2018), "Uyghur cultural expression, like other aspects of Uyghur society, has come under even greater pressure than in past decades as the government increases its attempts to deepen control over [the region] through a center-led economic development campaign and assimilationist agenda" (UHRP, 2018, p. 3). The report further states:

> The government's repressive policies on freedom of speech, religion and assembly mean that Uyghur artists are not free to perform and develop their cultural industries on their own terms, and the Uyghur public is not free to participate in traditional cultural events or maintain the significance of traditional practices… Uyghur culture is being transformed into nothing more than the symbolic diversity of clothing and dance enforced by authorities from above even as the government's assimilative policies intensify (UHRP, 2018, p. 3).

Like all social media in China, the websites considered for this study were censored, whereby posts deemed too political were removed by the webmaster, often within hours after we captured them. However, they were still accessible and active up until 2016, during most of the period of study. All of the websites discussed in this paper were later shut down by the Chinese government and many of their webmasters arrested.

In sum, today many forums for Uyghur cultural expression are closed in Xinjiang. Thus, the data described in this paper represents an opportunity for cultural expression taken by Uyghur webmasters and netizens in a moment of time during which Xinjiang was undergoing a radical change under new "counter-terrorism" policies. Such data are no longer available in the same way. In this context, understanding how the oppressed ethnic minority group described in this study define creativity is all the more salient, and reflects the resiliency of the community.

Research Methodology

This paper is one in a series of a larger project on Uyghur cultural expression on the internet. (See e.g., R. A. Clothey, 2017; R. A. Clothey et al., 2016; R. A. Clothey & Koku, 2017; R. Clothey & Meloche, 2022; Meloche & Clothey, 2021). To collect the data for this paper, a team of researchers examined the content of four interactive Uyghur-language online community forums, or *munbar* (platform). The websites were hosted in Xinjiang and were actively used by Uyghurs during the research period of 2014-2016.

With funding from our institution's Social Science Research Initiative, two native Uyghur speakers were hired as research assistants (RAs), to monitor the websites over a period of approximately 8 months in 2014 and one month in 2016 for updates[2]. These sites were specifically selected due to their reputation within the Uyghur online community, the variety of content, and their accessibility. All of the sites used primarily Uyghur language.

As a meeting 'space' for expression among a group that shares a common language, the Uyghur forums enabled Uyghurs across Xinjiang to engage in the discussions taking place there, and raise issues of specific concern to their own community (Clothey & Koku, 2017). Because of the illusion of anonymity that the internet provides, we were not able to ascertain identities. However, we surmised from the posts, and from information provided on profile pages of frequent users, that about 60% of users were male, and most were between the ages of 20– 50. A majority of users appeared to reside in southern Xinjiang (where the majority of Uyghurs are), but also throughout Xinjiang, in both rural and urban areas (Clothey & Koku, 2017). Thus, this online activity connected a diverse population of Uyghurs, and the posts illuminate the specific ways in which Uyghur internet users were thinking about issues relevant to them at that moment in time (Clothey, 2017).

The RAs monitored the websites on a daily basis, and captured screenshots from the online discussion threads. With assistance from one of the authors, one RA translated website threads from Uyghur into English, and one RA checked the translations for consistency and reliability. A total of 1,683 distinct posts were captured and translated during the study period, each of which is about 100 words (in Uyghur) on average.

In order to address the research questions of this project, the authors read all of the posts, then selected those related to the broader theme of 'creativity' for data analysis. First, posts were selected if they included forms of the words 'creative' or 'innovative,' because innovation is the result of creativity (Amabile & Pratt, 2016). We sought out posts that discussed new

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[2]The research assistants did not wish to be identified or named
as co-authors due to political sensitivities.

ideas, businesses, and services in our analysis of research question 1. Additionally, we analyzed posts that discussed traditional arts and the entertainment industry because these fields are often associated with creative product (Glăveanu, 2013b). Lastly, creativity and culture are often defined by the Big-C (Lebuda, 2016), that is, eminent recognition of an individual or idea; therefore we looked closely at posts that received a lot of comments by other netizens and which discussed novel ideas, businesses, and individuals. Overall, 18 original threads, along with their comments, were selected for data analysis.

Data Analysis

We analyzed the data by hand using a coding process described by Saldaña (2016). First, we used an iterative process through which we read and reread the threads to assign analytic memos to those threads related to the broader theme of 'creativity,' broadly defined. Threads that were not relevant to the topic were not assigned memos. We then sorted and grouped the memos to reveal emergent patterns, concepts, and themes.

During this phase of analysis, we selected posts that we determined were relevant to creativity during the initial coding process and we inserted the posts along with their comments into NVivo, which is a digital tool for conducting qualitative analysis (Leech & Onwuegbuzie, 2011). NVivo allows researchers to store multiple layers of codes as well as sort, search, and index data. As in most digitally-assisted analysis tools, the researcher is still the agent conducting the analysis, nothing is automated except for the ability to easily create reports of what the researcher has done. Within NVivo, we were able to utilize the constant comparison method (Strauss & Corbin, 1998). We began with a few major themes ("nodes" in NVivo) that were related to the research questions, such as "Creativity and innovation-example," and "Recognizing creativity." During this process several other codes were added to this list of major "nodes." After this phase was complete, we were able to use NVivo to create a report of everything that had been coded into these major "nodes." We then conducted another layer of coding within these major nodes, creating subnodes, that designated different themes that appeared within the major nodes. For example, when we reviewed the major node "Recognizing creativity" we saw a theme of recognizing someone's "Hard work" as contributing to their success. In the final phase of analysis, we revisited the research questions and visually inspected all the coded data using the "coding stripes" view in NVivo in order to determine which themes best addressed which research questions.

We kept memos of themes and hunches during analysis and shared these together during weekly meetings to facilitate inter-rater reliability. Lastly, we circulated the final review of research questions together with their thematic answers between the two of us, in order to reach a consensus and ensure that no major themes were omitted due to researcher bias or incomplete analysis.

Findings

RQ1: A creative product benefits the community and preserves Uyghur culture

Findings for RQ1 suggest that Uyghurs consider a product to be creative if it *benefits the community* and *preserves Uyghur culture*. This applied for both innovative businesses and organizations. For example, one post discussed a new cafe that also sold books. The cafe was praised in the body of the post for being an innovative idea that combined and promoted two aspects of Uyghur culture, tea and reading. This type of post was common in the threads, which frequently featured examples of Uyghur businesses and charitable organizations in an effort to inform people about what opportunities were being created. This specific post, called "A Tea Café in Urumqi is Filled With Books," (12/6/2014)discussed a grand opening of a new café in a city in Xinjiang that served food and sold books. According to the post, many notable Uyghurs attended this opening, suggesting that the business was eminently recognized. The post details how this idea was considered innovative because it was novel (a combination of a cafe and bookshop where people who spend a certain amount of money on food are offered a free book) and appropriate because it contributes to *community cultural preservation*. As one commenter proclaimed:

> Combing our tea culture and reading habit is such an excellent idea! It's our responsibility to protect and enrich our traditional cultures. Thanks!

The above quote also represents many others who voiced a call for community support, encouraging others to go to their shop and expressing wishes that more Uyghurs emulate their success. There were some, however, who saw flaws in the beneficence of this business and placed suggestions to improve in the comments. One commenter pointed out that the price tag for earning a free book was too high and thus the program did not benefit those who need it most:

> Unfortunately, those who can afford 300 Yuan of dinner usually have no interest in reading books… on the contrary, maids, shoe fixers, and waiters need this kind of service, but for them, not 300, even 30 Yuan for a meal will kill them…

Many seconded that this was a good point. However, overall, commenters appreciated how this idea helped with cultural preservation. For example:

> Commenter: I`m very proud of it!
> Commenter: There are more good deeds than evils, it's a natural principle.
> Commenter: Makes people proud! Special thanks to the owner of the restaurant and the author of this article.
> Commenter: This is the principle of earth's rotation. When I was young, I saw customers reading books in some barbershops. After being left out for a while, it seems like our glorious habits are coming alive now.

Another post called "Newly Added Programs in Xinjiang TV" (11/23/2014) explained how having three competing television stations was good for improving the quality of entertainment. Uyghur language TV stations began taking advertisers from some new, culturally-relevant companies and those companies found a market, a situation that benefitted both parties. The author of the post was a worker for one of the Uyghur stations and shared this information in a post to spread awareness and encourage people to watch more Uyghur-language stations:

> Post author: In short, the competition among TV stations in Xinjiang is bringing a new hope and opening a new era in Xinjiang TV history... Finally, one thing I'm expecting from you all is that you please support our TV programs, let them shine and work for us!

Unfortunately, the majority of the comments exhibit suggestions to improve, which indicates that this is not an example of innovation. The commenters take umbrage because the goal of this post and the TV stations is commercial success, not community benefit.

Rather than dismissing the post entirely, commenters helpfully suggest ways that the TV stations can *benefit the community* and *preserve Uyghur culture*. One commenter suggests that TV stations can really help with cultural preservation if they make documentaries about Uyghur history and heritage:

> Commenter: Why don't you guys put some effort on making movies that reflect our great history, like the establishment of Karahan kingdom, Sultan Sutuk Bughrahan, Sayida kingdom, Mahmut Kashgary, Yusup Hasajib…. Etc. etc. Others pay extra attention to their history, they even made movies about Yang Nay Wu, Xu Ba Cai, Sun Wu Kong, Sha Jia Pang…. But we, on the other hand, didn't make a single film about our prestigious historical figures. Think about it.

Another commenter suggests having some more programming aimed at education in economics:

> 11/23, by watandax; Since it is an economical channel, they should play something related to economics, even for an hour a day.

The most common complaint was for the amount and quality of commercials.

RQ2: A creative Person's hard work and selfless motivations

Findings for RQ2 suggest that Uyghurs emphasized a creative person's *hard work* and *selfless motivations*. In a post about Parhat, a Uyghur singer who made the final round of 'Voice of China,' (8/2/2014) a televised singing competition, he is praised for trying to be famous for "the right reasons," not to further himself, but so that he could share connections with the audience. He

was also deeply praised for his hard work and his natural talents were down-played.

Several posts discussed individuals that the web citizens had identi-fied and recognized for their creative and innovative achievements. One was a singer, another was a photographer, and the third was a businessman. The post discussing singer Parhat Halik, "The one that comes close to himself" was highly viewed with many comments. It is a description of a guitarist and singer whom the post's author had been following for many years. The post and comments track Parhat's experience on the Chinese television singing competition "The Voice of China." One of the reasons that Parhat became so famous was because his music contributes to community cultural preserva-tion. He was well-loved in the Uyghur community not just for his talent and success on the show (he was a final runner-up), but because he sang tradition-al Uyghur songs with modern arrangements. As the post author poetically suggests, when a Uyghur listens to Parhat, they hear their history:

> There are spirits of the great land of Taklimakan: green oasis, garden full of fruit, silence from Tarim, and confi-dent, hopeful, and brave Uyghur people in Parhat`s voice. There is a goal in it. There is also hope and disappointment in it. There is happiness and sadness in it. There is calm and hatred, even revenge in it.

Additionally, Parhat was praised by the author of the post because his success was the result of the culmination of *hard work*. The author claimed that Parhat may not have the most natural-born talent, but so many people were drawn to him because of the years of practice and the hard work that he put into singing with emotion. The author also used Parhat's work ethic to illustrate how Parhat did not enter the music business just for fame; rather, the author minimized the role of selfish motivations for creative suc-cess. As the author states:

> I insist that Parhat chooses to become a musician, not solely aimed to be famous. For a person who tries his best to get close to himself and understand himself, getting other's recognition is not their primary goal. Those who weigh their value based on others' scale are the poorest people in the world, they are the most unconfident and self-bragging people in the world, and they will eventually fall apart from themselves. And some singers spent most of their time on increasing their pitch in order to sing better. They even ne-glect the limit of their ability and start to sing whatever the song is popular, they will be "beggars" for the rest of their life.

As illustrated in this post, Parhat is appreciated precisely because he is not striving for recognition from others. It is also clear from this quote that people who attempt creativity or innovation for *selfish motivations* will ironi-cally fail to achieve Uyghur standards of eminent creativity.

The comments regarding Parhat were generally positive and encour-aging. Netizens returned to this post throughout the weeks that he was on the

show, documenting his success, sharing videos of performances, and discussing his choice of songs.

Another post that discussed a creative individual is "Splendid life with Camera" (11/3/2014), which was translated into Uyghur from a Chinese website. It tells the uplifting life story of a successful photographer, Jumahun, who overcame becoming deaf after a childhood illness and developing lymphoma as an adult. This post was a very strong example of Jumahun's ability to overcome adversity. Commenters on the post frequently praise him for his *hard work*:

> alsuyer: I hope the best for my friend Jumahun. He is a very good photographer; he doesn't worry about hard work and a tough life. His attitude to his profession is very admirable. Sometimes I pull up a chair and tell him: "Take a break, leave your camera alone," but he always refuses to sit. Good example for youth like us.

A third individual that was recognized in a thread for being creative and innovative is Abduhabir Muhammad, in a post called "Uyghur Boy who came back to his hometown from the US" (9/29/2014). This post is a translation from an article in the "Global Times" that described how Muhammad went to the US for school and came back to China to start a company, despite the fact that he had a job offer in the US. While he was in the US, Muhammad participated in community cultural preservation by sharing information about the Uyghur culture with his US peers:

> Abduhabir introduced Uyghur culture, history, sports, music, and economy in a cultural festival in Binghamton city. He wrote everyone's name in Uyghur and played Uyghur music for them. "Fox News" reporters specially interviewed him and helped a lot of Americans to understand Uyghur culture. He told the reporter that, "if every Uyghur youth spends their one minute to introduce their culture, it would be a great contribution to their nation."

He was also praised because his success as a student resulted from *hard work*, demonstrated by how difficult it was for him to keep up his academic standards in English:

> In his own words "In the US, we had to do the homework in a group, with 5 to 6 people together. If one person makes a mistake, it would bring everyone's score down. Therefore, I had to study twice harder than everyone else so that I won't affect the group's grade. Back then, I had to study at least 15 hours a day to keep up with everyone else. I would tell myself, if I don't walk today, I would have to run tomorrow." (see also Meloche & Clothey, 2021).

Censorship, many eminent individuals could not be recognized.
Uyghur authors on the threads were acutely aware about how their culture was perceived by the dominant Han Chinese. One post, called "Xinjiang People who Shocked the Whole of China This Summer," (10/10/2014) described

297

several Uyghur musicians and artists who had entered the public eye. The post included photos and brief descriptions of the accomplishments of these individuals (one of which was Parhat). The post stated:

> This summer, a group of Xinjiang people has impressed a lot of Chinese with their intelligence, beautiful dance skill, and amazing voice. They have become name cards to introduce Xinjiang to people outside.

However, while this post also initiated a string of comments, the general reaction was not entirely positive:

> 10/10: They are all musicians, seems like nothing can shock China other than dancing and singing.
> 10/10: Everyone will forget about them after some intense clippings, the only impression left is; Uyghur people are good at dancing and singing, they are born like that and die like that.

These comments illustrate an acknowledgement of Gladney's observation, noted above, that oftentimes ethnic minorities are ascribed an essentialized identity, in this case one that sings and dances, but seemingly contributes no other value. The comments express their frustration with this fact and lament this essentialization. One person captured the desire to be known for more than singing and dancing and proposed: "Let us be a star in every field" (*munbar* post 10/10/2014).

One point of friction was when Parhat sang a Chinese language song in the finale of "Voice of China," not a Uyghur song. Some commenters were upset, but others came to his defense, with one person claiming that statistically, if he wanted to win, he should sing in Chinese because the winners are tallied by popular votes. Another commenter suggested that "my bosses" (likely a reference to government regulators) wouldn't allow him to sing in Uyghur:

> salambay: Even cats and dogs wouldn't believe that my bosses, who didn't even allow Abdukeram Abliz, Mamatrozi Sayit, and Dilshat Barat to keep their mustache, would allow Parhat to sing Dolan Muqam in his mother tongue in such a huge stage. Do you guys really think Parhat doesn't want to sing comfortably in his own language…

This post subtly refers to the 2015 Chinese government counterterrorism legislation prohibiting many Uyghur religious and cultural traditions (Clothey & Meloche, 2022; Roberts, 2018). Dolan Muqam, which this online post intimates that Parhat would not be allowed to perform, is a traditional style of Uyghur music. Additionally, television programs were being cancelled and the station was not able to be transparent about why. Language used by commenters in the threads suggest that this was due to government censorship:

> 11/23, by alkanat; You lied about the reason why "One Book One Universe" got cancelled. We would understand

you if you don't have a chance to speak out the truth. But why do you have to lie then???

There are examples in the literature of the creative potential of certain populations being limited due to overt or subversive efforts of outside forces, such as censorship (Lebuda, 2016; Magyari-Beck, 1992).

Whereas western definitions of creativity suggest that creativity must be "novel and appropriate," and focus on novelty and the creative individual, the Chinese definition of creativity is more concerned with making small changes to traditions, and the creative society (Lubart, 2010). Meanwhile, our findings suggest that Uyghurs emphasize hard work, selflessness, and contributing to the preservation of their culture as creative requirements. Findings present an example of a creativity definition that do not fit with prominent Western or "Eastern" theories, suggesting that more consideration should be spent on how best to teach and assess creativity and innovation accurately.

Discussion

Uyghur individuals and ideas receive community support and encouragement to be creative

One thing that is clear from the popularity of the posts about creative people is that the Uyghur community encourages creative individuals and will readily come together to support creative Uyghurs. This strong community support and encouragement is one example of an advantage benefitting Uyghur creative individuals. The Uyghur community unanimously supported Parhat by sharing his videos and reminding everyone to vote for him in the singing competition. They supported Abduhabir Muhammad by sharing news and updates and specifically asked that anyone getting married use Jumahun the photographer. Uyghurs on the message boards also encouraged each other to patron Uyghur-owned creative businesses such as the tea café.

The way that the Uyhgur community rallies behind creative individuals and products adds to the literature currently suggesting that non-dominant culture groups could be potentially more creative than culturally dominant peers (Çelik et al., 2016; Tadmor et al., 2012). The threads suggest an environment where individuals feel encouraged to start creative businesses or artistic pursuits and feel safe taking this risk because of the knowledge that the community will support such ventures.

Support was not extended only to creative individual. There were examples in the posts of ideas that were not deemed creative. In these cases, the ideas and individuals were not dismissed, but rather the community provided more support in the shape of helpful suggestions. For instance, there were suggestions that would make the Uyghur television station one that better benefitted the community, and also preserved Uyghur culture. Even if a product failed to achieve Uyghur creativity, it still received encouragement and the collective community used their own creativity to come up with these suggestions. Educating members of the community in ways that they can be more creative seems to also be a community responsibility.

Being a minoritized culture group impacts the way that Uyghurs are able to be recognized for creativity

The examples of creativity that the Uyghurs enacted demonstrated their knowledge of multiple cultures and their ability to socially navigate between their Uyghur identity and their Chinese nationality. Creative ideas often found unique ways of working within existing systems, even systems that were actively being used to surveil or suppress Uyghur individuals. Examples were shown within the data, but perhaps the strongest example of this was the existence of the discussion posts themselves. Moderators and authors continued their tradition of sharing news among the community despite the fact that they were aware that the message boards were heavily monitored. Moderators had to delete posts or comments that would attract too much negative attention. Uyghur authors in the discussion boards would often use metaphors or proverbs to vaguely infer their true thoughts about a subject that they believed would face censorship.

The findings presented above add to the literature that suggests that bicultural individuals can potentially be more creative than monocultural peers (Benet-Martínez et al., 2002; Mok & Morris, 2010). These conclusions are further enriched by the necessity of navigating as one minoritized culture within another that is actively seeking to repress Uyghur identity (Clothey & Meloche, 2022).

Being a minoritized culture group, especially one that is being culturally repressed, is not without disadvantages for creative recognition. The interactive websites offered a unique and valuable method for Uyghurs to share their creative achievements, however, these achievements did not often receive mainstream Chinese recognition (with the exception of Parhat). Of course, the use of Uyghur language in the posts would make it difficult for this information to be disseminated, but often times posts were actually translated to Uyghur from Chinese as in the case of the article about Jumahun. A clear example of the frustration that Uyghur people felt was captured in the post "Xinjiang People who Shocked the Whole of China This Summer". Uyghur commenters were conflicted between being proud of their music and dance and being disappointed that this was the extent of their recognition for cultural contributions. Here, Uyghurs are essentialized singers and dancers but not credited with technological innovations or literary contributions, furthering the studies that show how dominant cultures will stereotype minoritized groups as novelties, or entertainment, but not capable of serious cultural or technological innovation (Czermak et al., 2004; Glăveanu, 2013a; Hartwig et al., 2017; Junius, 2007; Magyari-Beck, 1992; Ruyembe, 2017; Sardana, 2018).

Uyghurs in the message boards express their desire for certain innovations and individuals to be wider recognized, not only in the wider Chinese media, but among younger Uyghurs. A dearth of Uyghur historical documentaries on television, available Uyghur history books, government internet censorship, and a growing language divide between older and younger generations are all resulting in loss of important creative heritage examples (Clothey & Meloche, 2022). A persistent fear is that there will come a day in which future generations do not know more than the stereotypes that were pre-

served, surrendering their creative value to the perceptions of others, and internalizing diminished creative self-perception (Wong & Niu, 2013).

Culturally appropriate assessment of Uyghur creative products and people

Whereas western definitions of creativity suggest that creativity must be "novel and appropriate," and focus on novelty and the creative individual, the Chinese definition of creativity is more concerned with making small changes to traditions, and the creative society (Lubart, 2010). Meanwhile, our findings suggest that Uyghurs emphasize *hard work, selflessness, and contributing to the preservation of their culture* as creative requirements. Findings present an example of a creativity definition that do not fit with prominent Western or Eastern theories, suggesting that more consideration should be spent on how best to teach and assess creativity and innovation accurately.

Creativity often emerges in an individual as a result of the culture in which it was first fostered (Hempel & Sue-Chan, 2010; Morris & Leung, 2010; Nouri et al., 2008). Therefore, researchers who are looking to assess creative ideas as part of a divergent thinking activity from a minoritized culture group should consider including *contributing to the preservation of their culture* as a criteria for usefulness, or appropriateness to a task (as described by Amabile, 1988; Cropley & Oppert, 2018; Rietzschel et al., 2016). This criteria should also be weighted more heavily than novelty, or newness (Morris & Leung, 2010; Wong & Niu, 2013). While there are many examples of eminent creative individuals whose ideas only benefit themselves, it's important for evaluation to reflect that this type of idea would have been expressly discouraged and not considered creative.

The data demonstrates that Uyghurs are an example of a culture that has different priorities in recognizing creative individuals (Lau et al., 2004; Lubart, 2010; Morris & Leung, 2010). For the Uyghurs, the hard work and effort put into gaining a skill or coming up with an idea are more important than how eminent or famous that person or idea becomes. This is partly because a desire to become famous or rich was considered a selfish motivation and thus discouraged, but also because Uyghurs were well aware of their situation as non-dominant cultural minorities. The Uyghur authors in the message boards knew that Uyghur creative achievements would not be widely recognized and, while they wished this was not the case, they knew better than to count on eminent recognition as an indicator of creativity. While studies from China have found recognition from others to be an important designation of creativity (Rudowicz, 2003), this is not true of Uyghur culture. A further consideration for assessing a creative individual or idea from a non-dominant culture is to reflect the priorities hard work over fame and recognition.

Limitations

Findings from this study are unique to Uyghurs living in China during this specific time of data collection (2014-2016). Therefore, these findings should not necessarily be applied to diasporic Uyghurs, or Uyghurs in China today who are further restricted in their activities and communication tools. It is

also important to note that the sample of Uyghur-language authors and commenters is not representative of all Uyghurs who were living in Xinjiang at the time. The sample population for this study was likely slightly more educated and of higher socio-economic status than the average Uyghur citizen at the time (Clothey & Koku, 2017) because of their access to and knowledge of the internet as well as their proficiency with Uyghur language.

Furthermore, three methods of selecting posts to include in this study, looking for novel ideas, looking at eminently popular posts, and looking at arts and entertainment, are derived from Western theories of creativity. The researchers wish to acknowledge this implicit bias. We attempted to compensate for this bias by practicing researcher reflexivity. Additionally, once the posts were selected, data analysis proceeded with open coding, in which themes emerge from the data (Saldana, 2021).

Conclusions

Based on the findings presented above we would like to suggest that future self and researcher-based assessments of creative characteristics of minoritized culture groups consider including 'hard work' and a 'desire to benefit their community' or 'preserve culture' amongst the attributes. 'Benefitting the community' should be included among the criteria for evaluating a creative product or divergent thinking idea. It may be that other minoritized groups do not share these priorities, however, and in such cases researchers should find the variables that fit the cultural group in question. This is particularly important if the research involves cross-cultural comparisons because these types of studies are potentially subject to approaching minority cultures from a creative deficit bias. Additionally, we recommend that creative characteristic assessments of certain minoritized culture groups look for and remove factors that are not culturally relevant such as 'potential for making personal gain' or 'becoming famous'.

Creative studies that document eminent creative achievement should actively promote and present non-dominant cultures' current technological innovations in addition to a full array of historical creative achievements. Uncovering examples of creative achievement among minoritized culture groups may be difficult if the group has been subject to oppression or censorship. However, findings from this study demonstrate that minoritized culture groups are responsible and resourceful stewards of their own history of creative achievement and are eager to share this history with others.

Lastly, we suggest that creativity researchers looking to assess creative thinking cognitive skills among minoritized culture groups consider alternative tasks that would better showcase that group's abilities. For example, Uyghurs on the message boards displayed individual creative thinking skills when suggesting ways to improve on an existing idea so that it was more beneficial to the community. Therefore, an interesting task would be to present participants with partially formed ideas and ask them to improve those ideas so that they were more in keeping with preserving a collective culture and benefiting the community.

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CHAPTER SIXTEEN

ROLE OF CREATIVITY IN SOCIAL WELL-BEING: EXPLORING AMELIORATIVE MEASURE OF POVERTY ERADICATION IN INDIAN SOCIETY

MAHMUDUL HASAN LASKAR & ANKITA SHARMA

Abstract

Notions of creativity, motivation and innovation are complementary to development in the global context today. Different culture defines and practices creativity differently. Variation in creativity may lead to a difference in innovation in any field, be it economic, social, cultural and artistic. Social well-being is primarily determined by lifeability and capability (Sen, 1970, 1981) of the common people. India has problems of both objective well-being (material affluence) and subjective well-being (happiness). Income disparity and capability inequality are extensively increasing in India. There is a vast difference in the living standard of the various sections of the population. Major sections of the population have been living in absolute poverty and even relative poverty is adverse too. Welfare measures are always considered as the primary remedy for poverty in India. In the advanced industrial era and globalization of economic and human development, we must see how creativity and innovation among the poor help eradicate poverty in India. It is a matter of research how creativity played a significant role in ensuring social well-being at the global level and in India particularly. The proposed paper will focus on creativity, motivation, and innovation among poor people in India. It will also focus on how far poor people depend on welfare measures. Whether creativity and motivation may lead to better lifeability and capability equality in Indian society? The research will be carried out in combination with theoretical insights and empirical data. We may take a sample from village, slum and pavement dwelling from India.

Keywords: Creativity, social well-being, poverty, skills, unemployment

Introduction

In the era of advanced industrialization, global inequality in human development across the regions has a serious concern. India being a developing society often experiences low human development which indicates the prevalence of large-scale poverty, poor quality of life among weaker sections, and lack of employment or work. Poverty is a serious global issue, but in India, poor are

also responsible for their condition. Poor people mostly depend on welfare measures and participation in production is less. There is a lack of industriousness and work culture among poor is not conducive to development. Creativity, motivation and innovation can be a leading combination for poverty alleviation in India.

In this regard, we must see how creativity and innovation among poor helps eradicate poverty in India. It is a matter of research on how creativity may play a significant role in ensuring social well-being at the global level and in India particularly. The proposed paper will focus on creativity and motivation among poor people in India. It will also focus on how far poor people depend on welfare measures. Whether creativity and motivation may lead to better lifeability and attaining capability in Indian society? This research is a theoretical and conceptual proposition. Empirical case studies have been used to develop the indicators. Case studies are conducted among village farmers, agricultural workers, urban construction workers, and slum dwellers from Cachar District of Assam. A total of 40 individual cases have been taken, of which 10 are from each category of poor.

Creativity and Social well-being

Creativity and innovation play a key role in individual development, economic growth and societal development. In the age of fast technological advancement and transformation, creativity and innovation among people have enormous importance. Creativity and innovation are inevitable for economic growth and sustainable development in Europe and so various initiatives are being made to incorporate creativity and innovation into the process of lifelong learning. Initiatives such as Erasmus+ and the Horizon 2020 projects aim to foster sustainable and viable economic development. Asia has similar kind of initiatives like China's move for transforming China into "an innovation-oriented country" by 2020 and a world leader in science and technology by 2050; the establishment of the National Innovation Council in India; and the launch of the three Masterplans for ICT in education in Singapore since 1997 (Tang, pp-3-4). There is disciplinary differences in defining and using the concept creativity. Based on the history of creativity research, Sawyer (2012) classified three major waves of creativity studies: First wave was between 1950s and 1960 that focused on the study of personality of exceptional creators; second wave was between 1970s and 1980s, which focused on cognitive aspects (i.e., internal mental processes) of creative behaviour; and the third wave was between 1980s and 1990s, which focused on creative social system (i.e., groups of people in social and cultural contexts). From these historical development of creativity studies, Sawyer (2012) derived two definitions of creativity – 'individualist definition' and 'sociocultural definition'. Sawyer (2012, p.7) proposed the individual definition as "Creativity is a new mental combination that is expressed in the world". Characterizing features of this definition are: Creativity has to be something new, novel, or original; Creativity involves a combination of two or more thoughts or concepts that have never been combined before by the individual; (3) Creativity must be expressed in a certain way in the world. He proposed the 'Sociocultural definition' of creativity as "the generation of a product that is judged to be novel

and also to be appropriate, useful, or valuable by a suitably knowledgeable social group".

Three characterizing features of this definition are: Creativity must refer to a concrete product; the product must be judged as novel, appropriate, useful, or valuable; and persons who make the judgment must be from a suitably knowledgeable social group (Tang, 2017, p-5-6). The sociological interpretation of creativity has varied implications. A contemporary sociological interpretation of creativity includes comparing creativity with key sociological concepts like originality, knowledge, innovation, atypicality, and consecration and highlights the relevant aspects of creativity research in psychology and economics (Godart, Seong & and Phillips, 2020, p-2). Psychology defines creativity as the capacity to produce ideas that are both original and adaptive. It means that ideas must be new and practical. Creativity makes a person capable to adjust in real life situations and resolve problem that comes unpredictably. So, creativity becomes very useful in everyday life and it also contributes to the development of human civilization. Simonton, 2001). In the context of contemporary sociology, to make the sociological definition of creativity a distinct one, two sociological components of creativity are taken into account – antecedents (structure, institutions, and context) and consequences (audiences, perception, and evaluation) (Godart, Seong & and Phillips, 2020, p-2). The Marxian idea of alienation showed how the creativity of human beings can be suppressed. His idea of dialectic signifies the proletariat's creative contradiction with capitalist ideas and interests. Weber's idea of rational action in opposition to traditional action implies new, progressive and innovative practices among humans in the industrial society. He also projected how rationalization can be a dominant force of oppression in capitalist society. Durkheim's ideas of 'creative power' and 'free creations of the mind' shows how collective effervescence of religious life is the source of creativity and considered as power of society as well as a manifestation of collective consciousness. Frankfurt thinkers like Max Horkheimer, Adorno and Marcuse in their concept of 'culture industry' highlighted the issue of new age domination over masses through making the product of culture industry a source of satisfaction and entertainment. Masses instead of focusing on creativity go for consumption of culture industry products.

Though creativity had a long association with sociology, its use in sociology is less popular may be because of the absence of the term 'creativity'. It was coined in the mid-twentieth century prominently in Psychology. Certain key assumptions of sociological understanding of creativity can elaborate the implication of creativity. Firstly, creativity is a configuration of cultural and material elements. In fact, the outcome is potentially creative, not necessarily the producers themselves (Marx, Adorno and Horkheimer). Creativity as a configuration is found in everyday activities not only in the highest forms of art. Secondly, creativity is intentional because it is not the result of coincidental events or just randomness taking place outside of social actions. Rather, creativity depends on human labour, interactions, and organization (Godart, Seong & and Phillips, 2020, pp-6-7).

So, creativity may be regarded as a determinant of the development of the individual, group, organization and even society. We should also focus on how creativity may be absent among people or in individual. The absence

of creativity is not cognitive but rather a consequence of political-economic hegemony in any society. Human potential of being creative may be obstructed by humans as subjects of a hegemonic system. Adorno and Marcuse's (1944, 1964) idea of 'free time' and its discursive power over the conscience of the masses signifies the domination of techno-rationality. Though advanced industrial society is characterized by innovation but this further put humans into the grip of its consumption through rationalization. The most crucial feature of advanced industrial society is 'freedom from limited needs' and in order to attain the freedom of needs, affluent society keeps upgrading the standard of development and priority of needs. Marcuse (1964) argues, in this condition, liberty can be turned into a powerful instrument of domination. People's 'free time' or time of relaxation is redefined by the culture industry or popular culture; visit of cinema halls, shopping malls, restaurants and visiting in commercial aesthetic places are the new medium of spending free time or entertainment.

We must focus on how creativity is linked to social well-being. Mainly social well-being has two dimensions: objective and subjective well-being. Social well-being is the configuration of both. Social well-being primarily refers the attainment of equality and social cohesion in society through objective and subjective conditions. Diener (1984) and Veenhoven (1984) developed the notion of "subjective well-being" for assessing the happiness and utility in life. Veenhoven (2008, 2000) defined subjective well-being as overall happiness in life. Subjective well-being can be assessed through two sources of information: cognitive comparison with standards of the good life (contentment) and hedonic level of affect (Veenhoven, 2008). Aamrtya Sen's (2000) capability approach, from which human development (Haq, 2003, Sen, 2000) concept developed is all about how human beings are capable of living a standard life. So social well-being encompasses the condition of equality, social cohesion, capability, lifeability in any society. It can be stated that creativity among people in any society leads to social well-being because they are able to make changes, manage the situations in a desired direction and contribute in the process of societal developmental activities. Sociologically, creativity should not be treated as an external feature of human being or organization to inculcate through rather it must be regarded as capability of human being exerts inherent potential, ideas and attitude towards an action.

Creativity and human skill of action may bring material condition of a society in a better state. Here comes the issue of poverty in India, which has been the result of poor skilling. Poor skill may the result of lack of opportunity to exert creativity or poor situation that compel poor to work silently without thinking of using creativity. India is a country of massive technological and industrial development, but on the other side larger section of its population are poor. Poor have the problems of work, employment and requisite income of living a standard life. So ultimately, we find lack of capability of poor in access to the result of economic and societal development.

Issue of Skills and Unemployment in India

India is known as a labour-rich nation. On the one hand, domestic economic growth has increased employment prospects and demand, while on the other,

a skill gap is rendering more people unemployed. Economic and social progress can only be attained through the provision of high-quality employment. The development of high-quality jobs is widely recognized as being essential to maintaining rapid economic growth, reinforcing the importance of employment in public policy. Employment plays a crucial role in achieving a number of societal goals like poverty reduction, productivity growth, and social cohesion, in addition to its direct effects on enhancing personal well-being. In India, a new wave of transformation in employment in formal and informal sectors has taken place due to rapid globalization, integrated technology-driven marketplaces, and data-driven corporate decisions. In this situation, it is essential that the right policy measures be put in place to foster the creation of high-quality jobs that will contribute to more rapid and equitable economic development. Over the past few years, India's employment has been affected by the digital transition. Every organization and business has adapted technology which acts as an advantage for them. Foreign direct investment in different sectors, particularly in the field of technology created a huge demand for skilled professionals and workers. Most cities are actively coming up with high technology-based infrastructure for the manufacturing and service industry a vast majority of workers are still unprepared to meet the demands of the global technology industry (Sasikumar, 2015). Moreover, the activities and organizational structures of a company as a whole are being changed by the rapidly evolving technological environment. Together with the shifting market, it has caused new business models to emerge within firms, altering how people work and shop. People have shifted from offline shopping to online shopping by using various apps such as Swiggy, Myntra, Flipkart.

The foundation of contemporary commercial operations is robotics, AI, and machine learning. Robotics and AI algorithms are essential in a wide range of applications, including telemedicine for remote diagnosis and medical procedures, hospital staff management, and drug development. All of this innovation clearly paves the way for new career opportunities in the future that demand specialized technical skills and expertise. The large youth workforce in India, both in rural and urban regions, should be utilized by the various institutions of the country, which include schools, colleges, and vocational training facilities. Education will be crucial in reducing the skill gap and raising knowledge of technology-driven communications in order to fulfil the expectations of contemporary industries. It has been noted that the industry laments the lack of talent despite the country's sizable and active youth population (India Skills Report, 2021).

In India, vocational training is provided outside of the traditional educational system and is geared towards those who have completed at least their secondary education. Since Vocational training is listed on the concurrent list of the Indian Constitution, the union government and state governments both have legislative authority over it. While state governments are in charge of the programmes and their implementation, the Directorate General of Employment and Training (DGE&T) under the Ministry of Labour and Employment is the primary organization that develops vocational training policies and certification requirements at the national level. Only an advisory role is played by a business or the private sector in the current training system. The World Bank (2006) has highlighted that vocational training is considered a stigma in India. This is linked to the manual work requirement of the sector, which is considered to have a low status. IT industry only makes up a small portion of the Indian workforce, therefore fears about skill-related employability challenges (Hajela, 2012, pp. 4-5). India's construction industry containing infrastructure and real estate sectors employs over 26 million casual workers that have been the country's second largest employer after agriculture. The construction workforce in India is largely unskilled workers. A small section of workforce is skilled and educated professionals (Table 1).

Table 1: *Employment in Construction Sector by Education Level of Workers*

| Category	Category Percentage of Employment	Total Employment
Unskilled workers	83%	25.6 million
Skilled workers	10%	3.3 million
Engineers	3%	0.8 million
Technicians and foremen	2%	0.6 million
Clerical	2%	0.7 million

Source: Hajela Ruchi (2012) SKOPE

These unskilled manual or casual workers are seasonal, migrant workers from rural areas of states with poor agriculture. They have very low educational attainment, lack formal training and usually seeks job through any supervisors. Most of the skilled construction workers migrate to other countries, particularly in Gulf countries for higher wages. This results shortage of skilled workers in India (Hajela, 2012). Thus, low educational attainment causes poor skilling among workforce and consequently large-scale unemployment occurs in the country. India's poverty and unemployment has been facing new challenges due to frequent transformation in the global economy and education technology. It can be explored how creativity among workforce results skilling that leads to both employment and self-reliance.

Creativity as ameliorative measure of poverty Eradication

It is a challenging task to establish the fact sociologically that creativity may lead to poverty amelioration. Often, we use creativity in the context of art and literature but making it relevant for poverty reduction will need more research and critical analysis. Based on the empirical case studies, we have proposed certain assumptions regarding creativity as an ameliorative measure of poverty in India. Case studies among village farmers, agricultural workers, urban construction workers and slum dwellers have revealed the fact that they are unable to trace their inner potential or creative potential. Poor are not a homogeneous group, so diversity is obvious in their creativity and skill. In this study, certain indicators are proposed to explore the creativity among poor and how far creativity is linked to skill.

Chart 1: *Indicators of creativity in economic and societal context*
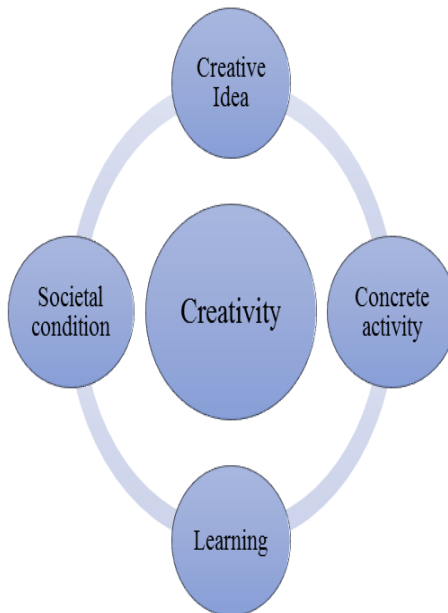
Creative Idea: Idea may be of individual or group with new or unique essence that has the potential of making a change in one's economy. Creative ideas are not something coincidental or inherent rather a cognition through socialization in educational and societal environments. In a poor economic condition, creative ideas may offer a number of ways through which one can get rid of poverty. One cannot just think poverty as fate which is unavoidable. It can be avoided through alternative course of action. It has been found that poor people mostly rely on welfare schemes and are reluctant to think for self-empowerment. Educational socialization in village is more concerned for enrolment and attendance. There is a common tendency among poor people

that they fear ambition though they wish for a standard life. Some poor have shared their courage to overcome poverty by adopting new idea of business, skill of work and entrepreneurship. Creative idea in societal context is not necessarily a new one rather it may be modification of existing idea in business, skill, agriculture and others. Creative idea may lead to a new social organization for economic empowerment and progressive change.

Concrete activity: People's particular social and economic activity that has unique significance in terms of individual upliftment and societal progress. In the village, it has been observed that people are doing agriculture with traditional techniques, so productivity fails to be beneficial. Poor are almost ignorant about scientific agriculture and technology-driven production. Agricultural land remains unused for the maximum time of a year because farmers cultivate once a year. Lack of creativity in concrete form left the farmers unemployed for most of the time in a year. As a result, seasonal migration takes to urban areas, which further make an addition to the slum population. There is no entrepreneurial activity among poor people found. Business activity of the poor is marginal such as vegetable stalls, fish stalls, etc. Villages are full of resources and youth population but as such no concrete activity found to be called creative for individual upliftment or societal progress. An educated section is found who is persuading for Government job even of third grade or fourth grade in rank. A trend persists among educated people to get engaged in any Government organization not because it realizes their creativity but because they can live comfortably without much work pressure and allied facilities. Skilling is another concrete activity that may upgrade workers from casual to professional. Very less skilled workers are found but their skill is limited to some specialized unorganized jobs. Technical skill is still missing among poor people. Due to a lack of technical skill, large numbers of village youths and slum poor migrate to metro cities to join the job of a security guards and manual work. Bangalore and Mumbai are the most liked destination for such poor youths. There is also a section of poor people, who managed to migrate to overseas countries like Saudi Arabia and other Gulf countries for semi-skilled job but eventually, they acquired technical skills.

Learning: Learning as a dimension of creativity is the result of everyday activities and various levels of socialization. It also refers foundation of the skilling of a person or group. It is a complex process that encompasses education, personal experience of life, aspiration for better life and attitude towards change. Poor people are found as mostly dormant in their everyday life. They have a bad experience of their poverty but it's not making any result towards aspiration for a better life. Those who have children are not making it hard to afford to provide them with education or they themselves are out of learning or skilling. There is a lack of technical skill training for the poor, so they rely on their traditional skill for manual work. Slum dwellers are doing various dirty jobs like manual scavenging, begging, sweeper, etc. Skill development schemes have been introduced by Government but implementation is not satisfactory due to a lack of interest, lack of awareness, and ignorance among the poor. So, they have become irrelevant in the age of the advanced work system.

Social Condition: It refers to the prevalent social environment in any society. The social environment itself may be creative in the sense that collectively afford towards creativity is widely accepted and recognized. Social relationships and social organization unify creativity for personal and societal progress and development. Unfortunately, social condition of poor is less conducive for creativity. Slum is worse in this aspect because dwellers lack any social bond or integration to collectively think and do. Village farmers have social integration but they lack any societal encouragement for creative activities in order to make their economic life better. They usually look for free ration and facilities provided by Government agencies. Instead of building their capability, they seek welfare scheme to maintain their livelihood. So welfarism is dominant force in the social condition that obstructs poor people think for upliftment.

Creativity is obstructed by Consumption trend

Constant development of the culture industry in India has created a consistent consumer base. Masses show their satisfaction in enjoying time with the products of the culture industry. This trend has promoted the notions of 'entertainment' and 'free time'. We may take the reference of Adorno, who believes that the entertainment industry, radio, television, jazz and popular music and film etc., have become essential parts of everyday life. He stated that masses become engrossed to watch the hero and even do hero-worshipping (Witkin, 2003: 5). Thus, the present production trend in Bollywood is better described with the term culture industry or mass culture. Film and music, the art forms, have now emerged as the popular mass culture items. Film industry now believes in producing large quantities of films, music and dance as objects of entertainment for the masses. This is the trend of the entertainment business. So, rationality of consuming mass culture derives from the notions of 'free time', 'relaxation' and 'entertainment' in everyday life. Culture industry determines the behaviour of the masses in everyday life. Culture industry has affected the private space and time of masses. These OTT platforms are producing large numbers of web series and mutual competition among platforms further boosts the production and audience is absorbing all products.

Thus, an important point should be noted that consumption trend is 'spending of time' instead of 'investment of time'. The 'free time' may be used for constructive activities. So, mass culture has been pre-occupying this personal space of the masses. Investment of time could have brought some benefits for them. The most affected sphere of the everyday life of the masses is interpersonal relationship within family. In the domain of interpersonal family relations, this consumption trend has affected the relationship between husband and wife the most. Interest and excitement for personal relationship have lost due to engrossing consumption of mass culture. It affects the domestic activities and eventually conflict between husband and wife happens. Most crucial effect of mass culture is the loose of bond between parents and children. Because both parents and children are enjoying with smart phones and mass culture items. Some individuals shared their problem of mental exhaustion due to excessive watching of crime thrillers on Netflix and Amazon

prime video. They also shared that these web series are intoxicating; if you watch one episode, then you become bound to watch whole series.

Conclusion

Creativity in a societal context involves social significance, personal value, and economic value. Various organizations and economic systems can accommodate creativity but at the same time can oppress or alienate it. India's poverty issue can be better understood through the conceptual framework of societal creativity. Poverty though an economic problem, can be eradicated by creativity among the poor. Creativity may result relevant skills for an industry as well as entrepreneurship. Skilling of the poor will result eradication of poverty that will lead to attaining objective social well-being.

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Chapter Seventeen

CREATIVITY AND THE FUTURE: TECHNOLOGY, GLOBALIZATION, AND GOOD

JAMES C. KAUFMAN & MEI ZHENG

Creativity has often been seen as a pathway to the future, a way that we can finally, perhaps reach the 1950's science fiction utopian view of flying cars and interplanetary exploration. Yet over the last several years, it has become more and more clear that creativity may be the pathway toward having any future at all.

If past decades have seen us debate different nuances of such issues as whether creativity is domain specific or domain general (e.g., Baer, 2015), the nature of creativity's relationship with mental health (e.g., Acar et al., 2020; Taylor, 2017), and the way that intrinsic and extrinsic motivation may shape creative behavior (e.g., Hennessey, 2019), the road ahead will need to see us focus on how creativity can best solve the many crises that have been continuing to pop up throughout the world. We have already seen in the past, of course, how creative actions, solutions, and collaborations can help address emergencies, with the 1970's oil crisis being a classic example (Cropley, 2015).

Today, it can seem as though there are more potential apocalyptic scenarios cropping up than ever before, between international armed conflicts escalating, climate change warnings remaining largely unheeded, new diseases spreading, despotic governments taking power, and so much more. As you have just read, creativity has been proposed as the new literacy (Ophoven, this volume) and as the best way to solve intensely different problems (Miller et al., this volume). Such a power can have tremendous potential if it can be harnessed for good.

Indeed, creativity has been proposed as a force that can help save the world, if we can nurture the type of transformational and positive creativity that helps creators see beyond themselves (Kaufman, 2023; Sternberg, 2020, 2021a, 2021b, 2021c, 2023; Sternberg & Chowkase, 2021). It for this reason that we are so heartened to read the chapters representing ongoing scholarship that is broadly working for such positive ends.

Certainly, one of the most exciting directions for creativity research – and one that is amply discussed in this volume – is how we can best utilize the ongoing technological revolution. The modern computer, ENIAC, only predated the modern advent of creativity scholarship (Guilford, 1950) by five years. Modern divergent thinking tests (i.e., Torrance, 1966) came of age as early versions of the internet and electronic mail debuted. Personal computers grew in popularity as modern creativity theory blossomed (e.g., Amabile, 1983; Sternberg, 1985). And as creativity scholarship has exploded over the

last decade or so, so has technology, with the internet, social media, video conferencing, and artificial intelligence changing our world exponentially.

Creativity assessment is one area that has been rapidly evolving. In recent years, machine learning has been utilized to automatically score both verbal (Acar et al., 2021) and figural (Cropley & Marrone, 2022) divergent thinking tasks, as well as scoring creative essays to match with expert raters (Johnson et al., 2022). Cropley (this volume) highlights such computational creativity advances, highlighting the wide array of benefits and possibilities while also acknowledging the current limitations. Another way that creativity has been utilizing technology, as Wilson (this volume) notes, is the use of digital tools, virtual learning environments, and social media channels to carry the day in the face of the challenges educators faced during the pandemic lockdown. Technology can also enable us to connect with each other through our creative efforts. Messina et al. (this volume) discuss the Internet of Musical Things (IoMusT) and the Internet of Musical Stuff (IoMuS), which enable music to be shared all over the world. Castañeda (this volume) also highlights how technology has allowed creators to distribute their music everywhere via Spotify.

In part because of the advances in technology, it is possible for countries and cultures to interact, share, and learn from each other. The necessity of taking a global approach to creativity, which was advocated early in our field's history by Stein (1953), has never been more certain. It is fitting that the first chapter in this volume, by Byock et al. (this volume) discusses the Global Creativity Initiative (GCI), an organization dedicated to highlighting and advocating for creativity in all communities. Some chapters talk about how multicultural interactions can boost creativity. Stephens (this volume) offers a broad overview of the research in this area, whereas Celume (this volume) reports on a study on the creative benefits for students who collaborate online with other students from different cultures.

Other chapters focus on how creativity can enhance ways that teachers, scholars, and leaders can help people across cultures. For example, Herath et al. (this volume) emphasize the importance of creativity in helping teaching develop more inclusive pedagogies that will help a wide diversity of students across many different cultures. Koff (this volume) takes a global perspective on dance and dance education, and Neethly et al. (this volume) notes that understanding cultures and diversity is a key part of creative leadership.

Whether using the lens of technology, the world, or something else altogether, many chapters, as noted earlier, have a specific emphasis on the positive power of creativity (e.g., Kaufman, 2023). Some focus on mental health. Post-traumatic growth is a powerful way that people can heal in the aftermath of devasting events, with creativity being one way that people can reach such growth (Forgeard, 2013, 2019). Fogarty and Brewster (this volume) explore the way that creativity instruction, tools, and activities can help enhance such post-traumatic growth outcomes, offering scenarios and highlighting cross-cultural applications. Bredin (this volume) writes about the French Creativity Institute and how it will aim to use creativity to help enrich people's lives. Wilson (this volume) notes the way that creative educational

culture and practice helped people during and immediately following the pandemic lockdown.

Other chapters focus on how creativity may serve as a way to enhance tolerance and fairness (e.g., Luria & Kaufman, 2017). Laskar and Sharma (this volume) address how creativity can help both social and objective well-being in India, ideally serving as a way to address income disparity and increase equity. Meloche and Clothey (this volume) use Uyghur as an example of how minority culture groups view creativity, with an eye toward how creativity can be studied and taught in a cross-cultural context.

We have offered but a brief overview of the chapters continued within. One recurring theme that we have not specifically highlighted is that of education. Many chapters emphasize how creativity can infuse education, and how good teachers can boost creativity. Scholarship must have some type of real world application to make an impact. The teaching strategies, curricular examples, pedagogical discussions, and program overviews presented here are a roadmap to how we can help the next generation tackle the problems that face them. The institutes, initiatives, assessment advances, and emerging technologies will ideally offer them the tools to go with the principles and abilities to succeed.

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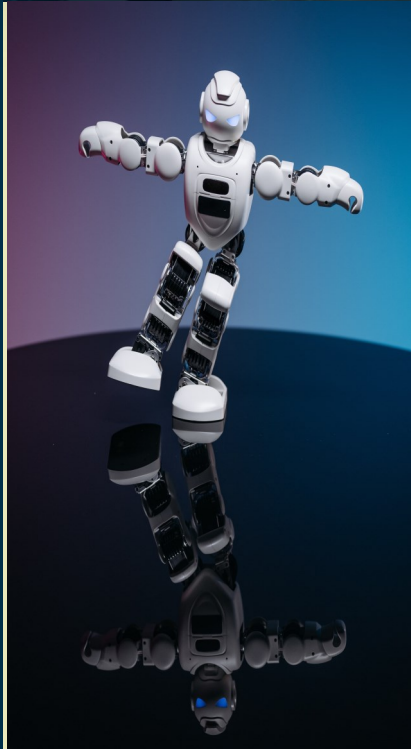
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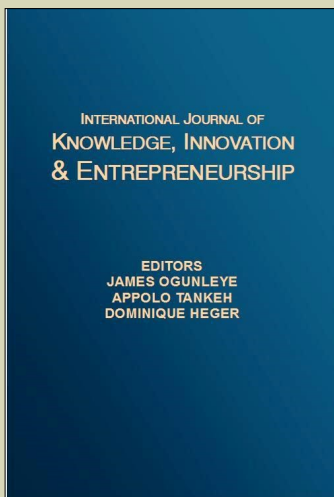
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About this book

This collection of creativity trailblazer thoughts will be of interest to a broad audience including k-16 educators, corporate leaders, policymakers, clinicians, researchers and students interested in pursuing careers that involve generating novel and creative ideas and implementing these ideas-referred to as innovation. The global focus opens the reader to cultural and enlightening ideas that serve to trigger new appreciation of diversity, equity, and inclusion. As James Kaufman points out in his and Zheng's concluding chapter "It is fitting that the first chapter in this volume, by Byock et al discusses the Global Creativity Initiative (GCI), an organization dedicated to highlighting and advocating for creativity in all communities." New directions in technology are discussed in chapters by Cropley, Wilson, Messina et al, Castañeda and the force of creativity in enhancing teaching are espoused by Herath et al, Koff including Celume's focus on online collaboration by students. As the book's title implies Unpacking Creativity: Culture, Innovation, and Motivation in Global Contexts the reader is exposed to an exciting reading journey.

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