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Research and Teaching – nexus or goal conflict?

– Junior scientists' perception on multiple demands at work

Junior scientists have to establish themselves in academia while juggling research and teaching tasks on a daily basis. How do they handle these multiple and often contradictory demands? Results from a standardized survey (N=695) show that many junior scientists face psychological strain due to goal conflicts reporting even more strain with research-teaching goal conflicts. They rank research goals higher than teaching goals while, at the same time, report a high and self-determined teaching motivation. Moreover, although their attitude towards the Bologna Reform is sceptical, the vast majority is committed to teaching goals set by the Bologna Reform (e.g. competence orientation). Qualitative analyses using 16 guided interviews with a selected subsample provide insight into circumstances which encourage junior scientists to engage in teaching, how teaching and research may facilitate each other, and how individuals differentially react to goal conflicts. Results are discussed in terms of practical implications and further research.

Being birthplace of Humboldt's Educational Ideal, German universities see themselves in the tradition of unity of research and teaching. Albeit, during the last decade German universities underwent substantial reformations, that were leading to new demands in research (e.g. increased external funding) as well as teaching (e.g. Bologna reform). These developments make it worthwhile to take a closer look at the research-teaching nexus on scientists' workplace today. More specifically, the ConGo-Project (*Conflicting Goals@universities*) investigated how individual scientists deal with multiple and often contradictory demands from a motivational psychology perspective. We focused on junior scientists because they will form future science as upcoming professors and they are already confronted with multiple research and teaching tasks today (Esdar, Gorges, & Wild 2012).

A standardized online survey was completed by 695 junior scientists recruited from nine selected German universities. From this sample, 16 junior scientists were selected for guided interviews. Theoretically, we focused on two psychological concepts: Goal conflicts and motivation.

Daily work at university is characterized by high autonomy but multiple demands. Whereas (high) autonomy can be seen as a source for achieving work satisfaction and subjective well-being (Gagné & Deci 2005), multiple demands and limited time resources are hypothesized to contribute to goal conflicts (Slocum et al., 2002). Goal conflicts can be characterized as interfering (as opposed to facilitating) goal interrelations. "Intergoal interference occurs when the pursuit of one goal impairs the likelihood of success in reaching another goal" (Riediger & Freund 2004; *p.* 1511). Previous findings review that facilitation is positively associated with involvement in goal pursuit whereas interference is negatively associated with trait and state well-being (Riediger & Freund 2004).

Motivation precedes intentional actions (i.e. to teach, to work). Not only, can it be described in terms of quantitative aspects— high versus low motivation— but also in terms of qualitative aspects. The world-widely recognized self-determination theory (Deci & Ryan, 2002) proposes distinctions between the extents to which individual's behaviour is more or less self-determined. They see three universal basic needs for relatedness, competence and autonomy as prerequisite for self-determined

motivation. Social environments differ in how they satisfy basic needs and, in turn promote healthy functioning (Deci & Ryan 2002). Despite the fact that the Bologna Reform is part of ongoing controversial debate in Germany, junior scientists' attitude towards the reform is also of interest. Attitudes towards the teaching reform might influence their teaching motivation. Only with a sufficient commitment to change (Herscovitch & Meyer 2002) the implementation of such a reform process could be successful.

The explanation above leads to the following questions: *Is – and if so, how is junior scientists well-being impaired by their research-teaching goal conflicts? And Is – and if so, how is – their teaching motivation affected by that?*

Our quantitative data show that 85% of junior scientists report that they often and almost always experience goal conflicts at work, 62% face psychological strain due to goal conflicts whereas those who name research-teaching goal conflicts report even more strain. On average, they rank their research goals higher than teaching goals. Asked for their time management, they report that they would prefer to spend more time on research and less on teaching (Esdar et al., 2012).

Nevertheless, junior scientists also report a high and self-determined motivation to teach which is (moderately) positively correlated with higher levels of the utilization of new teaching concepts. Though we found a quite sceptical attitude towards the Bologna Reform, 89 % of junior scientists report to consider competence orientation in their teaching. More than half of them (54%) report to use innovative teaching concepts such as problem based learning or business games (Esdar & Gorges 2012).

The qualitative part of our study (Esdar, Gorges, & Wild 2013) consists of an intensive random subsample, selected by differences in perception of goal conflicts. Thematic analysis of Braun and Clarke (2006) was used to analyse the interview data The interviews offer a deep insight into circumstances which lead to research-teaching goal conflicts and encourage or discourage junior scientists to engage in teaching. We found that autonomy supportive circumstances, notably freedom in design and content of their courses are beneficial, whereas strict curricular regulations and introduction lectures with a large number of students impair self-determined teaching motivation. Given an adequate staff-student ratio, a direct interaction with motivated students provides satisfaction of basic needs for relatedness and competence, which in turn, foster high and self-determined teaching motivation.

Facilitation between research and teaching goals is given, when freedom in design and content of courses enables junior scientists to use literature that is useful for their own research or when new research ideas can be discussed and developed with skilled students. Furthermore, junior scientists, who see teaching experience and skills as relevant for their professional future, experience more congruence between their actual and ongoing future goals by developing teaching competencies.

High levels of intergoal interference and strain are reported by junior scientists who have high personal expectations on the quality of their teaching. In other words, those junior scientists who have a clear prioritization for research seem to handle their teaching duties in a more pragmatic way which leads to less interference. Although many junior scientists attribute their stress to high personal expectation on their teaching quality, none of them was willing to reduce his or her expectations up to now.

A way to deal with interference can be labelled as "privatization" of research. Particularly, postgraduates point out that they are paid for teaching duties whereas their dissertations have to be written in leisure time.

Practical implications suggest that if an endeavour to increase the quality of teaching is made, it has to be taken into account that universities are multifunctional organizations. Hence, research aspects always have to be taken into account as well. Results also suggest that teaching at university should be organized in ways that allow basic need satisfaction and facilitation between research and teaching tasks. Furthermore, personal development trainings might help junior scientists to set priorities and find appropriate expectations with respect to their teaching.

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