

Role of E-Learning and Gamification in Responding to New Urban Agenda and Sustainable Development Goals

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INTRODUCTION

The poster outlines the application of e-learning to facilitate innovative solutions to challenges within large-scale informal settlements within East Africa. It presents an illustration of how, in April 2017, a social innovation lab in Dar es Salaam, Tanzania used the Eliademy e-learning platform as a tool to facilitate positive social and environmental change. The lab created a hybrid-course to support a two-day 'hackathon' where youth developed innovative solutions around transportation, informal settlements and waste management. At the end of the hackathon the youth then pitched their ideas in-person and then virtually to a panel of potential policy makers and investors. Recognizing the hackathon's success, this poster explores other potential applications for e-learning to facilitate positive social and environmental through place making exercises in East Africa and North America.

Key outcomes of these initiatives will allow researchers and participants to not only affect change through interventions and place making but to also develop ideas to apply to other urban centres. Specifically, the goal is to apply elements of gamification and human centered design to explore and identify creative, informal transformative planning practices. The focus of this initiative, managed by East African Institute, is to foster spaces that facilitate SDGs including food security, culture and interaction (that attempt to overcome fragmentation, poor connectivity) and social segregation (with consideration to how the innovations might be scaled up to make cities work better).

TANZANIA 'HACKATHON'

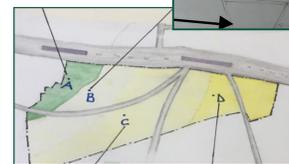
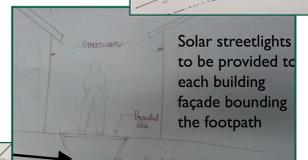
In March 2017, Eminus Academy, working collaboratively with East African Institute, Aga Khan University, and Bits & Bytes Tanzania, developed a hybrid course called Cities for People Urban Challenge Course. The course was designed to facilitate the development and application of technological and infrastructure urban interventions, specific to Dar es Salaam, Tanzania. Dar es Salaam is one of the fastest growing cities in sub-Saharan Africa with a population growth rate of 8% per year. The city has over 70 percent of its 5 million residents living in informal, unplanned settlements that lack adequate infrastructure and services.

This hybrid-online course took the form of a two day 'hackathon' where participants were asked to develop solutions around transportation, informal settlements and waste management in Dar es Salaam. In all, 30 participants from Ardhi University Faculty of Urban Planning, Architecture, Engineering and Information Technology were organized into interdisciplinary teams and provided with virtual and in-person training sessions. The groups then connected through the e-learning platform with mentors over the 2-day challenge. Specifically, participants were expected to:

- Recognize the importance of Tanzanian Planning Frameworks;
- Introduce concepts of sustainable development (SDGs) and Habitat III;
- Work in Teams to define an urban challenge and design a response; and
- Reflect further on their role in planning and response to urban challenges.



At the end of the two days, each team virtually pitched their solutions to the urban challenge in front of a panel of individuals and potential investors from the East African Institute of Aga Khan University, Dar es Salaam City Council, the World Bank and Bits and Bytes who could implement the concepts. Projects included various strategies to addressing environmental protection and waste management systems, as well as technological innovations to improve social environments and information flows.



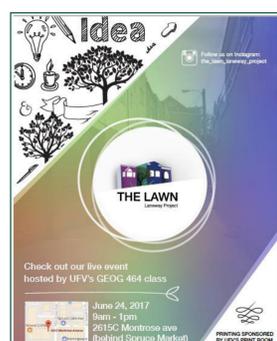
KEY OUTCOMES AND FUTURE APPLICATION

Key outcomes of this initiative will allow researchers and participants to not only affect change through interventions and place making, but to also develop ideas that apply to other urban centres. Specifically, the goal is to explore and identify creative, informal practices including spaces that facilitate culture and interaction that attempt to overcome fragmentation, poor connectivity and social segregation with consideration to how these might be scaled up to make African cities work better. One potential application is the further expansion of the Dandora Model Court example.

Dandora is a low income area in Nairobi, Kenya widely known as a dumpsite and characterised by a high crime rate. In 2014, a group of young residents banded together to improve the conditions of the public spaces in Dandora. Dandora's many apartment blocks are grouped together and form public courtyards (courts), but these courtyards have fallen into disrepair after decades of neglect. In response, young residents of Mustard Seeds Court, Charles Gachanga, Samuel Ikambi, Abubakar Mope and a few others reclaimed these spaces and began unclogging drains, removing garbage and maintaining green space. Their efforts were so successful that they formed an organization called the Dandora Transformation League and began applying their model court approach to other courts in Dandora. E-learning tools, such as those provided by Eminus, can help replicate the model court success across other informal spaces.

As the Tanzania 'Hackathon' examples demonstrate, these tools can be used to teach critical planning and design principles, as well as technical skills, within the framework of the New Urban Agenda and Sustainable Development Goals. Each idea provides the basis for data-informed bottom-up, human-centred urban planning and design to enhance environmental, social, political, and economic sustainability within the city.

This application is not limited to East Africa, but can be used to facilitate successful community and urban projects globally. Students at the University of the Fraser Valley have organized a laneway activation project as part of a studio course on tactical urbanism. A proposal for place-making training in a large refugee settlement in Northern Uganda has also been submitted. This place-making game involves pitching, prizes and virtual contests that could be facilitated as a e-learning course and taught to students globally.



E-LEARNING

Within the dynamics of education, several gaps in the current educational framework have been highlighted, including lack of innovative educational practices for marginalized communities, low priority for secondary or post-secondary professional skills based training, and a lack of quality education that enables successes in entrepreneurship and employment. Since 2013, Eminus Academy – a professional training program offered by University of the Fraser Valley and the UN Habitat Youth and Livelihood Unit – has been using the Eliademy e-learning platform to deliver courses on social enterprise and sustainability to youth aged 15 to 35 living in the developing world. The mobile based learning platform can reach a wide range of startup international youth social enterprise programs, allowing projects with great potential to be recognized. So far this program has delivered training to over 8000 students in 15 countries. More information on Eminus is available at www.EminusAcademy.com

