DISMANTLING
REASSEMBLING
tools for
alternative futures

Pivot 2021
Virtual Conference
OCAD University
July 22-23, 2021

Hyperlocal network La Campana-Altamira

LOTZ Nicole [a]; GAVED Mark [a]; GONZALEZ-NIETO Noé Abraham [c]; CHING-CHIANG Lay-Wah Carolina [b]; JONES Derek [a], DIAZ DE LEON LASTRAS Alejandra [b*]; MACHADO Rafael [d]; GONZALEZ Víctor [b] and FERNANDEZ-CARDENAS Juan Manuel [b]

[a] The Open University, UK
[b] Tecnologico de Monterrey, México
[c] Universidad Autónoma Metropolitana and Universidad Nacional Autónoma de México, México
[d] Fundación Insitu, México
* FabLat Kids

During the COVID-19 pandemic, we observed increasing inequalities in access to education in an under-resourced community we have previously been working with in Monterrey, Mexico. To support the continuation of relevant learning, we proposed the Hyperlocal network La Campana-Altamira, a project that utilises mobile technologies and physical making resources to support creative STEM learning. The project offers instructional videos of creative learning activities and the resources to engage with them, such as making materials and a smartphone. Families can upload images and videos of their creative responses to a digital hub, and other families can visit the hub, comment on uploads, or share their responses. The project utilises Freire's dialogical approach and Santos' and Walsh's decolonising perspective to promote horizontally informed and co-created pedagogies. Families share their own knowledge with other families locally and digitally from the safety of their homes. Preliminary findings suggest a new-found respect for different forms of knowledges from family members, including elders and children. In an ongoing dialogic process, we seek to co-create with the community meaningful activities and a digital network structure that fulfils their needs. The aim of this research project is to create equitable participation in education and sustainable socio-economic development for a possible future in which Latin American communities can position themselves with knowledge from their own realities.

Keywords: dialogic pedagogies, community networking; informal learning; creative making, co-creation

About the Authors:

Nicole Lotz is Senior Lecturer in Design at The Open University, a distance education institution. She is Equality Diversity Inclusivity and Accessibility Lead at the School of Engineering and Innovation. She is course chair for the Design Thinking module. Nicole is interested in design processes, collaboration and engagement across boundaries and at the margins. She has published multiple articles at conferences and in journals across the disciplines of design, education and international development. Her work seeks to offer opportunities for disadvantaged communities to engage and persevere through social and communal creative learning, even in challenging situations. Nicole's research is heavily influenced by her upbringing in East Germany, lived experiences in Hong Kong and the UK, and fieldwork carried out in South-East Asia, Africa and Latin America.

Noé Abraham González-Nieto is a university professor in Pedagogy and Educational Communication at Universidad Nacional Autonoma de Mexico and Universidad Autonoma Metropolitana, Mexico. Noé develops research and curriculum design on issues of comparative and international education, pedagogies of the future and innovation in education and communication. He collaborates with professionals from multiple sectors to promote solutions in education for social transformation through the implementation of social projects and the publication of journal articles. He also serves as an active member of the Educational Research and Innovation Group of the Tecnologico de Monterrey, of the Mexican Society of Comparative Education and of the Comparative & International Education Society.

Lay-Wah Carolina Ching-Chiang is a PhD student in Innovative Education at Tecnologico de Monterrey, the most prestigious private university in Mexico. Growing up in Ecuador as a Chinese descendent gave her a multicultural perspective which was broadened with her studies and work experiences in the United States, China and Mexico. She is interested in dialogic educational practices, community learning, interdisciplinary education, teacher training and business management to empower communities. Her work experience includes profit and non profit organizations in the banking, building, communications, food and education sectors. She is passionate about her current work in non-formal contexts of education where she has been leading STEAM dialogical practices interventions for social transformation.

Mark Gaved is a lecturer in the Institute of Educational Technology at The Open University, UK. He is interested in how locally owned and co-constructed digital and networked tools can help communities overcome educational and societal challenges and support empowerment, drawing from his own experiences in a radical housing cooperative. His research is underpinned by participatory research approaches, informed by community informatics, social sciences and creative methodologies. He is particularly interested in how digital tools can be appropriated and reimagined, drawing from approaches championed by open / maker/ hacker cultures and how network systems might enhance knowledge sharing in offline settings where internet connectivity and electrical infrastructures might not be reliable or affordable, for example in remote or low-resourced communities.

Alejandra Díaz de León Lastras is a Mexican maker and architect. She studied architecture in the Autonomous University of San Luis Potosí, Mexico, and did a Master in Advanced Architecture at the Institute for Advanced Architecture of Catalonia. She has a diploma in digital fabrication and she is currently doing a PhD in Science of Engineering in Tec de Monterrey. Her work focuses on the creation of projects across disciplines through experimental processes for designing and materializing ideas. Alejandra belongs to the Fab Lab Network, where she founded and leads "Fab Lat Kids", an international organization that uses technology as a tool for learning.

Derek Jones is a Senior Lecturer in Design at The Open University (UK) and part of the OU Design Group. He is a member of the team responsible for U101: Design Thinking, the award-winning entry-level design course for the university's Design and Innovation degree. His main research interests are: the pedagogy of design and creativity, embodied cognition in physical and virtual environments, and theories of design knowledge. Derek is a qualified architect with 15 years of experience in the construction design and procurement industries and is the Convenor of the Design Research Society's Pedagogy special interest group.

Víctor José González Fregoso is a Community Liaison in La Campana-Altamira from Tecnológico de Monterrey. He is 48 years old, he is married to Verónica. He was a Missionary in Africa for 17 years with the Senufo ethnic group, in the north of Ivory Coast. He studied philosophy and theology and specialized in interreligious dialogue by working on issues related to traditional African religions, Islam and different Christian denominations. He arrived in Monterrey in 2007 where he taught French classes at URRE. That same year, he entered Tecnológico de Monterrey to coordinate a social service project and worked in rural communities. In the following years, he

completed a Bachelor's Degree in Human Development, a Master's Degree in Ethics for Social Construction and a Master's Degree in Social Work at UANL. His area of specialty is community work with vulnerable populations in which he has 31 years of experience.

Rafael Machado was born in Caracas, Venezuela. He is an architect and previously was a professor at the Central University of Venezuela (UCV). His main activities and interests are focused on the exploration, study and teaching of urban transgressions, participation, and digital fabrication. Rafael together with other friends founded INSITU in 2011. INSITU is a foundation that is dedicated to working on site 'in situ' with communities to improve urban spaces through participatory processes, mixing traditional and digital construction methods.

Juan Manuel Fernández Cárdenas Is a full Professor of Education and Director of the Master in Educational Technology. National Researcher, Level II, awarded by the National System of Researchers, CONACYT. Prof Fernández-Cárdenas has led several research projects funded by CONACYT, British Council, US Department of State, and Tecnológico de Monterrey, amongst other funding agencies. He has published more than 100 research articles, refereed chapters, and books. His research interests include the study of the conformation of communities of practice, the evaluation of educational quality in settings mediated by the use of digital technology, in particular in STEM education, moral development programs, and academic writing activities. Prof. Fernández Cárdenas holds a BSc in Psychology (Honours), from the Faculty of Psychology of the National Autonomous University of Mexico (UNAM), as well as a PhD in Language and Education from the Open University, United Kingdom. He has taught courses at the Undergraduate, Master's and PhD levels at Tecnológico de Monterrey, UANL, and The Open University, UK. He has supervised the development of more than 50 thesis for undergraduate and graduate students, and currently supervises the research projects of three PhD students, and two Master's thesis at the School of Humanities and Education of Tecnológico de Monterrey and UNAM. ResearchGate: http://goo.gl/nbAeXe