

Guest Editorial

A Need for Fluency across Boundaries

Dr Andrea Frank

CEBE Subject Co-ordinator for Planning; Lecturer

School of City and Regional Planning, Cardiff University

Email: FrankA@Cardiff.ac.uk

Introduction

Standard definitions of a *university* as for example “an institution of higher learning providing facilities for teaching and research and authorized to grant academic degrees,” (Merriam-Webster Online, 2005) reveal little of the underlying complexities that characterise a university’s working and learning environment. In fact, universities incorporate a multiplicity of different roles and aims aside from teaching and research. Findings are nowadays regularly turned into innovative products and services by spin-off enterprises and business incubators linked to universities. Through this and as major employers, they contribute significantly to the economic growth and wellbeing of their host regions. Universities are also stewards of cultural heritage through their libraries and museums and their staff act as mentors to generations of students entering a broad range of professions. Finally, in providing spaces for learning and thought development, universities are important agents of societal transformation on a large scale.

Universities as places for study and education have persisted as organisations for around a millennium¹, albeit with notable changes in institutional nature, goals, outlook, format and philosophy. The early scholastic colleges and liberal arts schools of the middle ages, such as the University of Bologna, where students hired their own professors in a quite literal sense, were rather different from the great European humanist institutions and scientific research laboratories of the 19th and 20th century. And, at the turn of the 21st century, there is a notion that we are at the verge of another significant overhaul of the nature and purpose of universities. As in the past, change is driven by a combination of economic factors and societal needs.

Several key issues form the core of the present debate about the future of universities, the most prominent being finances, perhaps. How will universities be paid for in the future? Government grants based on taxes are diminishing and have become insufficient in paying for salaries and institutional upkeep. Increasing student fees as a means to raise income remains a controversial strategy in light of government goals to further increase student

¹ Most sources quote Al-Azhar University in Egypt (founded ca. 969 AD) as the world’s oldest university; others however claim that Takshashila University in India predates Al-Azhar by around 1700 years.

numbers and widen access. Gifts and generous donations of individual benefactors (e.g., Bill & Melinda Gates, or William Cavendish endowing the Cambridge Cavendish Laboratory) are gaining increasing importance and have led in some instances to the renaming of buildings and schools. Industry contributions to higher education represent an alternative and welcome source of income, yet, institutions are wary of the price of too much direct industry involvement. Interference in the form of well-known demands by industry for more skills-focused professional training of students and applied rather than basic research, raises fears of a potential loss of academic freedom and institutional independence. Although politicians, government ministers, university provosts, industry, academics and students all have their ideas and ideals of what universities should provide for society as a whole and/or for them as individuals, there is not necessarily congruence in expectations. Amidst the public funding crisis and conflicting signals from government policies, institutions are left to search for and develop their own strategies for survival and success, in competition with fellow universities at national and international levels.

The uncertain external conditions and future of the higher education sector naturally impact on the working conditions of its employees and perhaps even the effectiveness of institutions themselves. McLernon and Hughes' essay (Transactions, this issue) critically examines dissonances, tensions and disharmony centred around the different pull-factors of the research and teaching missions of the modern (UK) higher education system from the point of view of two academic staff members. Blaming in part the financial reward system under which universities operate, the authors argue that while industry and students view universities as providers of education, training and professional degrees, teachers are largely promoted based on research activities. Job advertisements in Higher Education resonate the conflict: while titles such as lecturer and reader suggest teaching duties, applicants are routinely chosen based on their research profiles. The institutions select individuals who may be able to fulfil their perceived priority goals, yet McLernon and Hughes ask whether society (students, industry and employers) are short changed by this University system and if there is a need for a re-focusing of the core objectives of UK Universities.

Certainly it would be simpler and easier to organise institutional futures when universities had more clear-cut missions (e.g. focusing solely on skills-provision and student development) or at least ones that lead to unidirectional reward structures and objectives. Yet, browsing through the discourse on the future of the university – one suspects that it is the complexity, diversity and perhaps the contradictions within the university environment that make it so valuable, stimulate creativity and lead to new approaches and thinking, as we strive to reconcile and solve the problems the structure imposes on us as academics. Indeed, Duderstadt (2003) suggests that 21st century science is marked by increasing complexity that frequently overwhelms the reductionist approach of traditional disciplines. He sides with Wilson (1998) that in order to progress knowledge, we have to (learn to) work truly across the boundaries of disciplines, often in teams located in different geographic locations.

Many academics are quite enthusiastic about their research, and students continue to tell us that they enjoy enthusiastic teachers which bring “knowledge to life” (see “What Do student Value in Built Environment Education?” this issue). Perhaps we have to learn not only to be

fluent across disciplinary but also across research and teaching boundaries? Using the university environments of laboratories, studios or even professional practices as spaces for learning and discovery may represent a return of sorts to one of the essential principles of the modern university as expressed by John H Cardinal Newman some 150 years² ago that may hold the key to the future of the university: the building of knowledge at the intersection of paradigms through personal interaction.

This issue of Transactions showcases examples of teaching and learning that seek to benefit and advance knowledge by crossing boundaries between cultures, disciplines, and research and teaching. The modules and teaching innovations are articulate responses reconciling conflicting demands by academics working in a challenging environment (although admittedly these colleagues may not view it in this way). They offer rich, interactive learning environments that are sometimes strongly linked to their creator's research insights and interests. Learning is achieved not by studying books or listening to lectures – but by discourse, inquiry and dialogue – “the collision of mind with mind, and knowledge with knowledge” (J H Cardinal Newman, 1906).

A case in point is Antonia Walker's module on Land-scape where students from different disciplines explore characteristics of landscape through different media and *group discussion*. Each week they cross boundaries seeking out different perspectives and different media and techniques addressing the question of 'whether we utilise the trans-disciplinary knowledge held within landscape if we approach it as a subject we can learn from, rather than a subject we teach?'

The contributions by Crow, and Abrams and Booth address the teaching and learning of cross-cultural comparison of planning systems. It is a difficult subject prone to superficiality. Although, quite different in their approaches both papers offer effective strategies to stimulating deep learning and reflection by students. Again, the innovations were partly triggered by personal experience and deep seated interest. Crow himself was involved in advising another country on the modernisation of a planning system and the module on comparative Planning Systems that is the subject of his paper replicates such an experience for a 'virtual country'. By contrast, Abrams and Booth opted for a methodological detour using problem-based learning exercises to hone critical thinking skills as a precursor to the actual comparative assignment. The exercises foster reflection as students have to decide themselves what they need and want to learn rather than being told what is necessary.

Although intellectually challenging in the tradition of the best university education, the teaching innovations presented also offer opportunities to acquire and practice new skills relevant to professional practice. Jack Dunne's Remote Design Studio collaboration gives students an opportunity to experience and explore video-conferencing and learn how to collaborate across geographical boundaries and time zones while working on a joint project. As the author highlights, skills of this kind are becoming increasingly important in an ever more globalising market and economy.

² See 'The idea of a University' online: <http://www.newmanreader.org/works/idea/>

Finally, the “Pasta a la Corbusier” paper by Grunau and Kieferle shows how much we can learn about our own field by venturing into other fields. It is an ingeniously unconventional way to force students to explore the thought processes and motivation of professionals in their field and relate them to a procedural theory. At the same time, the module leaders can pursue personal research interests exploring their ideas about transferability, comparing the impact of the teaching on students in different institutional contexts etc. And they involve the public and practitioners, letting them partake, contribute and benefit from the experience while alleviating the isolation of the university from society.

It has often been contended that cutting edge research is virtually impossible to translate into quality teaching experiences (particularly at the undergraduate level) and that therefore a strong research focus is detrimental to delivering high quality education and skills training. Looking at the inspiring teaching experiences collated in this issue one may hope that with creativity and a will to experiment, more may be achieved that initially thought possible. The selection of papers display a refreshing amount of progress and innovation in teaching. I would claim – that academics manage to reconcile (consciously or subconsciously) some of the conflicts they face with considerable success. It is the ingenuity of academics in combining different strands of their own interest and research to inspire their teaching that is the celebrated in this issue of Transactions. And it is this kind of creative teaching and learning at the intersections of knowledge discovery and dissemination, disciplines and cultures that will – one would hope – ensure a continued valuation of and future for universities and higher education.

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