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**Managing the teaching-research nexus: ideals and practice  
in research oriented universities**

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# Managing the teaching-research nexus: ideals and practice in research oriented universities

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## Abstract:

This paper demonstrates that while ideals of close linkages between research and teaching are widely embraced in research-oriented universities, a practice of division of labour between teaching-oriented and research-oriented staff persists. In an investigation of how the research-teaching nexus is managed at three Swedish universities, we identify a perceived misalignment between institutional incentives for individual academic staff and the needs of teaching. Under pressure from such tensions, managers are forced to deploy pragmatic strategies for the staffing of undergraduate education tasks. This includes allowing research needs and agendas to take priority over teaching needs. While managers actively struggle to secure the participation of senior researchers in education, they often actively prefer to delegate the bulk of teaching activities to less research-active staff. Such strategies seem to reinforce existing patterns of division of labour among academic staff.

**Keywords:** Teaching-research nexus; university management; research-oriented education

**JEL:** I21; I23

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## **Introduction**

*Research, teaching and study can exist in not so splendid isolation, with full time research staff in one corner, some teaching staff off in one corner and only slightly guided, if at all, by the results of recent research, and students studying in another corner, with codified text in hand but out of the sight of research activities and peering at distant teachers as if through the wrong end of a telescope. (Clark 1993, p. 301)*

Higher education institutions (HEIs) in general and universities in particular, embrace the Humboldtian legacy of a close relationship between teaching and research (Nybom, 2003). This notion has been repeatedly reinforced in institutional strategies and goals, and also in the so-called Magna Charta, created by the European University Association (EUA). However, there are clear signs that the massification of higher education (Scott 1995; Palfreyman & Tapper 2009), the increased emphasis on accountability, for research excellence and impact from policy makers at all levels and a series of associated reforms in funding and promotion systems across the globe put pressure on the traditional ideal that all academic staff should be both teachers and researchers.

Following the latest phase of expansion, with student numbers doubled Sweden in the 90's, many HEIs currently search for a new mission, or "pact", with society (Olsen 2007). They are expected to deliver knowledge, innovation, growth and public goods for, and in collaboration with, society. There are ever more demands on higher quality and "excellence" in academic activities, sometimes with explicit agendas and strategies to become "world class" (Bleiklie 2003; van Vught 2008; Goedegebuure, 2011).

HEIs are increasingly acting strategically on a global market, competing for staff, students and research funding (Slaughter & Leslie 1997; Ramirez 2010). All Nordic HEIs are to a large extent funded by public sources. They are also public institutions as far as obligations regarding transparency, effectiveness and quality are concerned (Stensaker & Harvey 2011; Neave 2012). In the 1990's extensive reforms were carried out in the public sector in the Nordic countries, inspired by the ideas often referred to as New Public Management (Pollitt 1995). Since then, the principles of autonomy and quasi market relationships have characterised institutions in general (Amaral, Meek and Larsen 2003). Some of the consequences are increased demands on institutional leadership and management (Teichler 2006) and a growing stakeholder influence (Bleiklie & Kogan 2007).

An increasingly important issue is therefore the working conditions and the division of labour within HEIs. Academic work has undergone profound changes the last decades and earlier studies have shown that the traditional academic roles have been challenged and restructured (e.g. Bentley & Kyvik 2012; Coates & Goedegebuure 2012; Musselin 2012; Leisyte & Dee 2012; Kyvik 2013). We have also experienced a professionalisation of administrative staff (Gornitzka & Larsen 2004) and the establishment of new professional groups in a "third space" in between administration/support and academic duties (Whitchurch 2009).

Following from this, also the relation between teaching and research – the teaching research nexus – has been in focus in some countries, for instance in the UK (Jenkins & Healey 2005),

in particular in relation to the introduction of the RAE (Barnett 2005; Deem and Lucas 2007; Leisyte et al 2009). Hattie and Marsh (1996) argued that research intensive universities not necessarily provide high quality learning for students (see also Enders & de Weert 2009). Leisyte has shown how the introduction of performance based funding in the form of the RAE has deeply affected the inner life of departments, also regarding the division of labour (Leisyte 2007).

Also in the US, the links between teaching and research has been discussed for many years (Clark 1991; Colbeck 1998). Former Harvard president Derek Bok pointed out in his book *The Underachieving Colleges* (Bok 2006) that excellence in research not is a sufficient precondition for high quality in undergraduate education. For a HEI to translate success in research into research-based education, it must be ensured that excellent researchers actually are involved also in teaching activities and that they consider this an important task.

This article investigates how the teaching-research nexus is managed in practice, drawing on empirical data from Sweden. Whereas many other studies have focused on either the system level or how to, pedagogically, introduce research to students, this study examines practices of task allocation within universities which aim at highest possible quality in both teaching and research, in effect addressing the issue how answers to the question of what is “higher” in higher education (Barnett, 1992) are constructed in everyday academic life.

## **Methodology**

The paper draws on three sets of empirical data, collected through i) a survey on the research and teaching activity of individual academics, ii) a survey on the preferences and experiences of HEI managers and iii) interviews with managers and teachers/researchers. In a first step, the research activity and academic positions of the individuals involved in teaching activities at Swedish higher education institutions were investigated. To this end, data from a survey to a randomised and stratified sample of Swedish academics on how their work time was distributed between teaching, research, administrative and outreach activities, respectively, during 2009 was utilised. This survey was distributed to 12 700 HEI employees in the spring of 2010. Complete responses from 62% of the sampling frame were collected.<sup>3</sup> Survey results have been scaled up to population means utilising sampling weights.

In order to investigate the management and staffing practices, we surveyed managers responsible for staffing of teaching tasks<sup>4</sup> at three Swedish universities: one technical university and two comprehensive universities, of which one recently has been awarded university status. These were chosen as representatives of universities with a fairly even balance between teaching and research. Their profiles are outlined in Table 1.

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<sup>3</sup> The survey was conducted by Statistics Sweden to satisfy the needs for official statistics on research activity in the HEI sector. For the purpose of the research presented in this paper, aggregates were constructed from micro level data.

<sup>4</sup> In the Swedish context, directors of studies typically are responsible and thus the initial targets. However, it turned out that the title director of studies was not used at all universities and as a consequence we also sent the survey to department heads, deputy department heads, programme managers and programme leaders.

Table 1 HEI key facts

| HEI               | Total number of students | Academic staff with PhD (%) | Proportion of research funding (%) |
|-------------------|--------------------------|-----------------------------|------------------------------------|
| A (Technical)     | 10 095                   | 62                          | 67                                 |
| B (Young)         | 11 322                   | 46                          | 33                                 |
| C (Comprehensive) | 20 953                   | 58                          | 58                                 |

Source: Swedish National Agency for Higher Education 2010

The total number of recipients was 322, of which 150 responded (45%). The non-respondents were evenly distributed between universities as well as between categories of staff.

In order to deepen our understanding and to follow up the results from the web surveys, we have also conducted interviews with academic leaders and managers, excellent researchers, recognised and rewarded by awards and prestigious grants and excellent teachers, recognised and rewarded for their teaching. In total, 10 semi structured interviews have been conducted. We have used a common set of interview themes. Interviews lasted on average one hour.

### **The Swedish higher education context**

The policy developments outlined above create pressures on HEIs all over the world to respond to partly conflicting expectations from an increasing number of stakeholders, are mirrored in Swedish higher education. A series of recent political reforms have, on the one hand, increased the formal autonomy of HEIs and on the other hand made state funding subject to a new national quality assurance system for education and a performance based funding of research and education. While education costs of EU citizens are still covered by the state, tuition fees has been introduced for international students. Sector wide, there has been an important policy shift regarding quantity and quality. The expansion of the system has made a halt, and more emphasis is currently put on “quality”, “excellence” and “world class”, shifting focus from widening participation and expansion of the system (Hedmo & Wedlin 2008; Kallerud et al 2011).

Albeit formally in a unified system, Swedish HEIs operate under two different statuses: that of University and that of University College. While the former is associated with considerable prestige, there are no formal differences between the two types. In practice, there are reasons to talk about three groups of HEIs. 89% of research funding is allocated to 12 established universities which were funded between 1477 and 1975. These HEIs conduct 57% of education. The relationship between teaching and research is reversed among 11 teaching oriented university colleges, which conduct 29% of education but only receives 4% of total research funds. Between these groups, we find a “middle group” of nine institutions. In this group, we find four HEIs which gained university status around the turn of the millennium and five university colleges which have demonstrated that they produce qualified research in at least certain areas, and which therefore have been awarded the right to award PhDs within these specific areas. These young universities and university colleges have seen the already significant gap between themselves and the established universities grow in recent years. The government has made clear that no more university colleges will be awarded full university status.

Table 2 Teaching-to-research ratio for academic staff with PhD

| HEI Category   | SSH (%) | Medicine (%) | Natural Sc. (%) | Engineering (%) | All (%) |
|--|---------|--------------|-----------------|-----------------|---------|
| All HEIs   | 0.84    | 0.35         | 0.41            | 0.59            | 0.57    |
| Established universities   | 0.71    | 0.28         | 0.34            | 0.54            | 0.47    |
| New universities and university colleges with significant research resources | 1.09    | 1.16         | 1.24            | 0.73            | 1.04    |
| Teaching oriented HEIs   | 1.16    | 1.05         | 1.94            | 1.07            | 1.20    |

Table 2 reports the ratios of time spent on teaching to time spent on research for each of the three categories described above, and for four scientific areas. Data is aggregated over the full population of academic staff in each category. Information on time usage is collected through a survey directed to a randomised sample of Swedish academic staff and graduate students. The table demonstrates that the conditions for combining teaching and research according to the Humboldtian ideal vary significantly across different HEIs – in particular in Medicine and the Natural Sciences.

The proportion of research income differs significantly between HEIs with the highest ranked university, the Karolinska Institute, as an extreme with over 80% of the income designated for research and research training. The oldest, highest ranked comprehensive universities in Uppsala and Lund receive 60-70% of their income from research whereas many of the university colleges acquire approximately 1/5 of their income from research and research training and the rest from first and second cycle education (Swedish National Agency for Higher Education, 2010).

A large proportion of academic staff in Sweden have not completed a PhD. While HEIs have been pressured to improve the research qualifications of higher education teachers by the government over considerable time, in some areas of the sector, the vast majority of academic staff are still lecturers (adjunkt), of which most conduct no or little research. At a national level, 57% of academic staff have doctoral degrees. For most of the teaching oriented university colleges, the share of graduated staff varies between 30 and 50% (Swedish National Agency for Higher Education, 2010).

### **Research experience and activity of teachers**

Tables 3, 4 and 5 present further results from the survey to Swedish academics described above. In all three tables, results for the three categories of HEIs discussed above are presented separately.

Table 3 demonstrates that a large majority (66%) of the teaching in Swedish higher education is undertaken by teachers with low or no research activity. This tendency is accentuated for the Social Sciences and Humanities (SSH) and Medicine. The table reveals expected differences between different types of HEIs as described above.

Table 3 Proportion of undergraduate teaching by staff with teaching oriented positions (20% or less research time allocated)

| HEI Category   | SSH (%) | Medicine (%) | Natural Sc. (%) | Engineering (%) | All (%) |
|--|---------|--------------|-----------------|-----------------|---------|
| All HEIs   | 72      | 72           | 50              | 58              | 66      |
| Established universities   | 65      | 67           | 40              | 50              | 57      |
| New universities and university colleges with significant research resources | 77      | 81           | 84              | 74              | 79      |
| Teaching oriented HEIs   | 79      | 79           | 77              | 81              | 80      |

Table 4 shows that around 40-50% of all teaching is delivered by academic staff with PhD degrees.<sup>5</sup> The proportion is lowest within Medicine (including Health Studies). The scientific merits are low also within Engineering outside the established universities.

Table 4 Proportion of undergraduate teaching by academic staff with PhD

| HEI Category   | SSH (%) | Medicine (%) | Natural Sc. (%) | Engineering (%) | All (%) |
|--|---------|--------------|-----------------|-----------------|---------|
| All HEIs   | 47      | 37           | 54              | 42              | 44      |
| Established universities   | 55      | 41           | 56              | 49              | 51      |
| New universities and university colleges with significant research resources | 39      | 30           | 43              | 27              | 35      |
| Teaching oriented HEIs   | 36      | 22           | 51              | 29              | 34      |

Together, tables 3 and 4 demonstrate that teaching in Swedish higher education is dominantly performed by staff presently not engaged in research, and to a significant extent by teachers lacking the PhD degree qualification. Notably, this pattern prevails also in established universities, although they are relatively well equipped to provide researcher-led teaching, as evident from table 2. This suggests a pattern of substantial division of labour between academic staff emphasising research and academic staff engaging heavily in teaching persists in Swedish academia.

Table 5 combines the selection criteria of tables 3 and 4, demonstrating that the research active teacher is indeed a rare guest in teaching; only 1 out of 20 teaching hours are taught by academic staff from that category.

Table 5 Proportion of undergraduate teaching by academic staff with PhD and with 50% or more of working time dedicated to research

| HEI Category   | SSH (%) | Medicine (%) | Natural Sc. (%) | Engineering (%) | All (%) |
|--|---------|--------------|-----------------|-----------------|---------|
| All HEIs   | 8       | 5            | 12              | 7               | 8       |
| Established universities   | 12      | 7            | 14              | 8               | 11      |
| New universities and university colleges with significant research resources | 4       | 2            | 4               | 6               | 4       |
| Teaching oriented HEIs   | 4       | 1            | 4               | 5               | 4       |

<sup>5</sup> Staff who are appointed as professors, associate professors, senior lecturers or assistant professors are included. Note that these positions are not entirely comparable to their U.S. counterparts, as Swedish HEIs generally do not employ formal tenure track schemes.

Clearly, the situation “on the ground” stands far from the traditional Humboldtian ideal of the academic teacher as simultaneously being an active, experienced researcher.

### University managers’ preferences and experiences

By what mechanisms are the patterns identified in the previous sections created? We next report an investigation of how the teaching-research nexus is managed in practice, drawing on a second set of survey data which describes preferences and experiences of those who make the decisions on who is to teach what course. We have surveyed staff with line management responsibilities at three Swedish research-oriented universities. Two of these belong to the category of established universities, one of which is a comprehensive university and the other a dedicated “institute of technology”. The third HEI is a “new” university with a research oriented institutional strategy and academic culture.

Table 6 reports managers’ attitudes towards staff relationship to research as a driver of education quality. In line with the findings of Taylor (2007), demands on teachers’ connection to research are systematically higher for teaching at the master level than for teaching in bachelor level education. Notably, a majority of managers express the conviction that quality at the bachelor level can be sustained also when teaching is dominantly performed by non-research active – even non-research qualified – staff, as long as that staff is connected to an active research environment. Only a small minority, however, express the opinion that the personal linkage between teaching and research is directly irrelevant.

Table 6 Managers’ position on statements “It is important for teaching quality...”<sup>6</sup>

|                |   | Agree | Disagree |
|----------------|---|-------|----------|
| bachelor level | ...that lecturers are active researchers <sup>7</sup> | 43    | 56       |
|                | ... that lecturers have a PhD                         | 48    | 52       |
| master level   | ...that lecturers are active researchers <sup>5</sup> | 77    | 22       |
|                | ... that lecturers have a PhD                         | 84    | 16       |

In a further survey question, we asked if there are any negative consequences of close teaching-research links. 110 respondents answered no and 19 yes. In the subsequent comments, mainly two negative consequences are mentioned. The most important one is that close research links are supposed to be in opposition to preparation for working life outside academia: ”But it [research links] should be considered as equal to the practice orientation necessary to the future working life”. The second common line of comments suggests that whereas research thrives on specialisation, education needs to provide students with broad perspectives. Strong links to research may threaten to make courses too specialised and narrow. It is considered important that research links do not “crowd out knowledge of [engineering] practice altogether”.

While such concerns suggest that some managers point to concerns about balancing research-driven and practice-oriented priorities in the higher education agenda (at least in vocational

<sup>6</sup> Respondents were offered four alternatives, ranging from “Agree totally” to “Disagree totally” and the alternative “Cannot decide”. Responses are clustered.

<sup>7</sup> Defined as “pursuing research with the aim to produce scientific publications”



education), the results presented above indicate that a division of labour between teaching oriented and research oriented staff is far from an ideal among academic managers. Neither do we find indications that such an ideal would be embraced by non-management academics. In our interviews, researchers from the most successful research environments expressed commitment to the ideal that there should be a close link between research and teaching. Teaching tasks are important parts of the role as an academic, also for the young top researchers we interviewed. Teaching gives the opportunity to meet, inspire and hopefully recruit students to higher levels, e.g. to doctoral studies. That is the most important reason mentioned in our interviews with researchers, in line with the following statement from Jonathan Cole, former provost at University of Chicago:

*Even if the quality of undergraduate education is not what defines the unique character of the most distinguished research universities, it influences the culture of the institutions and affects their ability to attract the best scientists and scholars. (Cole, 2009)*

This result is in line with previous studies on academic attitudes. In an interview study of 77 Swedish university teachers (Bauer et al., 1999), the vast majority of interviewees preferred a combination of teaching and research. The main arguments used were: it is fun to teach; the variety of tasks is stimulating; and doing research increases quality in education. The authors of that study conclude that balancing teaching and research is part of the professional identity as a university teacher. A study by the Swedish National Agency for Higher Education (Högskoleverket, 2003) showed that more than 90% of university teachers in Sweden thought it was important or very important to have the possibility to conduct research and 99% considered it important or very important that higher education is research based.

If not by values, how is the discrepancy between (Humboldtian) ideals and current practice created? We believe that a key to understand this lies in understanding tensions between different tasks and priorities. Figure 1 illustrates how managers responded to a question about which category of staff they preferred for teaching at bachelor level.

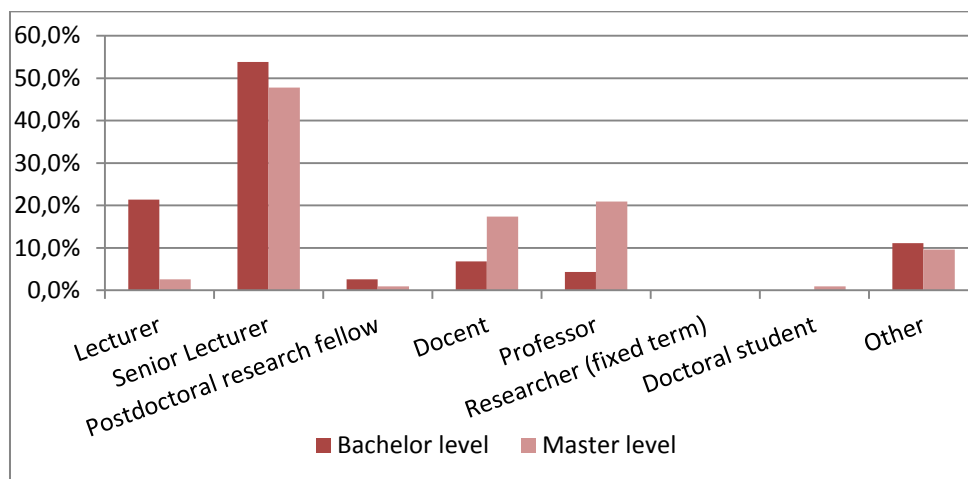


Figure 1 Preferred category (%) of academic staff for teaching at bachelor level and master level

Figure 1 shows that senior lecturers (lektor) are the preferred choice both at bachelor level and at master level. Notably, many of the respondents have responded “lecturer” at the bachelor

level, which is interesting given the fact that most lecturers lack a PhD. In the survey comments, we can identify two dominating lines of arguments: firstly, lecturers focus primarily on teaching, which make them more motivated to deliver high quality teaching, and, secondly, vocational programmes need teachers with professional experience rather than research merits. Another interesting finding is that very few managers think research intensive posts as postdoctoral research fellows and fixed term researchers are the preferred choices for teaching, not even at master levels.

The biggest difference between bachelor and master levels regards professors. Whereas only some 4% of the respondents think that professor is the preferred choice at bachelor level, the equivalent number at master level is 21% of the respondents. Professors' engagement in education during the first years of studies has been a subject of debate in Sweden, leading to the introduction of a formally regulated requirement in the Higher Education Ordinance that all categories of teachers should teach at all educational levels. Professors' absence from basic level education was considered a problem in terms of quality. This has also been mentioned in our interviews with managers. It is, according to interviewees, also a risky endeavour to let assistants, PhD students and lecturers teach the first semesters. In view of these concerns, the result that only 5% of the respondents think professors are the preferred choice teaching at basic level is interesting and somewhat surprising. However, those responses often have a pragmatic context, mentioned both in survey comments and in interviews; for many departments it is matter of economy. It is basically too expensive to involve professors at lower levels and there are strong financial incentives to let cheaper teaching staff deal with first year courses. Another argument is that professors are less prone to prioritise and develop teaching.

On the other hand, the survey also showed that half of the respondents think professors should teach more at the basic level than most of them do today. None of the respondents believed that they should teach less. Also non pecuniary reasons, both for and against, have been proposed. At one of the universities, there was a long tradition of professors teaching the first year's studies, mainly because they were tenured and therefore could provide continuity. Project researchers on fixed term contracts taught the advanced levels, often in close relation to their own ongoing research.

We interpret these results on managers' priorities as suggesting that managers resort to practices that sustain division of labour as a response to inherent tensions between what managers perceive as optimal for education and a) the strategies and policies at HEI level and b) individual career strategies. In the following section, we discuss the nature of these tensions.

### **Institutional incentives and the demands of teaching**

For many academic departments, external research funding is very important, e.g. for buying out teaching for research (Smith & Smith 2012). The staffing of courses varies depending on the success rate of research applications. Many managers stress continuity as far as manpower planning goes, but many of them are unable to decide on teaching issues before decisions from funding bodies arrive: "You can lose teaching capacity in a very late stage but you can

never recruit people on short notice”. As far as research active staff are concerned, the personnel planning is highly dependent of decisions from external funding bodies. These decisions can suddenly withdraw teachers, of which some are very difficult to substitute, from teaching assignments. As one director of studies expressed it in an interview, regarding one of his teachers, unusually hard to replace: “Thank God she didn’t get that research grant”.

Many earlier studies have shown that research merits are more important than teaching merits when hiring and promoting academic staff (e.g. Mayson & Schapper 2012). Our results show that this to a high degree is still the case, especially regarding staff who are primarily teaching at master level, but also, and this is more interesting, regarding bachelor level. 81% argue that research is most important when it comes to promotion; only 2% thought teaching was most important and 17% held the opinion that teaching and research had equal weight. There were small differences between the three universities.

In the interviews, we have also asked whether and – if so – in what way that is a problem. Some interviewees have described it as a question of measurement. It is a well-known dilemma that it remains challenging to assess teaching excellence despite considerable development work in that area. In comparison, the assessment of research quality is a core process of academic activity. However, the interviews also indicate that there have been changes in a positive direction lately. HEIs have realised they can no longer afford to hire a senior lecturer who is substandard regarding teaching. As one manager put it: “A poorly performing senior lecturer is a department head’s nightmare”. This also affects hiring procedures. References and recommendations have become more important as well as interviews and test lectures. Many HEIs also consult pedagogical expertise in the review process.

Some interviewees have also mentioned that there is, generally speaking, an imbalance between the ongoing evaluation and follow-up systems within research and education respectively. While research is assessed constantly, ex ante, mid-term and ex post, in e.g. research proposals, promotions and peer reviewed journals, teaching is rarely paid the same attention neither by peers nor by managers. The problem, according to one interviewee, is that high quality teaching is undervalued and even neglected at many universities. The strongest driving forces and motivations for individual academics are student satisfaction and feedback. On the survey question ”Which incentives do you think are most important for teachers to deliver good teaching?”, 71% of the respondents answered ”Students’ appreciation”. 17% chose the alternative “merits at promotion”, “salary raise” 7%, “collegial appreciation” 4% and “management appreciation” 1%.

It is hardly negative as such that student appreciation is the dominating answer. Many teachers are focused on offering the best possible learning experience to their students. However, the other side of the coin is that this response signals a lack of recognition from peers and managers. Excellent teachers are not actively promoted and – which is even more worrying also from a student perspective – poor performance by teachers is not actively discouraged. One interviewee (manager) put it like this: “You can be a poor teacher and survive for a long time in academia”.

Academic staff interviewees typically expressed that it is difficult, although not impossible, to strike an even balance between teaching and research for the individual, in terms of time-management. A combination of loyalty to students and self-preservation implies that teaching always comes first; for active teachers, research ambitions often has to be set aside.

In the interviews, staff with research as their main task have without exception stressed that teaching is an important, even vital, part of their work as academics. Teaching is an important reason why they chose an academic career in the first place, rather than alternative career paths, e.g. industrial research. However, there is a magic limit when teaching duties tend to squeeze the time available for research, and hence the career prospects. The optimal career situation would be to be involved in teaching to a lesser degree, enough to reach that threshold level necessary for promotion. Above that level, teaching becomes a threat to promotion and is treated accordingly (Elen et al., 2007). As described in a survey comment: “Some researchers feel that teaching takes time from their research which might affect their engagement”.

Researchers who can develop courses based on their own research, who can involve students in their own research projects and environments, argue that this increases quality to a high degree. Obviously, this goes especially for the master level. There are big differences how bachelor and master levels are regarded by researchers. At master level, the most active and successful researchers can test ideas and results from research in courses whereas teaching at the bachelor level often require extensive reading far from the own area of expertise.

As noted above, academic staff typically embrace the ideal of close linkages between teaching and research. However, academic’ attitudes towards teaching cannot be studied in isolation (Robertson & Bond, 2001). Individuals are forced to manage competing demands on their time, and it is in making such priorities that the teaching-research nexus is reflected. The main challenge is to avoid for teaching to take too much time away from research activities. Our interviewees say that the demands on researchers are ever increasing, which strengthens the conflict between teaching and research in the daily academic agenda. Engaging in education more than 10-20% of working time is claimed to threaten the academic career, especially if teaching has a less direct connection to ongoing research. However, institutional rules and promotion criteria may restrict people to concentrate on research only. At some institutions, researchers are required to remain available for teaching e.g. at 20% of working time, i.e. you cannot buy yourself out of teaching completely.

On the other hand, for those academics that have teaching as their main responsibility, approximately one day per week is supposed to be spent on research. The interviews indicate that this rarely is manifested in research publications. However, several respondents stress that this time is important, even crucial, as an opportunity for competence development and for keeping in touch with the latest research. When provided only to a limited extent, time dedicated to research is considered as primarily important for quality in teaching activities. Without that time made available, it would be difficult to sustain even modest demands that teaching should be research-based.

In the survey, we also asked whether there were any negative consequences of research-based teaching and about the status of teaching in a research dominated department. Whereas rather few suggest that there are negative consequences of research based teaching, some respondents expressed that there are risks involved with teaching in a setting which is mainly focused on research. The comments show that it is primarily a matter of priorities (Astin, 1994). In academic environments where research dominates, education tends to be less prioritised, not necessarily because research is higher valued, but rather because it is more rigorously evaluated and reviewed both internally at HEIs and externally, e.g. by funding bodies.

In a survey comment, the challenge is described:

*In order to be successful as a researcher today, you have to in principle work full-time on research and I see tendencies in our environment that there is increasingly a division between those who do research and those who teach, even if most of us try to do both. Clearly, it is significantly higher status to do research and educational matters are neglected when more and more people focus on their research.*

## **Conclusion**

Drawing on survey data to employees at HEIs, this study reports that the Swedish higher education system operates far from Humboldtian ideals of higher education being characterised by the research experience and research activity of teachers. Seemingly in spite of official ambitions, universities seem to allow a pattern of division of labour between staff to persist. A second survey, directed at managers responsible for the allocation of teaching tasks at universities with pronounced research ambitions, and a complementary set of interviews are conducted to investigate the mechanisms through which such patterns emerge.

The results suggest that a key factor is a perceived misalignment between institutional incentives for individual academic staff and the needs of teaching. Under pressure from such tensions, managers are forced to deploy pragmatic strategies for the staffing of undergraduate education tasks. This includes allowing research needs and agendas to take priority over teaching needs. While managers actively struggle to secure the participation of senior researchers in education, they often prefer to delegate the bulk of teaching activities to less research-active staff, having continuity as their main priority. Such strategies seem to reinforce existing patterns of division of labour between academic staff.

At the institutional level, several studies have shown that there is an increasing national diversification of HEIs. However, in many countries institutions tend to become bigger and more complex, as a result of mergers and takeovers. The data in this study suggest that there are signs of diversification among staff also within the universities studied in this paper. This potential separation of the core academic duties teaching and research is interesting for several reasons and there are several possibilities for future research, e.g. by comparing different disciplines, HEIs and countries.

## References

- Amaral, A., Meek, V.L., Larsen, I.M. (Eds.) (2003) *The Higher Education Managerial Revolution?* Dordrecht/Boston/London: Kluwer Academic Publishers.
- Astin, A.W. (1994). *What Matters in College? Four Critical Years Revisited*, Jossey-Bass Inc., San Francisco, CA.
- Barnett, R. (1992) *The Idea of Higher Education*. Buckingham: Society for Research into Higher Education/Open University Press.
- Barnett, R. (ed.) (2005) *Reshaping the University. New Relationships between Research, Scholarship and Teaching*, SRHE Open University Press.
- Bauer, M., Marton, S., Askling, B. Marton, F. (1999) *Transforming universities: changing patterns of governance, structure, and learning in Swedish higher education*. London: Jessica Kingsley Publishers.
- Bentley, P. & Kyvik, S. (2012) Academic work from a comparative perspective: a survey of academic staff working time across 13 countries. *Higher Education* (2012) 63:529–547.
- Bleiklie, I. (2003) Hierarchy and Specialisation: on the institutional integration of higher education systems. *European Journal of Education*, Volume 38, Issue 4, pages 341–355.
- Bleiklie, I. & Kogan, M. (2007) Organization and Governance of Universities. *Higher Education Policy*, 2007, 20, (477–493).
- Bok, D. (2008) *Our Underachieving Colleges. A Candid Look at How Much Students Learn and Why They Should Be Learning More*. Princeton and Oxford: Princeton University Press.
- Clark, B. (1991) “The Fragmentation of Research, Teaching and Study. An Explorative Essay” in Trow, M. & Nybom, T. (eds.) *University and Society. Essays on the Social Role of Research and Higher Education*, Higher Education Policy Series 12, London: Jessica Kingsley.
- Clark, B. (ed.) (1993) *The research foundations of graduate education: Germany, Britain, France, United States, Japan*. Berkeley: University of California Press.
- Coates, H. & Goedegebuure, L. (2012) Recasting the academic workforce: why the attractiveness of the academic profession needs to be increased and eight possible strategies for how to go about this from an Australian perspective, *Higher Education* published online: 24 May 2012.
- Colbeck, C.L. (1998) Merging in a Seamless Blend, *Journal of Higher Education*, Vol. 69, No. 6, pp. 648–671.
- Cole, J. (2009) *The Great American University. Its rise to preeminence. Its indispensable National Role. Why it must be protected*. New York: Public Affairs

- Deem, R. & Lucas, L. (2006) Research and teaching cultures in two contrasting UK policy contexts: Academic life in Education Departments in five English and Scottish universities, *Higher Education* 54: 115-133.
- Elen, J., Lindblom-Ylänne, S., Clement, M. (2007) Faculty development in research-intensive universities: The role of academics' conceptions on the relationship between research and teaching. *International Journal of Academic Development* 12, 123-139.
- Enders, J., & de Weert, E. (Eds.). (2009). The changing face of academic life; analytical and comparative perspectives. Basingstoke: Palgrave MacMillan.
- Goedegebuure, L. (2011). Mergers and More: The Changing Tertiary Education Architecture in the 21st Century Oslo, HEDDA 10th anniversary conference. City: Oslo.
- Gornitzka, Å & Larsen, I.M. (2004) Towards professionalisation? Restructuring of administrative work force in universities. *Higher Education*, Volume 47, Number 4, June 2004 , pp. 455-471(17)
- Hattie, J. & Marsh, H.W. (1996) The Relationship Between Research and Teaching: a Meta-analysis, *Review of Educational Research* 66(4), 507-542.
- Hedmo, T. & Wedlin, L. (2008). New modes of governance: the re-regulation of European higher education and research. In Mazza, C.; Quattrone, P. & Riccaboni, A. (eds.) *European Universities in Transition. Issues, Models and Cases*. Cheltenham: Edward Elgar.
- Henkel, M. (2004) Teaching and Research: the Idea of a Nexus, *Higher Education Management and Policy* Volume 16, No. 2 OECD.
- Högskoleverket (2010) *Swedish universities & university colleges. Short version of annual report 2010*, Högskoleverket (Swedish National Agency for Higher Education) Report 2010:13R.
- Jenkins, A. & Healey M. (2005) *Institutional strategies to link teaching and research*, Higher Education Academy, [www.heacademy.ac.uk/resources.asp](http://www.heacademy.ac.uk/resources.asp).
- Kallerud, Egil; Finnbjörnsson, Thorvald; Geschwind, Lars; Häyrinen-Alestalo, Marja; Ramberg, Inge; Siune, Karen, Tuominen, Terhi (2011) *The Public Debate on Research Policy in the Nordic Countries. A Comparative Analysis of Actors and Issues (1998 – 2007)*, NIFU RAPPORT 11/2011.
- Kyvik, S. (2009) *The dynamics of change in higher education: expansion and contraction in an organisational field*, Dordrecht: Springer.
- Kyvik, S. (2013) Academic Workload and Working Time: Retrospective Perceptions Versus Time-Series Data. *Higher Education Quarterly*, Volume 67, No. 1, January 2013, pp 2–14.
- Leisyte, L. & Dee, J.R. (2012) Understanding Academic Work in a Changing Institutional Environment. *Higher Education: Handbook of Theory and Research* Volume 27, pp. 123-206.

- Leisyte, L. (2007) *University governance and academic research: case studies of research units in Dutch and English universities*. Thesis University of Twente, CHEPS.
- Mayson, S. & Schapper, J. (2012) Constructing teaching and research relations from the top: an analysis of senior manager discourses on research-led teaching. *Higher Education* (2012) 64:473–487.
- Musselin, C. (2012) Redefinition of the relationships between academics and their university, *Higher Education*, published online: 18 October 2012.
- Neave, G. (2012). *The Evaluative State, Institutional Autonomy and Re-engineering Higher Education in Western Europe*. Palgrave Macmillan.
- Nybom, T. (2003) Institutional Autonomy von Humboldt legacy and Re-engineering the contemporary European university. In E. de Corte (Ed.) *Excellence in Higher Education in Western Europe*. Palgrave Macmillan (pp. 17-32). Portland Press, London.
- Olsen, J. P. (2007) The Institutional Dynamics of the European University. In Maasen, P. & Olsen, J. P. *University Dynamics and European Integration*, Higher Education Dynamics, Volume 19, 2007, pp 25-54.
- Palfreyman, D. & Tapper, T. (2009) *Structuring Mass Higher Education: The Role of Elite Institutions*. Routledge.
- Pollitt, C. (1990) *Managerialism and the Public Service: The Anglo-American Experience*. Oxford: Basil Blackwell.
- Ramirez, F. O. (2010). Accounting for excellence: Transforming universities into organizational actors, in V. Rust, L. Portnoi, and S. Bagely, (eds.), *Higher education, policy, and the global competition phenomenon*. New York: Palgrave.
- Robertson, J., Bond, C.H. (2001) Experiences of the Relation between Teaching and Research: What do academics value? *Higher Education Research and Development* 20, 5-19.
- Scott, P. (1995) *The Meanings of Mass Higher Education*. Society for Research into Higher Education & Open University Press.
- Slaughter, S. & Leslie, L. (1997) *Academic Capitalism: Politics, Policies, and the Entrepreneurial University*. Baltimore: The Johns Hopkins University Press.
- Smith, E. & Smith, A. (2012) Buying-out teaching for research: the views of academics and their managers, *Higher Education* 63:455–472.
- Stensaker, B. & Harvey, L. (eds) (2011). *Accountability in Higher Education – Global Perspectives on Trust and Power*. Routledge: New York, London.
- Teichler, U. (2006) Changing Structures of the Higher Education Systems: The Increasing Complexity of Underlying Forces, *Higher Education Policy* 19.



Taylor, J. (2007) The teaching:research nexus: a model for institutional management. *Higher Education* 54, 867-884.

van Vught, F. (2008) Mission Diversity and Reputation in Higher Education. *Higher Education Policy* (2008) 21, 151–174.

Whitchurch, C. (2009). The rise of the blended professional in higher education: A comparison between the UK, Australia and the United States. *Higher Education*, 58(3), 407–418.

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