

The Organisational Determination of the Teaching and Research Nexus

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Research and Teaching: closing the divide?

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1. Introduction

In most European countries there is a widely shared view that teaching and research are mutually reinforcing: good university teaching, the argument goes, can only be undertaken by active researchers, and research activity is strengthened through interactions between the researcher and students, particularly at the postgraduate level. This view is posited on the premise that the abilities underlying good teaching and those underlying good research are similar.

Increasingly the basic argument that teaching and research are combined activities is no longer taken for granted: the competencies needed to excel in teaching do not necessarily coincide with those needed for research. The critique comes from different directions, such as postmodernist viewpoints on the nature of higher learning, from the new public management and from empirical research. The critique is fierce: research and teaching do not represent aspects of a single dimension but are dysfunctional in its consequences, competitive and even contradictory. It is argued that conditions force institutions and faculties to develop stronger divides between those who teach and those who research. Empirical research does not find a relationship between research productivity and teaching effectiveness (Marsh & Hattie, 2002). On more theoretical grounds Barnett (1990) for example formulates

several theses on the basis of which the two activities call for separate sets of accomplishments. It is interesting to note that this debate has a longer tradition in the UK, for example in the last volume of the Leverhulme programme where Blackstone and Williams (1983) present an actual and critical exposé of the claims of the complementarity between teaching and research.

These debates are very instructive for continental European countries where the belief that teaching and research are complimentary academic activities is deeply rooted. However, certain movements can be noted which may shed a new light on the nexus. Even in Germany, the cradle of the Humboldtian ideal, questions arise about the professional role of academics whereby their teaching would be closely intertwined with and directly based upon their ongoing research. With the slogan ‘Good bye Humboldt’, Dierkse & Merkens (2004) argue why it is time to abandon this ideal.

This paper intends to sketch some developments in national HE systems with regard to the teaching and research linkage. Is there a divide and is this divide becoming larger? Or are there policy trends posing the nexus in a new light? The emphasis is on the academic profession and the organisational determination of the mix of the two primary tasks, research and teaching. This organisation is, as Clark notes, crucial in the shaping of the profession. ‘That mix comes close to determining everything else about academic life’ (Clark, 1987).

First some pressure will be sketched which will be leading towards a further divide. Next, institutional models will be discussed as well as the question whether an organisational divide will also entail a further widening of research and teaching. Finally, some initiatives will be touched upon which can be considered as conditions for a re-establishment of the connection.

This analysis is based on the findings of the European project: ‘The Attractiveness of the Academic Workplace in Europe’ which consists of a compilation of country reports on the changing conditions of academic staff in Europe (Enders & De Weert, 2004).

2. Pressures

Currently there are some trends in higher education policy which affect the relationship between teaching and research. These trends can be summarised as follows.

First, financial support for research is being increasingly separated from that intended for teaching. In the UK the dual-support system has been abandoned to separate the allocation of funds for research and teaching, making research expenditure more identifiable. Other countries tend to follow this line whereby research is becoming more targeted on scientific priorities and its societal relevance is increasingly viewed as an allocation criterion. Ministers have continuously attempted to take research money away from universities and transfer this to the research councils which would be able to distribute the grants more selectively. In some countries the academic estate has been able to resist this, but it seems a question of time that the balance between block and grant funding for research will shift towards the latter.

Secondly, national research priorities have changed the research infrastructure such as the establishment of separate research organisations, centres of excellence, and a growing number of graduate schools. All these lead to a concentration of research and efforts to locate 'best science' away from the demand for a uniform distribution of resources. Strategic research, competition, commercialisation, and valorisation of research results are the concepts in the current discourse of science policies. This shift is reinforced by the positioning of university research in a growing European Research Area: cross-national research funding, priorities in the context of 5th and 6th framework programme of the EU, the debate on a European Research Foundation. All this means that research will be more concentrated and more competitive on an international scale, stimulating the creation of large research alliances and research networks.

Thirdly, new university governance structures have been implemented which transform the traditional task-oriented organisation, in which academics have a large amount of professional autonomy, towards a market-type of organisation with emphasis on managerial aspects of teaching and research work processes. For example, the new governance structure for Dutch universities assigns deans

managerial responsibility who delegate further responsibilities to directors for the organisation of the curriculum and directors with responsibility for the organisation of research. Such a structure puts pressure on the academe as a professional work community and constrains – at least formally – its traditional freedom regarding research and teaching. First evaluations of the effects of this new governance structure indicate that the teaching research nexus is under pressure.

Fourthly, the two-cycle structure of bachelor and master which is now being implemented throughout Europe tends to create a divide between teaching at the undergraduate level and research training in the masters programme. Moreover, the masters will be distinguished between the 'research master' and the 'professional master'. The latter form does not contain much research training, and concentrates on the professional qualifications of the graduates on the labour market (dividing research and teaching). There are good reasons to assume that students in the professional master might be better taught by teachers who do not have academic research as their main priority.

These trends intend to make the research system more 'dynamic' in the sense of meeting national priorities, to distinguish universities according to quality assessments, and to locate 'best science' away from the demand for a uniform distribution of resources. In continental Europe where equalitarian principles are deeply rooted, initiatives have been taken to classify institutions according to their research quality. Also on a European scale, a 'League of European Research Universities' has been established in 2002, a coalition of some European universities with the aim to position themselves as the best universities and to enhance the research capacity of the participating top universities.

3. Institutional models

These trends clearly affect the teaching research nexus and there is increasingly debate in European countries what institutional frameworks would guarantee high quality teaching and research. Broadly, four major models can be distinguished, related to different national traditions.

- (1) *Integrated systems*: Germany, Italy, Austria. The classical Humboldtian model ideal aims to bring teaching and research under a single umbrella coupled with the pedagogical principle of the unity of teaching, studying, and research. This model assumes a symbiotic linkage of teaching, training for research, and research itself, implying that each academic should be involved in research. Moreover, students are not just learning, but do research themselves, supported by the professor, an assumption which given the massification of higher education has appeared to be an impossible ideal. Although in Germany scientific research has also been located outside the system where institutes funded under the Max Planck umbrella have become significant points of scientific concentration, university research continues to maintain its legitimacy by the integration of research and teaching.
- (2) *Concentration of research in a separate set of research institutes*. The classical example is France, where research has a separate institutional setting outside the universities, in such organised domains as the very large and complex National Centre for Scientific Research (CNRS). The status, recruitment policies, career trajectories of researchers are different from those of the university faculty members, one of the main differences being that the former have no compulsory teaching obligations. However, although institutionally separate with different control mechanisms, universities and research institutions do not constitute separate worlds given the continuous interactions between research staff and faculty members, and the affiliations between university units and CNRS.
- (3) *Institutional differentiation*. This can be found in the Anglo-Saxon tradition where higher education institutions are more diversified, more competitive and more stratified. Although the classification of HE institutions is not solely restricted along the teaching and research divide, the variation in commitment to research is a major element. In the USA the leading universities, increasingly known as ‘research universities’ are large concentrations of research activities especially in graduate education, combining systematic instruction with participation in the ongoing research of academics. In contrast, other institutions have virtually no resources for scientific research. Also in European systems with a binary structure (Germany, the Netherlands) non-university institutions are the real ‘teaching institutions’. Contrary to the former British polytechnics, these institutions are to date not eligible for research funding and their research task is very limited.

(4) *Separation of teaching and research within universities.* Some universities have organised their research in institutes and their education in schools (similar to the US system). For example, the faculty-institutes-model distinguishes faculty organisations for the teaching and institutes for the research. Deans are responsible for the teaching in faculties and the scientific directors for the research that takes place in institutes. The academic staff constitute part of the faculties but are involved in both teaching and research. The University of Twente (the Netherlands) that has a concentration on engineering subjects has adopted this model of schools and institutes, one argument being that distinctive research profiles can be developed that are no longer so dependent on the arrangement of their teaching faculties.

All these organisational settings contain inherent tensions with regard to the teaching–research nexus. An intriguing question is what the effect of a particular organisational model is on research and teaching and their interrelationship. Would an organisational separation be a sign of separated domains? Is an integrated model the best guarantee for an optimal relationship? At first sight it seems that an organisational separation weakens the unity of teaching and research and that an integrated organisational model would be the best guarantee that both tasks will be fulfilled simultaneously. Clark for example notes, that for the US a widening gulf has opened between two parts of the academic profession: the more prestigious upper part, who have to prove they are producing knowledge; and the less professionalised lower part of the faculty who are committed to teachable undergraduate materials (Clark, 1987).

However an integrated model does not necessarily guarantee an optimal relationship and may have dysfunctional consequences. The Carnegie International Survey of the academic profession revealed that among European university professors, surprisingly, the Germans emphasised teaching more than research compared to the Swedish, English and Dutch university professors. German university professors spent more time than their colleagues of the other countries on teaching and indicated more often preference for teaching. Moreover, the number of German university professors not involved in research projects was higher than that of their European colleagues (Teichler, 1996), a finding which is quite surprising given the fact that all professors in the German system are charged with teaching and research tasks.

Although the author refuses to see the increased student numbers as an cause, he does not give any further explanation.

Schimank and Winner (2001) have pointed out that since the 1970s when the numbers of students in Germany have increased without a corresponding increase in personnel and financial resources, the integrated model entails the danger that teaching displaces research. When organisational units and resources are not differentiated according to both tasks, there is no mechanism which prevents that more work load and resources is claimed by the teaching task at the cost of research. When this process continues over the years and research becomes 'marginalised', there is from the perspective of science policy a tendency to take research away from universities and to subsume it under a separate research institute. Although the establishment and financing of separate research institutes in Germany had primary other reasons, it provided the possibility to safeguard important research fields which were in danger of being curtailed by increased teaching loads. In other words, the integrated system of teaching and research implies besides the danger of a marginalisation of university research also the danger of a removal of research from the universities (Schimank and Winner (2001).

4. Re-establishment of the research and teaching nexus?

Given the fact that there are is no ideal organisational form, and given the fact that the teaching research nexus has both contradictory as well as complementary aspects, some initiatives will be discussed in the sphere of staff policies which can be viewed as attempts to bridge the teaching and research connection.

Cross-fertilisation

In the French model of the organisational separation of teaching and research, there is a movement in which research institutions and universities increasingly become 'associated'. Research centres with the label 'mixed research units ' (UMR) mean that they are a recognised part of a university as well as part of CNRS. It is observed that 60 percent of the faculty staff and 40 percent of the CNRS researchers belong to mixed units. Such agreements enhance relationships and work in common among

researchers and faculty members. In addition researchers are encouraged to give seminars (mostly at the graduate level, but not limited to this) and advise doctoral students (Musselin, 2004).

Similarly, the establishment of the 'faculty – research institutes model' discussed before does not automatically imply that the link between teaching and research will decrease. This might even be strengthened. In the model each individual staff member who is working in the research institute is in principle also charged with teaching tasks. All staff members are belonging to the faculty which is a build-in mechanism to assure that individual staff members cannot solely base their workload on their research obligations. Especially in the master phase characterised by specialisation and in-depth study the relationship between teaching and research is expected to be strengthened.

New systems of job ranking

In some European countries (Scandinavia, Belgium, the Netherlands) the standard model for academics of 40 percent teaching and 40 percent research (and 20 percent administration) has been replaced by staffing models which allow for more freedom in the relative proportion of these task components for each individual academic. Teaching and research tasks may exist in different proportions in the responsibilities of academics and in the workload of individual members. It is possible for an individual to concentrate on either teaching or research, mostly for the duration of a previously arranged period. Such a more flexible approach is not equated with the so-called 'teaching-only' and 'research-only' staff. Rather, through a system of functional differentiation specific competencies can become manifest whereby the research performance is not the all-determining factor in a career path.¹

For example, the Dutch higher education currently experiences the implementation of a new system of job ranking. The aim of this system is to make explicit the various roles, tasks, and responsibilities that have to be carried out to achieve specific results. Individual development plans become possible in which different staff roles are to be acknowledged, both vertically, but also horizontally on the same ranks. Individual

¹ The German Science Council has also proposed a differentiation of teaching and research professors depending on the actual appraisal of individual performances and on future individual plans. Such

staff members can apply for specific roles on the basis of an assessment of their qualifications, for example to be more involved in either teaching or research. There is a flexible ranking order of functions. Teaching activities are classified in four specified tasks such as teaching, curricular development, participating in project groups, and evaluation. Research activities consist of co-ordination, acquisition of contract research, participating in research working groups and committees.

Is this new job ranking scheme considered a further step of the teaching – research divide? Or would it have no effect on this relationship? This depends on the extent to which functional levels within teaching and research are demarcated or are more intertwined. Actually, it is designed to function as a basis for advanced personnel management instruments such as assessments (on the basis of output and on the basis of competencies), personal development plans and distinctive career paths. If academics are assigned in a particular profile, it becomes clear what the expectations are, how they can flow through the various profiles (horizontal and vertical mobility), what competencies are required for further academic career development.

The job ranking distinguishes two levels for the professoriate, a starting and an advanced level with a combination of teaching and research tasks. The traditionally combined teaching and research tasks are assessed in a higher scale than the teaching-only and research-only staff. Thus, although there is a flexible ranking order of functions (an academic can reach a higher rank on the basis of teaching qualifications), the system reinforces the combination of teaching and research qualifications and can be seen as a replacement of the traditional view that a good researcher is almost automatically assessed to be a good teacher. Teaching and research are connected in this model, but it distinguishes separate career tracks for academic staff, giving equal value to excellence in teaching and in research (and more generally in academic scholarship). In other words, high-level achievements in research does no longer serve as a sufficient criterion for academic excellence.

proposals have met, not surprisingly, strong opposition from the German professoriate (Schimank & Winnes, 2001).

New staff ranks in the non-university sector

New staff ranks have been established, such as the ‘lectorate’ in Dutch non-university HE sector. The lectorate, not to be associated with the traditional rank of lecturer or reader at British universities, is a high-qualified profile with much expertise in the subject field and in the professional domain. Lectors are charged with tasks in the sphere of applied research and development exempting them from heavy teaching loads.

The leading idea is that lectors will not be appointed as isolated staff members, but as leaders of a so-called ‘knowledge circle’ consisting of a group of 10-15 teachers. The knowledge circle aims to enhance contacts and knowledge exchange with industry (for example in the field of applied and developmental research, and consultancy). Through such a circle the lector plays a crucial role as the ‘external face’ to strengthen the linkages between HE institutions and industry and other organisations in a particular subject field. Lectors are expected to acquire research contracts from outside and to develop well-functioning professional networks. A considerable number of lectors have been appointed and this will increase substantially in the next few years when about half of all teaching staff will belong to some knowledge circle.

The rank of lector is to be conceived as a bridge between research and teaching in that:

- It assumes the form of a traditional ‘chair’ the holder of which plays a leading role by involving other staff members who are no longer just teaching the standard canon, but are involved in research activities.
- Research activities are expected to be beneficial to the teaching process and to the innovation of the curriculum; students will be involved through project work and the like.
- Earmarked funding whereby an external agency awards applications by institutions to install a lectorate. This separation of funds assures that the activities emanating from the knowledge circle are formally recognised and may prevent their erosion in case the teaching demand increases.

The establishment of the lectorate is a move away from a ‘teaching only’ type of institution since it encompasses a broader conception in which applied research, consultancy, and knowledge circulation between business and education are formally

recognised. Without earmarked funding these institutions would get lost in the research quality assessments, similarly to the British former polytechnics which were lacking resources to compete with universities in research. This earmarked research funding (which also takes place in the Belgium non-university sector) is a manifestation of the process of ‘academic drift’ as these institutions are assigned an applied research task. The boundaries with university research will be blurring, especially in the context of applied and transdisciplinary research (mode 2 type of knowledge production, Gibbons et al, 1994).

5. Towards a broader and more diverse academic profession

We are witnessing a reshaping of the teaching and research nexus that at first sight seems a further division between the two, for example the designation of teaching-only and research-only staff (Coaldrake & Stedman, 1999). However, these movements may as well contain a challenge to re-establish the connection in a way that can both avoid its dysfunctional aspects, and at the same time stress where these can be complementary. Rather than stick to a rigid concept of the research –teaching connection and to take this connection for granted, new initiatives consider where and how research can be beneficial for the educational purposes of HE institutions. New initiatives attach teaching qualifications a distinctive role in the career pattern of academics and move away from the general notion about staff’s professional identities being a function of their research identities.

This is more pronounced in the UK where policies are oriented to reward excellence in teaching and the establishment of a professional body like the ILT. In other countries there is increasingly attention for the quality of teaching, as expressed in career policies giving an equal emphasis on teaching and research. Teaching as a profession is more than referring to the research capabilities of academics. This entails as Elton put in many years ago ‘a quite radical change in the value system of universities, giving equal value to excellence in teaching and research, and a greater differentiation of functions between different academics’ (Elton, 1983).

It might well be that the organisational separation as sketched before does not necessarily imply a further divide between teaching and research. The debate is to find meaningful connections rather than taking the connection for granted. European HE systems are shifting their curricula from a gradual progression towards the Anglo-Saxon model in which the advanced degree comes about after a sharp break upon completion of undergraduate education. There is a tendency to argue that best researchers should concentrate their time on their research because of the productivity gains achieved and their course load would have a negative effect on their research. If they should teach, this should be in postgraduate training. There are good reasons, however, to take a more flexible approach, and have them teach across all levels of students (Brew, 2003). In the undergraduate phase these top researchers should provide special courses about the new developments in a particular scientific domain. If there is one thing that is certain in the whole debate on the research-nexus, these connections can make students in their early study stages enthusiastic about their field of studies and stimulate them to proceed.

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