

Promoting Interdisciplinarity in Europe: The Role of University Leadership

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The Changing Nature of Research

Earlier this year the 3rd annual meeting of the Global Research Council (GRC) was held in Beijing. The resulting Statement of Principles for shaping the future focuses on the overall priority of supporting the next generation of researchers, including thinking about the appropriate skills and competences needed, about ways to promote socially responsible research and on how research will contribute to and be transformed by a shifting social, economic, political and environmental global context. Further development of support to interdisciplinary research is considered one of the main ways in which these objectives can be reached. Similarly, at the European level the new EU funding programme 2014–2020 (Horizon 2020), with a focus on excellent science, industrial leadership and global societal challenges, also attaches greater importance than in the past to promoting interdisciplinarity, as do many National Research Councils in Europe.

This new context also impacts the way in which knowledge is produced and disseminated, and encourages the shifts in knowledge production from “mode 1 to mode 2” described by Gibbons, Nowotny, et al. already in 1994 (*The New Production of Knowledge, The Dynamics of Science and Research in Contemporary Societies*) which involves changes in the way in which research is conducted from academically- to contextually-driven, from investigator-initiated to end-user-focused, and from mono-disciplinarity to inter-disciplinarity.

The Modernisation of Universities

In response to global challenges and greater competition, European university systems and universities have gone through massive change in the last 10 years. At the system level this includes mergers and other forms of institutional consolidation that often seek to improve critical mass in research and innovation and increase capacity for interdisciplinary thinking. One prominent example is the merger of three very different Helsinki universities: the University of Art and Design, the University of Economics, and the University of Science and Technology, into what has become Aalto University.

Over this period European universities have also been granted greater autonomy and in return have been encouraged to reflect on their role and review their mission, their delivery and management in response to the demands of knowledge societies and economies. There is a greater focus on innovation and on universities’ capacity to react quickly and efficiently to the demands placed on them by society. These changes have also meant rethinking internal structures building up new management and decision-making structures and reconsidering career and reward systems to support interdisciplinarity and mode 2 research.

The challenges of promoting and ultimately embedding interdisciplinary approaches at the institutional level are multiple, be it lack of adequate infrastructures in the broadest sense, such as the silo organisation of departments, the content of curricula at the bachelor's, master's, and doctoral levels, the content of textbooks, the organisation of professorships, the mono-disciplinary focus of high-impact journals, etc., as well as scepticism and resistance from the academic establishment or the fact that the majority of scholars have backgrounds in a single discipline.

At the same time, looking forward, strengthening interdisciplinary approaches will be crucial for addressing ever more complex research questions and for the future careers of doctoral candidates and young researchers, whether they remain in academia or for the majority who will either pursue research careers in companies or take up high level careers in the public and private sectors.

The Role of Leadership: Examples of the type of initiatives being developed in European universities

Reconsidering institutional mission, strategies and policies – for example further differentiating institutional missions to include commitment to local/regional community engagement or addressing societal challenges. Recruitment policies may also need to be adapted, career paths identified and specific research assessment criteria developed for researchers working in an interdisciplinary or multidisciplinary context, not to forget opportunities for inter-institutional cooperation.

Promoting structures and processes that support interdisciplinary work – and that can also help shape “institutional cultures” e.g., large multidisciplinary schools or joint doctoral training centres, even if interdisciplinary work always remains challenging and requires a strong human interface.

Emphasising the importance of “communication” – interdisciplinary work needs a special form of communication, based on the ability to communicate beyond the boundaries of one's own field, to try to understand more than one field and also develop the ability to communicate between fields and to explain scientific work to a larger academic public.

Providing incentive funding – while it is often still difficult to fund interdisciplinary research and a lack of reviewers is a further challenge (given that disciplinary reviewers may tend to assess harshly due to a mismatch of expectations on depth and breadth of theory and methods), there are many examples of universities that have developed internal funding mechanisms that promote interdisciplinary approaches:

Using national targeted funding initiatives – such as Germany's “Excellence Initiative” or the French “Idex.”

The Importance of Research Training and the Key Role of Doctoral Schools

Doctoral schools and other structured doctoral programmes now exist in one form or another in all European universities. This has been one of the most significant developments in European higher education in the last decade. These structures take various forms but in general play

a crucial role in promoting interdisciplinarity. Many are, indeed, interdisciplinary in scope, organised on a broad faculty basis, facilitating dialogue between disciplines, opportunities for students to work in cross disciplinary teams and in common projects and encouraging national and international exchange.

Concluding Remarks and Open Questions

While universities and research funders are increasingly aware of the importance of promoting interdisciplinary research there are many open questions both at institutional level, and specifically related to doctoral education where concerns include the extent to which interdisciplinary doctoral projects attain the necessary depth, whether there is enough time and whether interdisciplinary approaches need to be introduced well before the doctoral cycle. Discussion also continues on the role of the supervisor who must be willing to work out of their comfort zones and the extent to which different supervisors are able to “talk” to one another, or who is in the lead. There are also questions about the recognition of such degrees by government bodies and in the labour market. Among the broader institution-wide issues that need to be addressed, questions of funding, structures, recruitments, research assessments and peer review are paramount. Last but not least, there are the invisible barriers around different disciplinary cultures and questions of parity of esteem. Overcoming these obstacles, and creating an institutional culture that will be supportive of and value interdisciplinarity requires purposeful leadership at different levels, adequate structures and processes and the appropriate financial incentives.