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Title	Opportunities for Brokering between Teaching-Focused and Research-Focused UK Life Science Academics
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Opportunities for Brokering between Teaching-Focused and Research-Focused UK Life Science Academics

Teaching-focused academics are employed in UK universities under a number of guises. They may be employed under a "teaching and scholarship" contract, or have chosen to focus on a teaching career path. In Life Sciences departments in UK universities, the main roles of a teaching-focused academic are to carry out the majority of undergraduate teaching and associated administration, and supervise undergraduate projects. Although some teaching-focused academics may be specifically employed to teach at undergraduate level, many teaching-focused academics also supervise and teach postgraduate students. Teaching-focused academics also engage in the Scholarship of Teaching and Learning (SoTL) (Boyer, 1990). Development of engagement with SoTL goes beyond the scholarly practices expected of any academic in higher education (Potter & Kustra, 2011; Richlin, 2001). Teaching-focused academics contribute to an evidence-based, scholarly approach to teaching, learning and assessment by initiating and carrying out pedagogic research, inquiring into their teaching practice and their students' learning. This engagement with scholarly enquiry and pedagogic research (Trigwell, Martin, Benjamin, & Prosser, 2000) has the purpose of sharing practice to raise the quality of teaching and learning, and enables teaching-focused academics to strengthen their communities of practice, inside and outside their departments and institutions.

There is evidence to suggest (AUTHOR, 2016) that teaching-focused and research-focused academics have become two separate communities of practice (Wenger, 1998); one focused on SoTL and teaching, the other focused on disciplinary research (although care should be taken to remember that Life Sciences is a collection of disciplines). One of the drivers for this separation is the Research Excellence Framework (REF) which shifts the priorities of research-focused academics towards grant income, research papers and PhD students. The evolution of the teaching-focused academic can also be seen to be a consequence (albeit unintended) of REF; as research-focused academics concentrate on disciplinary research, teaching and administration still have to be done. As far back as 2005, it was estimated that 20% of academic staff were "teaching-only", with many staff being transferred from "teaching and research" contracts in order to avoid inclusion in REF due to underperformance (AUT, 2005). By 2015 this had risen to 27% of academics, with many on part-time or temporary contracts (Hubbard, Gretton, Jones, & Tallents, 2015). There has been a shift in attitude over the past decade, with many academics making an active choice to follow a "teaching and scholarship" career route, despite differences in career progression and opportunity compared to a research-focused career (Cashmore, 2009b, 2009a).

An outcome of earlier studies (Gretton & Raine, 2015; AUTHOR, 2016) uncovered specific sources of anxiety for Life Science teaching-focused academics as they developed their career as a scholarly teacher, and expanded their expertise as a SoTL practitioner. Teaching-focused academics were perceived as having less value than their research-focused counterparts by their institutions and colleagues. This manifested itself in a variety of ways including reward, recognition and promotion (Cashmore, 2009b, 2009a) and career opportunities (AUTHOR, 2016). Conversely, teaching-focused

academics were valued highly by their students. However, teaching-focused academics themselves suffered a loss of confidence regarding their ability to teach, in particular at honours and masters levels, and to supervise and evaluate undergraduate and postgraduate research projects. The reason they gave for this waning confidence was a growing distance between them and their disciplinary expertise, which exacerbated over time. This was most keenly felt by those teaching-focused academics whose core responsibilities were to honours and postgraduate teaching and supervision, and less of an issue with teaching-focused academics whose responsibilities lay with early years cohorts. Several of the participants in the studies expressed a desire to return to the lab or field on a temporary basis in order to refresh and ameliorate their disciplinary expertise, although there was little evidence that this happened in practice.

Based on my own previous study (AUTHOR, 2016) which looked at teaching-focused and researchfocused academics as communities of practice (Wenger, 1998), I examined the issue of the separation of the two communities of practice under the influence of REF, and how the goals of science and the goals of the organisation had become conflicted (Glaser, 1963). The phenomenon of the boundary object and the act of brokerage was pivotal in bringing the two-co-existing communities of practice together. In this case the brokerage is performed by the academics, exchanging pedagogic and disciplinary knowledge, which can be seen to act as boundary objects (Wenger, 1998, p.105) There was some evidence to support the exchange of disciplinary knowledge from research-focused academics to teaching-focused academics, for example, when redesigning a module or a programme of study, with regards to current content. However, teaching-focused academics did not describe situations where research-focused academics sought pedagogic expertise from teaching-focused academics. The current study, therefore, explores the existence and extent to which brokerage between teaching-focused and research-focused academics occurs, the direction it occurs in, and what mechanisms encourage exchanges of expertise. The study was conducted via a series of narrative interviews (Jovchelovitch & Bauer, 2007) with both teaching-focused and research-focused academics in a range of UK universities in all four home nations.

Preliminary findings indicate that there are a variety of brokerage activities occurring in different contexts, going in both directions. Channels for exchange may be formal and informal. However, the extent of brokerage depends on individuals within a department, and on departmental culture. There are also organisational obstacles which can limit the extent or effectiveness of brokerage activities. While some departments have had some success in overcoming the divide between teaching-focused and research-focused academics, in others it remains a source of tension.

The study is important as the Teaching Excellence Framework (TEF) (Department for Business, Innovation & Skills, 2016) is being implemented in England, which will turn the spotlight on teaching and learning practices in English universities, and is likely to impact on core funding. The results of the current TEF were released in June 2017, resulting in jubilation for some institutions and disappointment for others.

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