

## **Preparing students for the sustainability challenges of an increasingly urbanizing world: some reflections**

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In September 2015 the governments of the world signed up to a set of *Sustainable Development Goals* that acknowledged the importance of both human settlements and education that are directly relevant to planning. These goals are the latest step in attempts to address a global set of interlocking social, economic and environmental problems. Climate change, for example, will have a disproportionate impact on the poor, undermine prosperity, and degrade the ecosystems on which societies depend. Such problems are particularly important for urban areas as they host the majority of the world's population, are the main centres of economic activity, and generate large ecological footprints. Transforming urban areas into more sustainable and resilient forms should therefore be a major priority for governments. This transformation entails not only the modification of the bio-physical dimensions of the built environment, but also requires changes to its socio-economic systems. Planners have a crucial role to play as the key agents of urban change. The challenge for universities is therefore how to prepare students to fulfil this role when they graduate and start to work as planners. This paper addresses this educational challenge by reviewing the use of cutting edge pedagogy that is supported by on-line technology and innovative approaches to interdisciplinary teaching. The overall approach is one of critical reflection of the teaching practices that have been trialled and developed by the author over many years. Both theoretical and empirical analyses are utilised to support the underlying argument that integrating a practical understanding of sustainability into university planning curriculums is essential.

The paper begins with a brief history of sustainability and an explanation of how it seeks to address social, economic and environmental problems. This includes an analysis of the role of planners and planning education in striving for this goal. The analysis develops from the UN Stockholm Conference on the Human Environment (1972), through the International Environmental Education Programme (IEEP) Tbilisi conference (1977), the World Commission on Environment and Development (1983-87), the Rio Earth Summit's *Agenda 21* (1992), and the UN's *Decade of Education for Sustainable Development* (2005-14), to the *Sustainable Development Goals* (2015). A case study is then introduced based on the experience of planning and sustainability programs at Griffith University. This includes an examination of the creation and implementation of several sustainability courses that have been taken by students of planning and the built environment over the last decade. At the centre of this case study is a detailed analysis of a relatively new first year course in sustainability that is taken by all planning students, as well as those studying architecture, environmental science, engineering, and other disciplines. This course is unique in its blend of problem-based learning, the development of interdisciplinary perspectives, and the increasing use of on-line tools as a way to improve both engagement with students and flexibility in the courses delivery. The case study uses surveys of student responses to this course and how they have changed over time. It also looks at the expansion of this pedagogical approach to the whole university via the development of an on-line *Sustainability Hub* that can now be used as a resource by students and staff in any school, on any campus, at any time.

The results of this study are informative. First, it was found that students need to understand the importance of sustainability, how it relates directly to their chosen profession, and how it will affect what they will actually be doing when they graduate. Second, it was found that adopting a practical problem solving approach in workshops facilitated the development of an interdisciplinary perspective. Third, it was found that treating sustainability as a design challenge worked better than approaching it as an ethical issue, especially when dealing with planning and built environment students. The theoretical framework of strong ecological modernisation (EM) is used in this paper to interpret these results. Strong EM was chosen as it underpins the concept of

sustainability, offers a strategic pathway for making the necessary transformations, and treats sustainability as a design challenge. It is also one of the theoretical frameworks introduced to the students who take the first year sustainability course. Using this framework it is argued that planners can act as agents of change to improve sustainability of urban areas by facilitating the necessary technological change, engaging with key economic imperatives, assisting in political and institutional change, reinvigorating the role of social movements, and influencing the public discourse.