

Academic core values and quality: the case of teaching-research links

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Introduction

In the higher education discourse, some themes are persistent. In this article, one of these themes is under scrutiny: teaching-research links. In the current Swedish higher education and research policy debate, teaching-research links is a theme used in support of various standpoints, including but not limited to: a changed funding system; more attractive career systems; and increased educational quality across the higher education landscape.

The idea of a close link between the two core activities at higher education institutions has positive connotations and is generally seen as praiseworthy; it is part and parcel of the whole idea of contemporary higher education with traces back to the foundation of the University of Berlin in 1810 (Geschwind 2015). At the same time, the governance and steering of higher education sector has changed the last decades. The transition from grand central planning to steering by goals and outcomes is well-documented (Pollitt and Bouckaert 2011). While various frameworks and concepts have been used to interpret and fully comprehend this development, the dominant concept has been New Public Management (NPM) (Christensen and Lægheid 2011). The governance structures in the public sector at large have been fundamentally transformed. In Scandinavia, this is the case since the early 1990s in particular (Christensen and Lægheid 2014). Not only have the direct steering and governance in the form of funding regimes and evaluation practices changed, but, in several sectors, market or quasi-market relationships have also been created. Schools, health institutions and even government agencies now compete in a market. The marketization of higher education should be interpreted in this context, albeit with one major difference. Whereas in some neighbouring sectors competition primarily takes place at local or regional levels, higher education providers, at least some of them, compete in a global market (van Vught 2008). The rise of league tables and rankings of universities can be understood in this light.

An important aspect of NPM is that activities should be possible to follow up, assess and evaluate both *ex ante* and, in particular, *ex post*. The introduction of evaluation systems in research and education has been followed by the development of evaluation criteria, to be interpreted and used by evalua-

tors (Henkel 1991). In the cases of higher education and research, most evaluations are undertaken through peer review, either individually or by panels. Evaluation criteria are developed which are expected to address as many desirable, quality related aspects as possible. In this article, data from peer review exercises in education and research form the empirical part. The hypothesis is that evaluations of education and research tend to neglect the link between teaching and research, and thus contribute to a separation between these two core academic activities.

Teaching-research links has been discussed since the introduction, in the late 19th century, of research as a compulsory task for academic teachers (Björklund 1991). In modern times, the publication of an article by Hattie and Marsh sparked a critical debate on the evidence base for arguing that teaching-research links are vital for research quality (Hattie and Marsh 1996). Hattie and Marsh saw no clear (quantitative) evidence that strong research environments are also good at teaching: “Overall, we have consistently found that there is a zero relationship between teaching and research at the individual academic and at the Department level.... We are not suggesting that research and teaching is not linked in the mind of the academic (indeed it is), but we are claiming there is no evidence of the effects of this thinking in the outcomes of teaching and research” (Hattie & Marsh 2004). These compelling results were irresistible for those arguing for a further specialization among higher education institutions, academic staff etc. The signal picked up by policy makers in the higher education sector was that teaching and research could be separated, e.g. in the form research-intensive universities on the one hand and teaching-only universities in the UK with little or no research funding on the other (Jenkins 2004). Although this interpretation was a simplification of the authors’ findings, by then the notion that links to research was not a precondition for educational quality had become an established, evidence based “truth” (Geschwind 2015).

Recently, teaching-research links have also been found to be a case of policy and practice de-coupling. Geschwind and Broström (2014) showed that, in a Swedish context, excellent young researchers and teaching award winning lecturers meet challenges by balancing different academic tasks. There was a considerable gap between policy and practice. Whereas everybody stressed the importance of a close relationship, the links tended to be weaker when it came to practice, not because of lack of ambition but rather as a consequence of pragmatic prioritization related to recruitment and promotion criteria.

The separation between teaching and research has become an increasingly urgent issue on the higher education policy agenda. As mentioned, the idea of a teaching-research nexus has been a dominating theme in higher education, connected to the birth of the modern university in Berlin in the early 19th century. However, during the 20th century, in particular in the 1960s, the Humboldtian ideal encountered mass higher education realities. No longer is

higher education exclusively an endeavour for the elite but rather a sector that concerns a large proportion of the population. There is an ever increasing demand to deliver both high quality teaching and excellent research. This development has created tensions within higher education institutions. In many countries, the idea of a teaching-research nexus is now challenged by the idea that separation carries specialization benefits in terms of enhanced quality and quantity in each of the two “production lines”: teaching and research. For instance, this is the case in Canada, where researchers and teachers follow different tracks. A career track including tenured teaching-only professors has been a consequence at some institutions.¹

The topic studied here is the relationship between evaluation practices and teaching-research links. Leisyte et al (2009) have convincingly shown how contextual factors, resulting in unintended consequences, can contribute to a separation between teaching and research. With examples from such diverse fields as Biotechnology and Medieval History, in UK and in the Netherlands, they discuss how various factors, not least evaluation systems, have transformed departments (Leisyte et al. 2009).

We will now turn to the empirical data – the evaluation reports – to see if, and if so, in what way the other core activity is mentioned in evaluations: how is education referred to in evaluations of research and vice versa? The main focus will be on the institutional level, with a particular focus on one case university, but before that we will briefly take a look at the national evaluation system of higher education and its relationship to teaching-research links.

The Swedish national system for evaluation of education

A national evaluation system of higher education was introduced in Sweden in the early 1990s. In the following, the two most recent systems will be under scrutiny. The national evaluation system for education operating during the period 2001–2006 included a number of different elements but its focus was on subject and programme reviews. The evaluation model used included self-evaluation reports, site visits by peer review panels and written public reports with recommendations for the future. There were also sanctions; if quality was assessed as unsatisfactory, the right to award degrees could be revoked. The quality criteria comprised preconditions, processes and results.

The most significant research related criterion used in these evaluations was the number of academic staff with PhDs. This was seen as a prerequisite

¹ www.theglobeandmail.com/news/rise-of-the-teaching-class-changing-makeup-of-canadasuniversities/article26603696/

for the education provided. A practice was developed which meant that for each subject or programme leading to a degree, at least two permanent teaching academic staff holding PhD qualifications were required. This was also by far the most important criterion when it came down to “sharp” decisions regarding sanctions. In total, approximately 10 % of all subjects and programmes received a warning. A synthesis report from the evaluation period summarizes the critical points:

The most common critique is that the educational environments have shortcomings regarding critical and creative milieus, usually unsatisfactory teacher competence within certain areas or a too small or scattered environment. Another common critical point is the links to research in the sense that the relationship between undergraduate education and research is unclear or unsatisfactory. It can also be that course literature is not scientific enough or outdated (Högskoleverket 2007, p 59).

It is clear from this section that research links were important when assessing the quality of education. A specific example of how the links could be discussed and assessed is in the evaluation of Study and Career counsellor programmes:

The main problem is a weak link to research. Too few PhDs are involved in educational programmes and the final theses are too high degree supervised by teachers without a PhD. [...] The right to award degrees at the University of Malmö is revoked due to unsatisfactory teacher competence and supervisor capacity, suboptimal organization and administration and in course literature (Högskoleverket 2007, p. 27).

In the evaluation reports, numerous statements are made about teaching-research links. In particular, the lack of time for academic staff to undertake research is put forward as a threat to quality (Geschwind 2004).

Another way of assessing the teaching-research links was introduced in the national evaluation system in use in the 2011–2014 period (Högskoleverket 2012). In this system, considerably more focus was placed on output, in particular the final degree thesis. One of the basic ideas behind the introduction of this system was that the thesis was believed to say something about educational quality, not only about the paper itself but rather as a comprehensive summary of all learning that had occurred during the course of the studies (cf. Forsberg 2007).

Evaluations at the institutional level

Institutional evaluations of research

A trend in the last years has been to introduce research assessment exercises (RAEs) at the institutional level. Such comprehensive evaluations of all research have been undertaken at a large number of the Swedish research-intensive universities such as Uppsala, Lund, Gothenburg, etc. but also at younger institutions with a lower proportion of research income. In the following, two research evaluations from the same research-intensive institution – KTH Royal Institute of Technology – are studied, in order to examine whether education is mentioned and discussed in the evaluation reports.

The first RAE was undertaken in 2008 and comprised a combination of peer review by international panels and bibliometrics. The aim of the project was to identify strengths and weaknesses in research environments across the institution. In the “Evaluation package” including the self-evaluation and the statistics to be provided, no questions address links to teaching (except doctoral education) (KTH 2008, pp 218–227). The mix of activities at a technical university is mentioned in the introduction of the report: “Success in engineering research depends on achieving a good balance between different types of activities from basic and applied research and education to technology transfer and social engagement” (RAE 2008, p 30).

The imbalance between teaching and research was also identified as a challenge for some environments.

An important point raised by the international Experts was the commitment to education made by many UoAs. This is epically true of Panel 8 (Industrial Technology and Materials Science), Panel 11 (Technology for the Built Environment) and Panel 12 (Architecture, Built Environment and Management). Although this RAE focused on assessing research quality, graduates are well recognised at all levels of KTH as significant “outputs”. In many cases, however, there was a poor balance between research and education. Some units, such as Mathematics and Industrial Economy have very heavy teaching loads, while others, often those with ample external financing, teach very little. This weakens the links between excellent research and education, a problem that needs attention in a university that aims to be one of the leading forces in technical research and higher education. (RAE 2008, p 39)

This quote builds on an assumed shared idea that a balance between teaching and research is a goal in itself and that an imbalance – too much research or too much teaching – is less desirable. Being “enthusiastic” about education is positively assessed: “Both senior professors and junior staff have an enthusiastic attitude towards education” (RAE 2008, p. 95). In some areas, the interwoven nature of research and education is mentioned, as in Architecture: *In addition, “research” in architecture cannot be separated from education. In a profession that is driven by service-based commissions, one*

rarely gets to explore innovative approaches in professional work. Rather, it is teaching that offers the outlet to explore riskier ideas and new approaches (RAE 2008, p 105).

However, the idea of a close relationship between teaching and research is challenged when it comes to assessing research output. There are perceived trade-offs for academic staff, as shown in the following two quotes from the international panels:

The integration of high quality education within the research framework and industrial collaboration was impressive. Commitment to teaching was excellent and there is enthusiastic participation by students at all levels. However, for two units this commitment has affected the basic scientific productivity, which was considered average. (RAE 2008, p 92)

They have targeted their efforts on education, forming highly qualified manpower (architects, engineers, surveyors and economists) for Sweden. Applied research also plays very significant role with many researchers providing up-to date knowledge in the political and legislative arenas as well as to the labor market and to civil society in Sweden. This focus makes the units in this field distinctive and possibly more challenging to assess using the same criteria. The dependency of units within the field on student numbers, including PhD students, is a serious impediment to the advancement of internationally competitive basic research. (RAE 2008, p 105)

Hence, too many students, regardless of level, can threaten the advancement of “basic” research. With a more positive take on this aspect, one environment was assessed as very successful despite having many students to educate: “The field normalized citation score of the unit is 41% above the world average. Considering the heavy educational load of the unit and limited funding from KTH for basic research, these are noteworthy achievements”. (RAE 2008, p 107)

In the latest research assessment exercise at KTH (RAE 2012), a similar evaluation approach was used, again combining bibliometrics and peer review panels. However, one important adjustment was made. Inspired by the British Research Excellence Framework, more focus was placed on research “impact”. All units of assessment were invited to provide impact statements and impact case studies, describing their contributions to industry and society at large. This novelty, and the potential consequences for the evaluation, was discussed in the concluding parts of the evaluation:

The fact that RAE 2012 addresses the current international and national discussion about the need to focus on research impacts and increase the engagement with business and government agencies does not mean that the importance of excellence in basic research is played down. Rather, it means that it is important to broaden and make more systematic the values produced by university research in its context of education and industrial and societal outreach. (RAE 2012, p 137)

Interestingly, impact is the one context in which education is mentioned in this evaluation: “About half of the statements underline relationships with institutes as important for impact. Somewhat more underline relations between research and education.” (RAE 2012, p 46) Furthermore: “Almost all UoAs stress that educational quality is the baseline for the most important impact: delivering highly skilled persons to external actors.” (RAE 2012, p 45) In the “evaluation package”, no questions were asked about relations to education. (RAE 2012, pp 144–157)

Summing up, we can see that education is discussed in both RAEs. The ideal that research should have close links to education particularly comes to the fore in the assessments by experts. We can see an interesting change following the introduction of “impact” as a core criterion in the 2012 evaluation. From having been an important end in itself in 2008, education became one of several, albeit frequently mentioned, form of “impact” in 2012.

Institutional evaluations of education

As a direct consequence of the first RAE in 2008, education was also evaluated at KTH in 2011. The evaluation was a full-scale exercise encompassing all educational programmes inspired by the aforementioned national evaluation model (2001–2006) including self-evaluation, site-visits and reporting by external panels. In total, some 50 experts from various disciplines, educational developers, students and stakeholders from industry were involved.

Interestingly, almost simultaneously three other similar initiatives were taken at Uppsala University, Lund University and University of Gothenburg. A comparative study of these projects (Karlsson et al. 2014) showed that while they had very different aims and approaches, they were all related to a preceding research evaluation. They were also outcomes of internal discussions concluding that “it was now time for education”. Two of the initiatives, at Uppsala University and Lund University respectively, were specifically focused on teaching-research links as a theme. At KTH Royal Institute of Technology, the case in point here, an Educational Assessment Exercise (EAE) was launched, following the same acronymic logic as the research assessment (and later followed by an Administrative Assessment Exercise, AAE). In the self-evaluation template, the following aspect is included under “Prerequisites”:

5.1. Please describe and analyse the provision of teachers, e.g. with regard to competence profile (scientific and pedagogical), recruitment situation and gender balance. (KTH 2011, p 4)

Furthermore, under “Processes”:

6.1. Please describe and analyse the teaching and learning approach and its connection to

§ professional practice (engineering/architecture/relevant field)

§ research and developing knowledge, including KTH research platforms and research areas

§ new developments in teaching and learning (KTH 2011, p 4)

A close reading of the full evaluation report from the panels reveals that research and teaching-research links were discussed frequently. Beginning with the question of how research is linked to education, many of the comments are specifically addressing the final thesis and the possibility to include students in ongoing research projects, including projects involving industrial partners:

“Industrial research projects involve students in their theses.” (EAE 2012, p 47)

Involving students in research projects also has potential benefits for internationalization:

“The programme offers opportunities for its students to engage in an international context through thesis projects conducted abroad as well as within KTH in highly active research environments with extensive international components.” (EAE 2012, p 48)

Many comments are made in relation to academic staff/faculty, and their competences, working conditions and the internal division of labour. More generally, similar to the RAEs, being active in both education and research is perceived as a precondition for quality:

“The faculty is highly trained, active in research and has industry experience.” (EAE 2012, p 49)

The internal division of labour is also commented, in less positive terms in cases when education is found to be a low priority for academic staff. The whole idea of having teachers who are active researchers is encouraged by this panel of reviewers:

“Teachers active in the bachelor-level programme may not have the opportunity to be engaged in research in a similar way as their colleagues, who are mainly active in the master-level programme and seem to have a weaker focus on the quality of teaching. Master’s level teachers seem to have a more active role in research, with less emphasis on teaching.” (EAE 2012, p 47)

Last but not least, an interesting note is made on the very idea of research-based education. Despite, or perhaps because of, the evidently close relationship between teaching and research in this particular unit of assessment, more development work is encouraged in order to strengthen the link even further: “The sub-panel also encourages the EES to reflect on the various ways of implementing research-based education.” (EAE 2012, p 46)

Teaching-research links in long-term plans

A common aim for all three evaluations discussed above is that they were meant to inform policy and practice at the institution. Therefore, the outcomes and results of the exercises were to be visible also in strategic plans and goal documents. If we take a closer look at the development plans overlapping the years when the evaluations took place, we can see that teaching-research links held a prominent position as one of the goals during the period 2009–2012. There were explicit references to the 2008 RAE.

KTH Teachers take part in both education and research

The international evaluation of KTH research in 2008 showed that part of KTH faculty have very little contact with education at basic and advanced levels. At the same time, there are teachers with very little contact with research. Teaching should have equal status at KTH as research. The ground rule should be that all KTH teachers should take part in both research and teaching. (KTH 2009–2012, p. 18)

In addition:

To sustain a strong link between education and research means a lot to KTH credibility as a research university. The goal above that all teachers should teach at basic and advanced levels also means that education’s links to research is strengthened and that students quicker get in touch with new research. (KTH 2009–2012, p 18)

In the subsequent development plan, for the years 2013–2016, the following paragraph is included: “KTH is a technical university. That means education is a central part of the activities, and that education should be based on research. The goal is that all faculty conduct education as well as research. Ongoing research at KTH has an impact on education”. (KTH 2013–2016, p 14)

In the long-term vision document *Vision 2027*, aiming at KTHs 200 year centenary, teaching-research links are exclusively discussed in a section on master programmes:

At the advanced level, the broader programmes enable specialisation within all research areas. In order to give students freedom to choose, and for researchers to disseminate their research, there is a wide selection of courses at

advanced level. The influx of external students, both national and international, to the advanced level is high thanks to education's close contact with research and KTHs network with society.

Conclusion

Higher education is increasingly held accountable for its own activities. Currently, a large number of evaluations, assessments, reviews and follow-ups are conducted in the sector by various actors including state agencies, funding bodies and HEIs themselves. It is a sector in which evidence, facts and reviews are expected to play a major role in decision-making. The dominating form of evaluation is peer review, both in education and in research. The theme discussed in this paper is whether evaluation practices in the two core academic tasks – education and research – in fact have unintended consequences for the link between them. Ever since the early 19th century, teaching and research are supposed to have a strong relationship, sometimes described in the literature as a “nexus”. Not only is research-based education (and, to a lesser extent, education-based research) perceived as something worth striving for as one of the long lasting ideals of higher education, it is also legislated in the higher education act in the case country, Sweden.

A hypothesis was tested that evaluations of education and research both tend to neglect the link between teaching and research, and thus contribute to a separation between these two core academic activities. This hypothesis turned out to be false. The analysis of evaluations undertaken at a research-intensive technical university in Sweden, KTH Royal Institute of Technology, shows that the “other” activity, education and research respectively, is frequently mentioned in evaluation reports. In the 2008 Research Assessment Exercise (RAE), for instance, links to education are discussed. One of the overall conclusions from that exercise was that teachers and researchers tend to develop separate tracks with little or no contact. This was subsequently highlighted in the 2009–2012 development plan for the university. In the 2012 RAE, there are few explicit references to education. Nevertheless, education has a prominent place in the report, this time as a form of “impact”. Again, links between research and teaching are mentioned in the development plan (2013–2016). From the education perspective, the report from the 2011 Education Assessment Exercise (EAE) makes ample references to research and the importance of links to research.

Hence, the peer reviewers in this study stress the importance of strong teaching-research links. This is despite the fact that it was not an explicit evaluation criterion at all in the research evaluations and only to a lesser extent in the evaluation of education. First of all, regarding academic staff, being active in and showing commitment to both education and research is emphasized in the evaluation reports. Thus, the Humboldtian ideal of the

combined researcher-teacher is still alive in our time of mass higher education, including when it comes to evaluation reports. In the RAEs, education is occasionally also discussed as a trade-off, as an explanation to why the publication record shows some room for improvement, or in one case, when describing a group that is successful despite having a heavy teaching load. When it comes to descriptions on how to integrate research and teaching, statements are more abstract and vague. Perhaps unsurprisingly, most explicit teaching-research links are mentioned when the final degree thesis is discussed; otherwise the issue is mentioned in more general terms.

What are the implications of these findings? The relatively strong support of teaching-research links by external reviewers needs to be followed by practice within higher education institutions. If we believe that this link is important, indeed the *sine qua non* of higher education, it needs to be defended as a higher value, a quality criterion in its own right. Similar to other highly desirable things in higher education, such as mobility, gender equality and internationalization, this requires sophisticated governance and evaluation systems and active leadership at all levels. This study, despite its limited scope has also showed that we need more research on how the teaching-research nexus is to be understood, both in teaching-oriented and in research-oriented contexts.

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