

Leadership is Critical in Mainstreaming Sustainability in Professional Education

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An inspiring transformation of architectural education in the Global South shows a successful integration of sustainability.

Mark Olweny (*University of Lincoln*) comments on the B&C special issue **EDUCATION & TRAINING: MAINSTREAMING ZERO CARBON**. *Leadership in Global South demonstrates the positive transformation of architectural education. The Uganda Martyrs University implemented a new curriculum to integrate sustainability into the architectural curricula. Change occurred due to staff dedication, commitment and stamina - although overcoming resistance at several levels was not easy.*

Introduction

The need to address climate change in architectural education has never been greater. However, transformation of courses to address it has been slow, and a possible hindrance to achieving the goals of the 2015 Paris Agreement. With Whitaker (2006) famously declaring “[a]rchitects are a lagging indicator for sustainable design”, it is not difficult to see how big a role architectural education plays in any shift in the profession. Indeed, as is noted by (Shulman, 2005, p. 52), “if you wish to understand why professions develop as they do, study their nurseries, in this case, their forms of professional preparation.”

For the most part, the professional preparation of architects is undertaken in a university setting, where it is subject to an array of rules and regulations, a means of ensuring confidence and quality in the educational processes leading to licensure. These codified boundaries have been criticised as promoting and reinforcing a status quo approach, producing graduates largely fit for existing practice (Milliner, 2000). This presents as a paradox in a transition to a zero-carbon future. While the consequences of doing nothing are known, any necessary changes create a daunting level of unknown-ness, with a consequential retreat into comfort zones thereby frustrating change (Randall, 2009). This is not helped by the reality that professional bodies, as key organisational stakeholders, are yet to provide clear direction of how professionals (or schools of architecture) could address climate change (Afroz, 2020). The lack of direction has ensured the persistence of status quo approaches, placing the impetus for change squarely on academic institutions, or specifically on

the shoulders of individual academics willing to take on this risk. Nowhere is this more important than in the Global South, where the value of this leadership is critical in instigating and steering any transformation.

In the *Buildings & Cities* special issue "[Education and Training: Mainstreaming Zero Carbon](#)", Stevenson and Kwok (2020) lament the lack of representation of papers from the Global South. However, this should not be viewed as a lack of activities, with scholars having to prioritise engagements, a consequence of challenges that cannot be addressed here. The example of the Faculty of the Built Environment at Uganda Martyrs University (UMU) shows how leadership can transform an architectural programme to address sustainability and climate change. This transformation was largely derived from personal convictions that architectural education must go beyond its current professional mandate, to engage with broader responsibilities to society and the environment. In the context of East Africa, this challenge was two-fold. First, building awareness of the need to incorporate sustainability into architectural education, where it had not been considered. Second, building capacity to ensure staff and students could participate as part of a community of practice (Morton, 2012; Simpson, Janda, & Owen, 2020). UMU was in a fortunate position as pedagogical approaches in its school of architecture (founded in 2000) had not yet become entrenched.

Transforming architectural education

The transformation of UMU's architecture programme started in 2006 with an attempt to centre sustainability within the programme. This saw the development of a new programme sequence incorporating a Bachelor of Environmental Design (B.Envi.Des.) and Master of Architecture (M.Arch.) (Olweny, 2018). The goal was to integrate sustainability into all levels of the architecture curriculum. The undergraduate programme was redesigned to ensure students were adequately equipped with knowledge and skills to contribute to championing sustainability (even without completing the architecture professional degree). The Master of Architecture course was redesigned to ensure this next generation of architects would emerge as leaders in the field of sustainability and environmental design, premised on the notion that architectural education should induce "qualitative change" (Orr & Gao, 2011).

The challenges of the transformation process were immense: at the time, only two members of staff had experience in sustainability or environmental design, while none had any formal qualifications in higher education pedagogy. Most of the existing teaching approaches and content had been derived from the instructors' own educational experiences. In many cases this presented education as the mere transmission of preconceived and pre-digested knowledge. Therefore, it was necessary to address the capabilities of educators, reflecting on pedagogical approaches, sources of knowledge content, and assessment strategies among other things.

Changes to the programme were radical, involving significant pedagogical reforms. There was a shift from individual subject silos to an integrated model of teaching and learning, an approach also presented by Passe (2020). A new emphasis was also placed on the importance and value of teamwork and collaboration as a means to deliver sustainable projects. This brought together studio and theory components which previously had not connected various knowledge domains with architectural design.

Several hurdles existed in seeking to break from the status quo. Some students regarded the integrated program with suspicion as it had fewer lectures. Instead, students had to demonstrate learning in tutorials. Despite the provision of workshops to help staff with the transition, some were unwilling to adopt the new teaching approaches. Finally, although the programme exceeded existing validation requirements, the professional body presented numerous hurdles to the licensure of UMU's graduating students.

To date, UMU's programme is still the only split programme in Uganda. Its value is demonstrated by a growing demand for mid-level professionals who are conversant with sustainable design principles. Close to two decades since the changes were rolled out, there is a noticeable increase in interest in sustainable architecture, from client organisations, practice, and prospective students. This suggests two things. First, out of necessity, transformation cannot be easily delivered as a top-down approach given the long lead in times for legislative and regulatory change. Second, changes to regulations can only be driven by knowledgeable individuals able to initiate changes to rules and regulations. This requires the nurturing of expertise within schools of architecture, which in turn helps educate individuals who can then champion change at national and regional level, which reflects what Simpson et al. (2020) describe as a "middle-out perspective".



Figure 1: A

Manifesto for Climate Responsive Design The involvement of UMU staff and graduates was paramount in developing sustainability in architectural education and practice. For example, this allowed engagement in the UN-Habitat project - [Energy Efficiency in Buildings in East Africa \(EEBEA\)](#) and the Enabel Uganda project Teacher Training Education (TTE). The Machakos Declaration for Sustainability in Architectural Education (UN-Habitat, 2016) emerged from the EEBEA project. This declaration compels schools of architecture across East Africa (Kenya, Rwanda, Tanzania and Uganda) to commit to incorporating sustainability into their respective curricula. The project was also instrumental in ensuring sustainability principles were incorporated into local building codes. The Enabel Uganda project, compelled practices to develop sustainable designs for teacher training colleges around Uganda. It culminated in the publication of [A Manifesto for Climate Responsive Design](#), showcasing regional projects (Figure 1) and demonstrating the possibilities for transitions toward sustainability construction in the region (Clegg & Sandeman, 2019). Among the ten principles is *Principle 10: “Avoid the pitfalls of the industrialised world”*, highlighting the value and importance of local responses to engaging with sustainability and the drive for contextual zero-carbon solutions.

Conclusion

The changes implemented at UMU were only possible due to staff dedication and stamina to endure intense criticism for daring to think differently. The transformation of the programme was made possible by a steadfast commitment to change. There is no doubt seeking to implement such changes in an established school would be much more difficult, a consequence of entrenched attitudes and approaches. Another threat is a lack of continuity after a new approach is implemented. This can only be addressed by adequate succession planning – often not a priority for university administrations, a wicked problem affecting universities across the globe (Marco, 2020). While UMU did buffer itself against this in the short term, internal and external threats remain, which could adversely affect continued development and engagement with sustainable architecture.

Although there is still hope that there will be some directives from professional bodies to mandate higher educational standards and additional competences for entry to the profession, this is unlikely in the short term. Therefore, in the short term, change will be driven by individuals embracing an ethical agenda for an educational curriculum. This will ensure students are able to address both present and future challenges. Rules, regulations and policies will (eventually) change, but not without a critical mass of knowledgeable individuals who can effect and implement it.

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