STRENGTHENING TEACHING AND LEARNING IN RESEARCH UNIVERSITIES

Strategies and Initiatives for Institutional Change

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Strengthening Teaching and Learning in Research Universities

Bjørn Stensaker • Grahame T. Bilbow •
Lori Breslow • Rob van der Vaart
Editors

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FOREWORD

The current book is based on contributions from partners in the Network for the Enhancement of Teaching and Learning (NETL). This network was the brainchild of Professor Graham Gibbs, one of the leaders internationally in the movement to improve teaching and learning at the university level. Gibbs, who has widely published on the topics of student learning, the training of university teachers, and development of teaching and learning strategies at the institutional level, was the director of what currently is the Oxford Learning Institute at Oxford University, when he conceived of NETL in 2004. His idea was as simple as it was strategic: to provide an opportunity for a group of senior policy makers for undergraduate education from some of the world's most research-intensive universities to meet jointly with the directors of their institution's academic development units. Each pair—a senior policy maker and an expert in teaching and learning—would meet once a year with their counterparts from around the world.

The senior policy maker, whose title might be Vice-Chancellor, Vice-Rector, or Dean, depending on the institution, likely had a wide portfolio that might include the offices of admissions, study skills, financial aid, career counseling, curricular innovation, or professional development of faculty—a portfolio that often requires collaboration with the academic development unit. Similarly, these units' responsibilities might vary, but their core mission is to engage with professors, postdoctoral associates, and/or graduate students to strengthen pedagogy, curriculum, or educational technology, and to collaborate on innovation in these areas. They also undertake research to gather empirical evidence on teaching and learning to inform strategic decision-making about the universities' educational mission. In addition, they work with students on strategies to improve studying and learning.

But, too often, the heads of these units and the policy makers to whom they report do not have the chance to spend any length of time together deciding on priorities or aligning strategies. Graham Gibbs's idea was to give these two groups of people time to think together and, as importantly, to share ideas, perspectives, and challenges with colleagues from other universities whose work was centered on undergraduate education. As Gibbs wrote in an application for funding, the purpose of the network was 'establish fruitful conversations . . . about how to go about enhancing forms of teaching and learning .. . .' The first meeting was in 2005 at Oxford University with thirteen universities from the UK, Europe, North America, and Australia in attendance.

In the ensuing dozen years, NETL has expanded to include universities from Asia, and, in fact, meetings have been held on members' campuses on four continents. The network is a loose confederation, intentionally, without a lot of rules or policies. It is run, more or less, on the goodwill of its members with the institution that will host the annual meeting of the 'leader' for that year. The topics discussed at the meetings are wide ranging, including strategic positioning of the centers for advancement for teaching and learning, quality assurance mechanisms, the relationship between organizational infrastructure, and norms and practices related to teaching and learning or how to train new faculty, help students to develop as learners, or/and to foster conversations about learning among instructors.

One important 'lesson' we have gained from meeting with each other annually is how much national systems, and the norms around teaching and learning culturally and institutionally, can impact how instructors teach and students learn. Organizational structures, governmental policies, and the nature of our students—their backgrounds, motivations, prior educational experience, and expectations for their time at university—vary substantially. This means, in turn, that some of the underlying assumptions about how a university operates, the goals and values of the work we do, and how we interact with students were not universally applicable, although we all work in institutions sharing some important cultural characteristics, norms, and values.

In fact, in the network's first meetings, we had to 'translate' vocabulary and concepts for one another. As mentioned above, the titles of the senior policy makers are not the same at every institution and their responsibilities may be quite different. Similarly, the academic development unit may be commonly called ‘staff development’ or ‘educational development’, but in the USA, more often than not, the term used is ‘faculty development’. The USA differs from many other national systems of higher education in the status of ‘public’ and ‘private’ universities in relationship to one another, and the idea of ‘quality assurance’, particularly as a governmental function, does not exist in the States. Variations in how much training faculty is required to receive in university teaching are also large. Some of our members require that faculty take part in substantial training programs before they can be certified university lecturers (this may even be a tenure requirement), whereas other universities have very limited requirements for the initial professional development of faculty in their teaching role. Some universities are highly decentralized in matters of pedagogical and curricular innovation, with a key role for departments, whereas other member universities have a far more centralized and institution-wide approach to these matters. And even the position of teaching—who teaches (ranging from teaching assistants to full professors) and with what intensity (teaching load, types of teaching-learning settings)—varies widely between the research-intensive universities of our network. The value in the conversations among us is that they allowed us to step outside our own frames of reference. This, in turn, helped us see that the ways things were done in our own institutions—norms, practices, and values—were often a result of historical accidents or unexamined beliefs. And that meant they could be improved upon.

Even with all these differences, we found commonality in the challenges we faced and that our universities confronted and continue to struggle with. For example, all the participants in the network grapple with the fact that our universities reward faculty for their research prowess, for bringing in research funding, and for publishing in top-tier journals. Their accomplishments in teaching and learning tend to be less emphasized in tenure and reward decisions. Of course, the extent to which this is true differs from institution to institution but in general, in *research-intensive* universities, the importance of doing world-class research is built into the DNA of our instructors. The faculty prioritize their research and rightly so. But all of us in the network strive to expand discussions about teaching and learning on our campuses, emphasize the importance of exploring and sharing good practice, define teaching as an intellectual activity, and help our institutions reach a standard of excellence in teaching and learning on par with their reputation in research.

Another challenge that unites us is the fact that higher education has become more expensive in almost every country. Commonly, we have found that our stakeholders, including parents, politicians, industry, the students themselves, have high expectations of how a university-level degree will equip future professionals and citizens for the world they will enter. Members of the university community have a commitment to help students master the critical knowledge and crucial skills they and their communities need. How this gets accomplished in a time of dwindling resources is a topic we are invested in.

New challenges have appeared in the twelve years since the network has been in existence. Perhaps the most compelling one is technology. In 2012, the network's eighth year, massive open online courses (MOOCS) appeared bringing educational technology to a level of public consciousness that had not been the case previously. This is not to say that online courses and the use of technology as a tool in education did not exist before MOOCs—they certainly did—but with elite US institutions, and with many other top universities around the world getting into 'the game' as MOOC creators and as early adopters, there was a new level of awareness about the possibilities the technology could bring. Although the rhetoric that MOOCs would 'transform' higher education has been much dampened since 2012, the notion that technology can both potentially bolster learning and reduce costs has continued to be appealing. NETL members, both policy makers and teaching and learning experts, are confronted with questions about how much to develop and invest in technology, who will do it, and how faculty can be supported in using technology in and outside the classroom. Our individual universities need to decide what technology should be allowed to do and what is best left to face-to-face interactions between instructors and their students.

These are issues we help each other with, and one of the major points of value we see in the network. After the UK funding that Graham Gibbs received for NETL's first two years, each university has paid for the travel and housing expenses for its representatives. (The host university assumes other meeting costs.) The agenda for the two-day annual meetings is shaped by consensus, and new universities are invited to join the network if all current members agree. During the first handful of meetings, each university would give a 'campus update', but we found ourselves boring each other to death. Now, we ask representatives from each university whom we feel are experts in a particular topic (teaching and learning technology, professional faculty development, and pedagogical innovation, etc.) to educate each other. We have also scheduled smaller meetings for each 'group' at some of the meetings (i.e., the policy makers meet with each other to discuss topics of particular interest to them, and the academic developers do the same). But, as with most meetings, the real value is in the informal time we have to talk to one another. And the benefit of providing academic developers and the senior policy makers with the chance to focus solely on issues related to teaching and learning cannot be underestimated. This was part of Graham Gibbs's original vision for the network, and it has become an important part of the experience.

The authors of this foreword were at the original meeting in 2005, and their universities have sent representatives to the meetings every year since. We each have memories we are particularly fond of; for example, at the first meeting in Oxford, the wine list was both extensive and superb. It poured buckets during the meeting in Sydney, as it did in Helsinki, although the sun came out just as we gathered for dinner in a large dining room with a spectacular view of the harbor. The seafood in a country house during the Boston (Massachusetts Institute of Technology) meeting was superb. The second meeting at the University of Utrecht was particularly important because it made real Graham's exhortation that if this 'venture' was to be successful, 'someone has to take the initiative [as he did,] but if the collaboration is to flourish, responsibility and decision making has to be shared quite quickly'. In hosting the second meeting, University College at Utrecht acknowledged that it would share responsibility, thereby becoming the model for all of us. By the third meeting, we felt that NETL—our Network for Enhancing Teaching and Learning in research-intensive universities—was real.

As representatives from individual campuses have stepped down from their positions, either as policy maker or director of the academic development unit, they have passed down knowledge of the network to their successors. Those successors have come to meetings where 'old timers' have filled them in about the history, both formal and informal, of the network, as well as its norms. And each year we have met, someone has said 'let's write a book together', a sentiment annually forgotten until Bjørn Stensaker said it at the meeting at the University of Edinburgh in 2013 and then actually followed up! Hence, the meetings in 2015 (Singapore) and 2016 (Hong Kong) have been devoted to identifying topics we were interested in, creating teams who would be responsible for writing chapters, and reviewing chapters as they were developing.

The chapters in this book reflect the collective wisdom of thirty individuals who have dedicated their careers to strengthening teaching and learning at the university level. Although each of us works at a research-intensive institution, we believe the programs and practices we have contributed to, as well as the challenges we have faced, are applicable to universities at every level and within every national system. For twelve years now, we have participated in sharing knowledge, describing our work, and complaining about frustrations we face so that we may strengthen the enterprise of undergraduate education that we are committed to. In that effort, we have also built a tremendous sense of comradery. We celebrate Graham Gibbs's original vision, what we have gained, and the friends we have made. This book is a result of all of that.

Lori Breslow
Sari Lindblom-Ylänne
Rob van der Vaart

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Strategic Challenges in the Development of Teaching and Learning in Research-Intensive Universities

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1 INTRODUCTION

Higher education is one of the success stories of our time. The continuous expansion of the higher education sector in countries all over the world is a consequence of massive political, economic and cultural interest in research and education, which has led, over time, to advances in the higher education sector for individuals, nations and societies. Research universities have had a unique role in this development as they have been at the forefront of higher education institutions that have broken new ground, theoretically and empirically, and that have provided our societies with new knowledge and insights.

As a consequence, research universities have a privileged position and a long history in most economically advanced countries and are intimately connected with the development of key functions and institutions in democratic countries. With respect to education, research universities have been the major arenas for training personnel for public bureaucracies, the legal system, health care, primary and secondary educational systems and so on. At the same time, and, as their label suggests, such institutions are still often focussed on doing basic and fundamental research in a wide range of disciplines and knowledge areas. Research universities therefore reflect this interest in their internal organisation, recruitment of academic staff, resource allocation and decision-making.

The focus on research does not imply that research universities ignore their teaching responsibilities or their educational mission (Marincovich 2007). On the contrary, a number of pedagogical ideas and innovations in learning can be traced back to research universities, which have then spread throughout higher education. However, pedagogical and didactic ideas and innovations have not always been comprehensively implemented and systematically assessed within the institutions from which they originated. Reasons for this include the considerable autonomy given to individual teachers and departments, the increased number of external expectations and tasks, ingrained practices and norms about what constitutes good teaching and a dominant focus on those activities related to research and innovation.

This situation is unfortunate in that research universities can be said to have several advantages in comparison with most other higher education institutions with respect to teaching and learning: their expertise in research and innovation provides these institutions with huge potential for finding new links between research and education, and their disciplinary scope and diversity should, in principle, enable these institutions to combine disciplinary insights in new ways to benefit curricula, study programmes/majors and students.

Many research universities are currently trying to develop their educational mission along these lines, and this book describes, discusses and analyses a range of initiatives that aim to further develop the quality of teaching and learning. Although the examples reported upon and discussed in this book are taken from a relatively small sample of research universities, we believe they have considerable relevance to others by virtue of the fact that they provide cases and exemplars from leading research universities located throughout the world. Put together, they exemplify both the diversity and the commonality of approaches to strengthening teaching and learning in various institutions around the globe. Our ambition with the book is to provide both empirical evidence and critical reflections on how the quality of teaching and learning can be advanced at university level. We do not intend to offer 'best' practices in the sense that examples are unique or flawless. Our ambition is to offer 'interesting' practices so they can spur reflection and be an inspiration to other institutions in their efforts to improve teaching and learning.

2 A Broadened Perspective on Academic Development

Historically, academic developers and special academic development units have been central in numerous institutional efforts to improve teaching and learning (Gibbs 2013). While academic developers are still central, their roles and responsibilities, as well as their understanding of what academic development is, have changed over the years (Gosling 2009; Gibbs 2013). While academic development is a label that is closely linked to a distinct professional role for the enhancement of learning and teaching (Fraser et al. 2010), the understanding of responsibilities of academic developers varies widely from country to country and from institution to institution (Knapper 2016). This is partly reflected in the various labels associated with academic development, also reflected in the different chapters in the current book. While in some countries the term 'educational development' is preferred, the terms 'faculty development' and 'staff development' are used in others.

Many of the activities that have taken place under these labels have been rather similar, though. Over the last couple of decades, many research universities have offered various forms of training to newly employed and established faculty focussing on how to teach, as one way of improving the quality of the educational enterprise. Training varies in both length and scope, but such courses have traditionally focussed on the practical dimensions associated with teaching and on the individual skills of the teacher (Gibbs 2013). These kinds of courses certainly have developed substantially over the years, often recognising the contextual, cultural or disciplinary factors that affect instruction, as well the ways in which teaching is impacted by institutional structures and regulations. Yet, it is debatable whether such individualistic approaches really have substantial, sustained and systematic impact on the institution.

This perhaps accounts for why there has been a transformation of the role of academic development over recent years (Gibbs 2013; Knapper 2016). For example, in many European and Asian institutions, academic development has become more strongly linked to institutional strategic efforts and ambitions, is more involved in activities that are related to the structural and organisational context of teaching and learning and is drawn into the administrative and managerial sphere of university affairs. Where this transformation has occurred, it has led to some interesting consequences for how we understand academic development. First, the blurring of boundaries between academic development and other professional activities within the university calls into question the unique responsibility of academic developers in the process of strengthening teaching and learning. The implication is that many other professionals within the university may take on distinct roles in teaching and learning improvement processes, both alongside and independently of academic developers (Fraser and Ling 2014). A second consequence is that the blurring of boundaries also provides academic developers with an opportunity to expand on their tasks and responsibilities, exploring new roles and directions for how academic development could be understood in the future (Knapper 2016).

The ambition with the current book is to provide concrete examples of how a broader understanding of academic development is changing the ways research-intensive universities think about and act on improvements in teaching and learning in general. There are many approaches and tactics available for improving teaching and learning in research universities. Historically, and from a very narrow perspective, one could argue that excellent teaching and learning are dependent on the recruitment of the best academic staff and the best students. While this to some extent can be said to be true, one could also argue from a more critical perspective as to whether 'good' academic staff and 'good' students are the sole requirements for excellent teaching and learning to take place. Recent research from the USA suggests that in many higher education institutions, students do not really progress academically during their college years, and questions have been raised about the added value of the education students receive (Arum and Roksa 2011). If we are to take this research seriously, it is clearly not enough to recruit brilliant staff and students. We need to understand the relationship between how faculty teach and how students learn (Trigwell et al. 1999), develop a better understanding of academic practice (Brew 2010) and think about how teaching and learning improvements can be linked to institutional visions and ambitions (Loads and Campbell 2015).

As research universities all over the world have grown and become more professionalised, they have also expanded and built up new administrative capacity in areas that might influence how teaching and learning take place. Human resource management is a growing activity in most research universities, and there is an emphasis on developing research universities into leaner and more flexible organisations. Hence, the range of courses designed to develop faculty has been broadened in recent years. For example, most research universities now have courses for upcoming leaders at various levels and mentorship programmes for young staff. They also offer services to help faculty use digital tools and platforms both for instruction and for administrative functions. This kind of formalised capacity building can also—although in a more indirect way—impact how teaching is conducted and how learning takes place. One can argue that this development is actually a regulatory process that contributes to the establishment and formalisation of new rules and codes of conduct. As part of this move towards professionalisation, teaching is increasingly accompanied by stricter formal expectations and routines deriving both from the institution itself and from external constituencies (Boud and Brew 2013). As a result, in at least some countries, there are greater demands for faculty to be certified in teaching at the university level. While this can indeed be seen as a very positive development, it is nevertheless an open question if and how these kinds of formalised approaches will work.

There is growing recognition across many institutions that the development of teaching and learning in higher education needs to depend on systematic and sustained research on the effects of curriculum, pedagogy, technology and student learning approaches (see e.g., Parpala et al. 2010). At research universities, teaching and learning-related research is increasingly an integral part of the research universities' activities. Understanding what works and what does not work with respect to teaching and learning should no longer be based on anecdotes and qualified guesses but on systematic data collection and more rigorous research (Brew 2003).

The above stages in the development of teaching and learning are not meant as a chronological description of how this activity is unfolding (for those interested in learning more about academic development in a historical perspective, consult Gosling 2009; Gibbs 2013; Knapper 2016). While some universities perhaps have moved along rather similar development paths, others have followed quite different paths, and yet others are still pondering how to develop their strategy for improvement. Despite this diversity, most research universities have broadened their understanding of what constitutes academic development and have started to create an 'institutional tool box' to support the paths they are taking.

3 The Quest for Teaching and Learning Improvement: A Matter of Engagement

Improving teaching and learning in a systematic and comprehensive way is a considerable challenge for any university. Part of the challenge may come from the fact that research has not identified one 'best' way of organising and designing the teaching and learning enterprise. The fact that teaching and learning may be organised and structured in a variety of ways in different disciplinary settings may also complicate matters, as may the fact that universities are typically extremely complex organisations, characterised by competing rationales and interests.

However, in most countries there is a growing public interest in the quality of higher education. Driven by increasing accountability for how public resources are spent, by increased costs related to higher education, and by increased competition for talent, most universities are experiencing pressure to develop teaching alongside research (see, e.g., Ling et al. 2013). At research universities, this is driven less by the economic pressure of training students for employment, and more by a commitment to knowledge pursued for its own sake, and a belief that students and staff are integral to this endeavour.

An implication of this almost universal view among staff at research universities is that strengthening teaching and learning is seen less as a matter of novel digital gadgets and specific pedagogical innovations, and more as a cultural process of continuous change involving faculty and students (Knapper 2016). Within this paradigm, however, the aims and means of change need to be discussed, and advocates of particular changes need to argue for them persuasively (Brew 2010). Hence, our perspective in this book is that improvements in teaching and learning have to take account of the many cultural dimensions that are inherent in research universities and recognise that any strategic effort must be sensitive to the historical and institutional legacies of these institutions. As such, the various chapters are very much focussed on initiatives that involve and engage academic staff, who, ultimately, are the ones who will (or will not) implement new approaches to teaching and learning in their classrooms.

For those with management and leadership responsibilities, as well as for those engaged in academic development in a broad sense, this also implies that instigating change in teaching and learning is a quite challenging process that often cannot rely on traditional hierarchical decision-making and command structures. This does not mean that top-down initiatives are always flawed or that change initiatives have to be initiated from the bottom. It rather suggests the need for coordination, consultation and sensitivity to complexity, as change processes unfold.

4 Three Grand Challenges When Improving Teaching and Learning in Research Universities

Despite a broadening understanding and an increasing number of activities in the areas of academic development, pedagogical and technological change, there are still many challenges facing research universities with respect to realising their ambitions in teaching and learning, especially if they want to stimulate broader cultural shift.

On the basis of the history and key characteristics of research universities, three grand challenges can be identified as critical for such cultural change to occur. The first challenge is related to our thinking about teaching and learning, and the ways research universities have framed their role and function in the past. This can be termed the *normative* challenge, since there are certain beliefs and values that surround teaching and learning in these institutions in ways that can prevent change, although they might also point forward to future developments. The second challenge relates to how teaching and learning over time have become institutionalised in the sense that these activities manifest themselves in certain distinct *practices.* The practice challenge is about how to critically examine, evaluate and develop existing ways in which teaching and learning is conducted by individuals and within disciplines. Finally, and recognising that the educational mission is quite complex to administer, there is also an *organisational* challenge. This challenge is about how the university can combine its many resources and activities more coherently so that student learning is enhanced in an optimal way.

4.1 The Normative Challenge

In most research universities, the idea of a close link between research and teaching has historically been key to steering the thinking about the role and function of education. Traditionally, the link between research and teaching stems from the Humboldtian concepts of the university, in which a key role of education was to select and train the next generation of academics. In modern research universities, the thinking around the links between teaching and learning has moved far beyond this rather limited view of the purpose of education. The modern interpretation of the coupling of research and teaching is more associated with the need for college graduates to think critically, develop analytical reasoning and exercise independent judgement in the knowledge society. In other words, modern students should think and work as 'researchers'. According to this view, by learning how researchers approach a problem and work to solve it, students will acquire skills that are also useful both in the world of work and in other societal settings.

However, a normative challenge remains, as it is far from clear how the links between research and teaching are structured, how these activities should be structured and how they should be rewarded. While faculty tend to believe in the value of combining research and teaching as part of their duties, the actual links between research and teaching are still relatively unexplored empirically (Hattie and Marsh 1996). One may suspect that the belief that research is only about generating knowledge and that teaching is only about disseminating knowledge prevails among university staff, although different models and perspectives do exist (Brew 2003). Hence, how we think about the relationship between research and teaching in research universities may have quite dramatic consequences for how we imagine instruction can develop critical thinking, analytical capabilities and independent judgement in students, and how the relationship between student and faculty should be structured. Some might even question whether research and teaching can be distinguished from each other (Marincovich 2007).

4.2 The Practice Challenge

Developing the quality of student learning is very dependent on critical reflections about the current practices of teaching and the impact it has on student learning. We know that teachers' approaches to teaching structure the ways in which students learn (Trigwell et al. 1999), which makes it more important than ever to critically examine the ways teaching is done and the approaches teachers use. We also know that different disciplines and subject areas have developed their own conceptions about teaching, and how it should be organised, and that distinct teaching cultures have been developed as a consequence (Umbach 2007). In the USA, work has been done in what is called 'discipline-based education research' (DBER), which begins with the premise that the nature of content and skills to be mastered depends heavily on the field (Singer et al. 2012).

These cultures can be interpreted in various ways. On the one hand, they can be seen as the natural outcome of a deep understanding of specific discipline-related knowledge and how such knowledge is developing. On the other hand, they can also be seen as taken-for-granted and socially constructed practices that hinder creativity and new ways of stimulating student learning. In more complex disciplinary settings, especially when study or degree programmes are inter- or multi-disciplinary, it is still important to assess whether and in what way more generic insights into effective teaching (Chickering and Gamson 1987) can be of relevance to established practices and distinct teaching cultures in research universities.

4.3 The Organisational Challenge

Delivering education in a modern research university is a very complex activity in which a range of administrative and academic issues have to be taken into account and coordinated. Someone needs to be responsible for this coordination and for driving different activities and actions forward. If research is to be linked more strongly to teaching, there is also a question of finding the concrete ways and means to instigate such links. In short, there is an organisational challenge related to promoting and driving teaching and learning forward. One critical question to address in this respect is how 'development' is supposed to take place and what sort of structures and actions are needed to stimulate the process (Boud and Brew 2013).

It is possible to identify a range of ways forward with respect to how research universities may develop and further strengthen their teaching and learning activities. Perhaps these many possibilities lead to the diversity we see in the way academic development is designed and organised in the sector, and what seems to be a constant search for new organisational solutions (Gibbs 2013). However, the organisational challenge is not only an internal challenge. For research universities, which have well-developed external networks and partnerships with both the public and the private sector, the organisational challenge is also about how these resources can be exploited and how they can enrich the student experience. As such, the challenge is perhaps not so much about 'organisation' as it is about 'organising'—on developing adaptive structures that enable support for teaching and learning situated in complex and more networked academic environments.

5 The Chapters in the Book

The challenges identified above are not meant to be seen as mutually exclusive. On the contrary, they are often intertwined and related to each other in very intricate ways, which is very much reflected in the different chapters in the book. The chapters expand on these challenges differently and elaborate, discuss and examine experiences that research-intensive universities in various parts of the world have had when dealing with these challenges. Our intention is not to offer blueprints that we think will work in all settings. On the contrary, the cases described in the different chapters are intended to describe where problems are still found and offer critical reflections about how to move forward. We believe this is a good way to develop a better understanding of the conditions and mechanisms that need to be taken into account if teaching and learning in research universities is to be further strengthened.

As research-intensive universities in different parts of the world are trying to adapt to rapidly changing expectations and increasing demands, they face internal challenges with respect to how all new activities and actions can be coordinated. This is the topic of the chapter "The Expansion of Academic Development: The Challenges of Organizational Coordination and Collaboration" by Bjørn Stensaker, Rob van der Vaart, Tone Dyrdal Solbrekke and Line Wittek. In this chapter, they go further into what they call the expansion of academic development—how the process of developing teaching and learning is no longer the sole responsibility of academic developers. Through two case studies of the many initiatives the University of Utrecht and the University of Oslo have taken to improve teaching over the last 10–15 years, they show how these initiatives are partly a result of bottom-up initiatives, new leadership ambitions and a more professionalised administration. These changes have led to a number of promising actions, despite some organisational fragmentation and challenges to coordination. This shift is far from unique to these two universities (Gibbs 2013), but the cases demonstrate how academic development is increasingly seen as a tool for the institutional leadership to come to grips with extremely de-centralised organisation and the quite autonomous academic units within the research university.

Although modern research universities are changing—and need to do so—the goals of the change process rarely include confronting the autonomy and norms of the disciplines within the institution. Academic disciplines and disciplinary organisation lie at the heart of the research university, and successful change is often dependent on speaking to disciplinary traditions and needs (Singer et al. 2012). In chapter "Educational Enhancement in the Disciplines: Models, Lessons and Challenges from Three Research-Intensive Universities", by Kathleen M. Quinlan, Herman Buelens, Mieke Clement, Julia Horn and Camilla Østerberg Rump, different ways and forms of engaging disciplinary specialists in teaching enhancement processes are examined through three case studies from Oxford University, the University of Leuven and the University of Copenhagen. While these universities have chosen different paths, they also share some common characteristics, including openness to discipline-specific experiences, and how this might change both the language used in development processes and the power relations of those involved. As such, the chapter speaks to the delicate balance that has to be found between the knowledge held by disciplinary communities (Lave and Wenger 1991) and the generic expectations concerning how teaching and learning can be improved.

While sensitivity to the disciplinary characteristics of the research university is important, a number of research-intensive universities have, over the past decade, started to develop several institution-wide initiatives to foster improvements in teaching and learning. Among such initiatives are more formal training offered to those who take on the role as educational leader. This is a much welcome development, as educational leadership is probably one of the most challenging tasks in a research-intensive university (Bryman 2007). Through a comparison of educational leadership training programmes in several research-intensive universities, Hetty Grunefeld, Frans Prins, Jan van Tartwijk, Rob van der Vaart and colleagues describe and analyse the functioning of these programmes in chapter "Faculty Development for Educational Leadership". Through a careful examination of the different aspects of educational leadership and how it can be understood, the chapter demonstrates some common denominators of programmes, including the emphasis on interaction between participants, a practice-driven agenda and the reflective aims of the programmes.

A different institution-wide initiative that is fast becoming more popular, at least in Northern Europe, is the attempt to build the teaching competencies of academic staff through more formalised merit-based systems. Two such initiatives, from the University of Copenhagen and the University of Edinburgh, are reported on in chapter "Building Academic Staff Teaching Competencies: How Pedagogic Continuous Professional Development for Academic Staff Can Be Organised and Developed in Research-Intensive Universities" by Sofie Kobayashi, Jens Dolin, Anni Søborg and Jon Turner. While more informal training programmes for academic staff have almost become a tradition in many research-intensive universities (Umbach 2007), the initiatives described in this chapter are novel, in that they see teaching competencies as a continuing process, stimulated by both the extrinsic and intrinsic motivations of the participants, and resulting in incremental and systematic cultural changes within the institutions. As the design and organisation of the two teaching competence frameworks are very different in Copenhagen and Edinburgh, the chapter also illustrates how both voluntary and more mandatory frameworks can be implemented within higher education.

Yet another initiative that is currently gaining popularity within many research-intensive universities is the establishment of so-called teaching academies—entities set up with the aim of recognising, rewarding and revitalising the scholarship of teaching and learning. In chapter "Teaching Academies as a Means of Developing Institutional Quality: Academic Identities, Levels of Engagement and Organizational Cultures", by Johan Geertsema, Huang Hoon Chng, Åsa Lindberg-Sand and Maria Larsson, we learn more about how teaching academies can be set up and how they can function as drivers of change within research-intensive universities (Olsson and Roxå 2013). Starting out by providing an overview of the many understandings of what a teaching academy can be, the authors provide two in-depth studies of teaching academies from the University of Singapore and the University of Lund, respectively. Although the two universities are contrasting cases concerning the ambitions of these academies, the way they have set them up, their links to other development initiatives within the universities and their effects, the analysis indicates that teaching academies can be useful and important tools for institutional and cultural change in universities.

Collegial discussions on academic questions are supposedly one of the key traits of a research-intensive university. However, as competition has tightened and as the individual performance of academic staff is more strongly rewarded, collegial discussions and collegial processes can no longer be taken for granted as a self-sustaining mechanism for critique and change in the research university. As underlined by Grahame Bilbow, Dai Hounsell and Tracy Zou in the chapter "Fostering Dialogue About Practices", the essential role of such social processes should not be underestimated as a driver for change in teaching and learning. Such collegial discussions cannot just be assumed to emerge out of nothing–they must be fostered in a systematic way. At the University of Hong Kong, various ways have been found to foster systematic dialogues among academic staff and other stakeholders in teaching and learning processes. The chapter describes and analyses how these dialogues can build better mutual understanding between the different layers in the organisation and soften the tensions that can sometimes arise between academic staff and the administration. While there are many possible practices related to the enhancement of teaching and learning (Trowler et al. 2009), the Community of Practice approach taken by the University of Hong Kong, combined with 'Join-the-Conversation' events, will perhaps be of special interest to those who want to create greater collegiality and dialogue around teaching and learning practices, while retaining some of the inherent and historical practices of the research-intensive university.

One of the central contributions of research universities is, of course, the new knowledge produced through systematic analysis of data and careful reflections about their implications. As such, it may be a surprise that in many research-intensive universities, the systematic gathering and utilisation of evidence of what is working with respect to teaching and learning is often missing. While much data exist, or at least has been gathered, many teaching and learning decisions in universities are made on the grounds of beliefs and assumptions rather than on solid evidence. Sari Lindblom-Ylänne and Lori Breslow demonstrate in the chapter "The Importance of Evidence-Based Enhancement of the Quality of Learning and Teaching in Research-Intensive Universities" that there is much to gain from using a more evidence-based approach when trying to improve teaching and learning. By showcasing examples from the University of Helsinki and the Massachusetts Institute of Technology, they argue, in line with Kreber (2013), that by linking systematic research to initiatives designed to improve teaching, the scholarship of teaching and learning can be a collaborative learning process that may strengthen the teaching community as well as boost student learning.

6 ACADEMIC DEVELOPMENT FOR CULTURAL CHANGE

Although the examples and cases provided in this book are diverse, both in their ambitions and in their designs, they all share some common characteristics: they tend to be collegial in their approach to change, theoretically informed and driven by the systematic gathering and use of evidence as they have unfolded, more contextual than local in their scope and attempt to be very practical and solution-oriented in their implementation. However, they all address the normative, practical and organisational challenges related to teaching and learning improvements, although in slightly different ways.

While there may be numerous beliefs and assumptions associated with what constitutes good teaching at a research-intensive university (Knapper 2016), it is unfortunate that not all of them are rooted in solid evidence of what actually works. Lindblom-Ylänne and Breslow show in their chapter that normative assumptions have a greater likelihood to be changed if they are challenged by data collected and analysed in collaboration with those who have hands-on responsibility for the curriculum or study programmes or majors. Such data collection and subsequent analysis also have the advantage that they lead more directly to concrete changes and adjustments, closing the gap between scholarly analysis and practice. In many ways, this is the same approach that lies behind the initiatives to build teacher competencies reported in the chapter by Dolin and colleagues. The basic idea here is that the competence of academic staff is built through teaching-oriented projects initiated and driven by participants where the systematic gathering of evidence is integral to the projects. Often this is accomplished because project leaders are asked to document the results of their efforts.

Other initiatives that address the linkages between normative challenges and the practical application of knowledge acquired are reported upon by Quinlan and colleagues. For example, 'module review assignments' ask academic staff at Oxford to review courses taught at other institutions, and they are encouraged to reflect upon how disciplinary standards are interpreted and applied by colleagues within their discipline/subject area. When KU Leuven asks disciplinary experts to identify key metaphors from within their discipline as a way to understand the essence of student learning, the point is also made that specific disciplinary practices and core ideas can inspire reflections on the normative foundations held by these experts. These 'threshold concepts' (Meyer and Land 2005) can be used to build a bridge between the disciplinary specifics and more generic ideas about effective learning.

However, the different chapters in the book also provide many examples of how practical and organisational challenges in teaching improvement processes can be addressed in integrated ways. The educational leadership programmes that are described by Grunefeld and colleagues can, for example, be seen both as very practical training opportunities for those with a special responsibility within this area and as a way to foster ongoing organisational change in educational delivery. A similar way of building organisational capacity for change is initiated through the emerging teaching academies that are discussed by Geertsema and colleagues. While these teaching academies are often initiated as reward structures for individual teachers, their ability to function as drivers of organisational change should not be underestimated. They are an example of 'alternative' ways to foster academic development through the research and the projects faculty undertake in their departments. A final example of an initiative that is intended to couple practical problems with concrete organisational solutions is the systematic dialogues that are described by Bilbow and colleagues at the University of Hong Kong. These dialogues can be said to address a recurrent problem at many universities with respect to how decisions taken to improve teaching and learning practices have tended to be rather administrative in their focus, and that 'wise' approaches for identifying change and implementing it have not been sufficiently developed. Hence, the aim of these systematic dialogues is to create communities of practice (Lave and Wenger 1991) that produce organisational impact by blurring the divide between practical challenges and organisational solutions. As such, the educational leadership programmes, the teaching academies and the systematic dialogues are all examples of building what Gibbs (2013, p. 8) labels as 'change agents' in the universities concerned.

The establishment of initiatives reported upon in this book exemplifies our earlier point about the broadened view of academic development that is emerging in a number of research-intensive universities, and it underlines the challenges of coordination and collaboration that is addressed by Stensaker and colleagues. How should activities, such as teaching academies, educational leadership training programmes and teaching competence frameworks, be coordinated and aligned? As Gosling (2009) has argued, it is often a problem finding people interested in taking on coordination roles, and attempts to centralise or de-centralise responsibilities, or find suitable combinations, thus seem to be a perennial problem facing research universities. While many universities have installed processes for 'reporting' on their initiatives and projects for improving teaching and learning, it is more difficult to find examples of sustained and sustainable coordination and collaboration between the different governance levels and individual instructors who have undertaken initiatives. As we do not think that there exists a stable equilibrium with respect to the organisation of academic development in research-intensive universities, we instead opt for fostering increased cultural capital and cultural capacity to improve teaching and learning. While the current interest in enhancing teaching and learning in research-intensive universities should indeed be governed, change is still very much dependent on breaking down the boundaries between the normative, practical and organisational factors that tend to favour stability and continuation in these institutions. In this book, we hope to provide a range of examples that can inspire those on their way to break new ground in this area.

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The Expansion of Academic Development: The Challenges of Organizational Coordination and Collaboration

Bjørn Stensaker, Rob van der Vaart, Tone Dyrdal Solbrekke, and Line Wittek

1 Introduction

Academic development has for a number of years been associated with taken-for-granted assumptions about what this activity is all about and how it should be organized (Moses 1987; Gosling 1996, 2001; D'Andrea and Gosling 2001). This is no longer the case. Academic development has been in a process of change and quite dramatic development in the last couple of decades. Not least can it be noticed that academic development has expanded its focus and activities, moving from focussing merely on developing individual teachers or groups of teachers towards emphasizing the establishment, of broader learning environments and development of

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broader institutional policies in teaching and learning (Rowland 2003; Gibbs 2013).

This development should not be seen as a shift from one mode to another, but rather as a form of layered expansion, where new tasks and responsibilities have been added to existing ones (Sugrue et al. 2016a, forthcoming). As part of this picture, one can also note the rise of the scholarship of teaching and learning and increased attention directed at the professionalization of academic development (Boud and Brew 2013). This development towards what one could label as "institutionalization of academic development" in general can be related to the shift towards more strategic and purposeful actions taken by research universities to position themselves as more innovative and entrepreneurial organizations (Pinheiro and Stensaker 2014). An effect of this renewed interest in how academic development may contribute to organizational and strategic development more in general is the many re-organizations, mergers and re-structuring of academic development units that can be witnessed in the sector (Gosling 2009). Furthermore, as studies over the past decades have indicated, academic development has become an activity that seems to be in constant flux, and where the boundaries with other units, activities and development initiatives are constantly changed and challenged (Hicks 1999; Kolmos et al. 2001; Havnes and Stensaker 2006; Gosling 2009; Holt et al. 2011; Ling et al. 2013).

In this chapter, we take a closer look at this expansion in the area of academic development, identify some of the key factors driving the expansion and illustrate how the expansion creates organizational challenges with respect to how work can be coordinated and led. As national settings and institutional contexts may be very different and unique, the aim of the chapter is not to identify "best" practices with respect to how academic development may or should be organized, but to stimulate insights and reflections about how new conceptions of academic development may contribute to improved teaching and learning in modern universities.

2 The Broadened Perceptions of Academic Development in the Modern Research University

There are numerous articles and research contributions describing how modern universities are changing. Typical characteristics of the changes noticed include administrative expansion of tasks and responsibilities, increased professionalization, increased specialization and a more managed university emerging through a strengthened steering capacity of institutional leadership (Larsen et al. 2009; Ramirez and Christensen 2013; Shattock 2014). This change is, of course, also driven by increased external pressure and expectations deriving from accountability claims directed at institutions (Stensaker and Harvey 2010).

The expansion of tasks and increased professionalization and specialization have created new challenges for the internal governance of universities and colleges. Expansion of activities may cause increased fragmentation and increase the need for coordination and internal control (Ramirez and Christensen 2013). While academic development could be seen to play an important role for increased organizational integration and coordination, it is not apparent how this role should be played out and what the consequences could be for the organizational positioning of academic development. Below, three different understandings of academic development are outlined as an analytical point of departure.

2.1 Academic Development as a Reflection of the Existing Beliefs and Practices in the Institution

From a disciplinary perspective, academic development is an activity closely linked to the key values, beliefs and social organization of the many disciplines and professions found in the university (Boudand Brew 2013). Teaching practices and the standards that are regarded as "good teaching" may vary considerably between disciplines (Handal et al. 2014). Given the autonomy often given to individual teachers, "academic development" has traditionally been geared towards providing aid, assistance and advice to individual academics, and their diverse needs, not least relating to how they are socialized into distinct teaching practices (Boud 1999; Brew 2003). In relation to this, it is also possible to notice an interest by many universities to promote the idea of developing "quality cultures" (Harvey and Stensaker 2008), an idea that seems to provide a possible link between the individual, the discipline and the collective identity of the university. This development relates well with policy initiatives in a number of countries of emphasizing excellence in teaching and learning, often launched through competitive schemes (Brockerhoff et al. 2014).

Academic development in this perspective is often understood as a culturally embedded activity, closely linked to disciplinary *norms and values*, and perhaps even to the historic identity of the university. However, given the disciplinary diversity found in research universities, the means and forms of academic development have traditionally varied considerably (see also chapter "Educational Enhancement in the Disciplines: Models, Lessons and Challenges from Three Research-Intensive Universities"). In some universities, academic developers consequently concentrate their support to academic staff in particular disciplines, and often work closely together with departments and other basic units.

2.2 *Academic Development as Part of a More Professional University*

As part of the increasing professionalization and specialization of the internal organization of research universities, it is also possible to argue that academic development has become a specialization, operated and conducted by generic pedagogical expertise, and where the specific needs of particular disciplines are toned down in favour of more common challenges (Bergquist 1992). In many ways, it is possible to understand academic development from this perspective as part of a growing emphasis on human resource (HR) management and what some refer to as developmental professionals in higher education (Bergquist 1992). As many modern research universities pay more attention to talent development, career guidance and staff training (Pinheiro and Stensaker 2014), academic development could be seen as part of those specialist functions that focus on enhancing the human resources of the organization (Di Napoli 2014).

Academic development is in this perspective seen as an activity that should stimulate *professionalization* through generic "good practices", guidelines and standards. Often, this would imply some degree of organizational centralization of those conducting academic development, perhaps even encompassing a broader spectrum of tasks and responsibilities than are normally associated with academic development, as HR management tends to be engaged in far broader activities than those related to teaching and learning alone. Hence, from this perspective, academic development may not necessarily be conducted by those bearing the label "academic developer". However, a "de-specialization" of academic development could imply a broadening of the scope and ways in which academic development are designed and carried out.

2.3 *Academic Development as a Responsibility of Institutional Leadership*

There is a growing need for research universities to demonstrate capacity for change where academic development more frequently is seen as an instrument for strategic adaptation and transformation (Laursen and Rocque 2009). This function could link academic development closer to institutional leadership, and may hint at the "overtaking" of academic development by those in charge (Boud and Brew 2013). Such overtaking might imply a more restricted autonomy for those that traditionally have been offering pedagogical training and consulting. Moreover, it could also imply that the development agenda becomes more externally driven and coupled to institutional ambitions, for example, by linking academic development more strongly with quality assurance, quality management or various other "control" functions in the university (Brennan and Shah 2000; Pratasavitskaya and Stensaker 2010).

A way of understanding academic development from this perspective is to see it as a means to strengthen the *profile and positioning* of the institution in a more competitive higher education sector. To be able to fulfil such a function, academic development has to demonstrate the quality of education, or, at least, demonstrate innovative ways to improve student learning—for example, adopting new technology, offering curriculum innovations or study programmes that represent novel approaches to teaching and learning. From an organizational perspective, this could also imply greater centralization of academic development within the formal organizational structure and hint at a positioning where academic development is closely integrated into the hierarchical decision-making structure of the university. This development also has some empirical backing. For example, research hints at an increase in the number of academic development centres that are reporting to and are embedded within the senior management of their institutions (Gosling 2009).

2.4 The Expansion of Academic Development: Opportunities and Challenges

Modern research universities are large, complex organizations where initiatives and actions with respect to teaching and learning are found at both central and local levels. Furthermore, as illustrated by our three perspectives, the traditional ways of thinking about academic development—as building teaching competence in academic staff—are currently challenged by a range of initiatives stemming from the administrative and managerial parts of the university. While the current interest in teaching and learning should be seen as promising and positive, it nevertheless opens up a range of challenges concerning coordination and possible contestation between the many initiatives taken (Handal et al. 2014). For example, ambitions to standardize offerings through technology or by other means may not always be easily matched with specific disciplinary needs, and the need for more professionalization may also be seen as an initiative that challenges the autonomy of academic staff. Hence, in addition to organizational coordination challenges, there are also challenges related to legitimacy and trust and how collaboration can take place between the different actors involved.

3 Data and Methodology

To illustrate the organizational expansion of academic development, two descriptive cases are offered—one from Utrecht University (UU) and one from the University of Oslo. These two cases are not selected because they are particularly outstanding examples bringing about exceptional quality in teaching and learning, but because they illustrate the very complex, historically embedded and sometimes fragmented development of development initiatives in the area of teaching and learning. They also illustrate the organizational challenge of coordinating the many initiatives in this area.

The cases are based on document analysis and some selected interviews with key stakeholders in the universities in the spring and autumn of 2016. Key documents that have been analysed comprise strategic plans, annual reports and other planning documents, including evaluations and research-based studies of initiatives taken. The interviews undertaken have mainly focussed on more recent initiatives at the two universities. To ease the readability of the cases, they are presented as short narratives with no ambition of providing the full picture of all development initiatives taken but to highlight the complexities and the expanding scope in this area.

4 Case 1: Long-Term Academic Development for High-Quality Teaching and Learning at Utrecht University

In the early 1990s, UU was not doing too well in national higher education surveys with regard to quality of education. UU was—and is—a research-rich university with all the familiar mechanisms that may lead to prioritizing research over education—at the level of the institution, schools and departments, and individual faculty members.

The Board of the University, concerned about UU's reputation, started to take measures aimed at awarding, recognizing and stimulating good teaching. In hindsight, this was the beginning of a systematic long-term policy focus on the quality of education. Innovations were not restricted to professional development in teaching and learning but also included HR policy as well as curricular innovation and award mechanisms.

The Utrecht University Teacher of the Year Award has been in place since 1994, supplemented a few years later, in 1998, by the UU Young Teaching Talent of the Year Award. Student organizations from all fields of study can submit a dossier about their most excellent teacher. After a round of interviews, the jury will nominate a few candidates for each award. The award ceremony is part of the university's annual anniversary celebration, together with the awarding of honorary doctorates. This guarantees high visibility for teaching excellence.

Another important initiative, actually the first of its kind in the country, was the introduction in 1995 of a qualification system for faculty, both for teaching and for research, consisting of basic qualifications and senior qualifications. For teaching, this simply means that faculty need to become qualified and certified for university teaching. A basic teaching qualification can only be granted to faculty who have successfully taken part in relevant professional development activities, built a portfolio of teaching activities with reflection on performance and on student evaluations, developed a teaching philosophy and have some experience with diverse teaching formats, from individual supervision to seminars and lectures. The basic qualification in research is the PhD. Applications for senior qualifications, for teaching as well as for research, have to meet far more demanding requirements, such as substantial activity in curricular innovation or supervision of junior faculty (for teaching) and a strong track record in high-level publications and successful grant proposals (for research).

The qualification system plays an important role in the promotion criteria and requirements for faculty: for tenure decisions as well as for moving to higher ranks and salary scales. This means that professional development can no longer be seen as something optional or voluntary—it is an essential component of an academic career (see also Gibbs 2013, p. 8). Since the mid-1990s, all Dutch universities have followed the example of Utrecht and introduced similar integral packages of a (teaching) qualification system linked to HR policies.

The package of teacher awards, university-wide annual teaching conferences, the faculty qualification system, the importance of evidence of good teaching in HR and promotion policy resulted in slow but solid changes in teaching quality. The Utrecht University Freshmen Survey always includes the statement "This university has good teachers". Of the respondents, 55% agreed with this statement in 1999, 67% in 2001, 78% in 2003 and 81% in 2005 (Van de Zande and Halma 2015). These figures reflect a culture change: it has gradually become "normal" to teach well, activate students, use proper classroom formats and assessment tools, and so on.

UU also realized that these positive trends could only be sustained if all faculties and departments placed the importance of good teaching structurally on their policy agendas. This requires leadership that not only values research but teaching as well. In order to support balanced leadership, the university started its Centre for Excellence in University Teaching (CEUT) in 1999, with an educational leadership programme as its core activity (see chapter "Faculty Development for Educational Leadership").

Meanwhile, UU kept education high on the policy agenda through a number of major curricular innovations. The first was the creation, in 1998, of University College Utrecht (UCU): a residential, highly selective and international undergraduate liberal arts and sciences college within the university. UCU was radically different from most UU degree programmes: a demand-driven multi-disciplinary curriculum, small classes only with a focus on interactive learning, all the characteristics of the international classroom. Many professors from all UU faculties started to teach classes at UCU and for many of them the experience radically changed their perspective on teaching, in positive ways.

An even larger curricular innovation was the very early (2001) university-wide adoption of the Bologna model, with separation of bachelor's and master's degree programmes. UU made the radical choice to introduce a "Utrecht Education Model" for all new degree programmes including, among other things, small-scale classes and activating learning as the norm, a completely new tutor system, substantial freedom for students to choose courses both within and beyond their major and continuous assessment in all courses. All degree programmes were renewed and certified; the ability of all faculties and departments to deliver new programmes was in fact the return on ten years of investment in teaching and learning.

By around 2005, UU had gained a reputation as a research-intensive university that had successfully pioneered many innovations related to education and teaching: its faculty qualification system, the link between teaching performance and HR policies, its educational leadership programme, the first European liberal arts college and very early adoption of the bachelor master model with introduction of a Utrecht Education Model. It was not difficult to make a narrative about the links and relationships between all of these (policy) elements, but in fact the complex of innovations had grown organically in the previous decade, rather than being strategically designed. What linked all the initiatives together was the sincere intention of UU leadership to raise the quality of teaching and learning and to create new curricula meeting the challenges of the twenty-first century.

After 2005, the combined elements mentioned above proved to be a good basis for further strategic development of UU's education agenda. Early experiences with excellence programmes, as at UCU, made UU a forerunner in the development of Honours Programmes, accessible for talented and motivated students from all degree programmes. The Centre of Excellence in University Teaching (responsible for the educational leadership programme) initiated new high-level professional development initiatives to serve new needs: such as an honours teaching course, and master classes for quality assurance, for examination board members and directors of education, and a teaching fellow programme for selected alumni of the educational leadership programme. The strong networks of educational innovators across the university facilitated the start of the Educate IT programme for online learning. A last example is the Incentive Fund for Education that facilitates and subsidizes small and larger educational innovation initiatives, both within and across schools and departments.

A former Rector of UU, who was very important in bringing education, teaching and learning to the university's policy agenda in the early 2000s, liked to say: "Utrecht University is a research university that takes pride in offering excellent education". The range of initiatives briefly mentioned above certainly resulted in much improved, and, in many places, indeed excellent education at UU. The creation of cross-university networks, the rewarding of faculty for initiative and quality in education and the formation of young generations of (future) education leaders have helped to make these improvements sustainable.

Currently (2016) the debate in UU is very much about simplifying the plethora of education-supporting networks and initiatives in the university, and the creation of new centres that would make all the efforts much more visible by combining and merging activities. An organically grown landscape (of educational improvement initiatives) may indeed become slightly complex or even inefficient. It is to be hoped that the dispersed feeling of ownership that now characterizes UU's educational enhancement infrastructure, involving hundreds and hundreds of enthusiastic individuals at all levels, will not be lost in such organizational changes.

5 Case 2: Long-Term Academic Development for High-Quality Teaching and Learning at University of Oslo

Although the University of Oslo is the oldest and the highest ranked research university in Norway, the institution has struggled to profile itself as particularly outstanding in the teaching and learning area. In national student surveys (Bakken et al. 2015), the university has historically not been among those institutions receiving the highest marks by students, and although larger institutions tend to perform poorer compared to smaller institutions in such surveys, the university has, over time, taken a number of initiatives to improve the quality of teaching and learning.

Historically, the University of Oslo had already started to provide pedagogical support to teaching staff in 1966. In the early stages, teachers approached pedagogues to get advice on how to improve their teaching, but quite soon this activity established itself in a more organized form, and the academic development unit has—following a decision in the university board—offered mandatory courses to employed academic staff since the mid-1990s. Today, all new academic staff have to take and complete pedagogical courses within two years, as stated in their employment contract with the university. These courses are also offered to PhD students and temporary staff, although on a voluntary basis.

The quality of teaching and learning has been on the agenda of the university for several decades (Handal 1994). The issues include how a large, research-oriented university receives and integrates new students into the learning environment, issues related to dropout and completion of study programmes, and the need for increased contact and interaction between teachers and students, not least for providing students with more feedback on their work. Over time, various institutional initiatives have been taken to address these issues, including projects that are intended to create a welcoming social and academic learning environment for new students and the establishment of an institutional prize for best learning environment—a prize that can be given both to study programmes, departments and individual teachers.

Following the Bologna reform, the university changed the structure of all study programmes initiated by the Norwegian Quality Reform in 2003, and introduced a range of new and more inter-disciplinary programmes at both bachelor's and master's levels. The number of English-language programmes also increased, and currently more than 50 programmes are offered in English. The latter development was an activity which engaged and included many academic staff, not least the younger generation seeing these programme innovations as a way to influence the academic profile in both education and research. While three out of four students at the university are very satisfied with their study programme and particularly pleased with respect to its relevance to the labour market, the university has continued to struggle with creating and engaging and including a learning environment for students which creates closer contact between students and academic staff. Dropout and completion rates have improved somewhat but continue to be an issue of concern for the university.

Over time, the university has also become more and more digital and introduced several technology-based administrative and learning management tools meant to assist both students and their teachers in their communication and interaction. To foster innovation and boost creativity in how to utilize new technology, the university launched a large strategic project in 2003, entitled "Flexible Learning". The ambition of this project was to stimulate new ways for students to learn and to interact—both with each other and with their teachers. The project stimulated a range of local pedagogical innovations, including student blogs, new interactive platforms for discussion, co-writing projects and technology-based peer learning activities (Lødding et al. 2006). Interestingly, the project was hosted and managed by the administrative IT-department at the university through their unit for pedagogical digitization. The interest in digitalization has continued at the university, and, in the recent years, the ambition has been to fully digitalize all examinations given at the institution. Several of the faculties involved in this process have tried to use this opportunity to renew examination content, experimenting with examination forms that are more realistic and closer to practice. Many of the initiatives and projects in this area are documented by the university centrally and offered as video showcases for others to learn from.

The Bologna process has continued to impact the university in more recent years through the introduction of qualification frameworks. Today, all study programmes have to reformulate their learning outcomes and provide documentation as to how given learning outcomes are realized through the curriculum design. The governmentally mandated introduction of qualification frameworks in Norwegian higher education resulted in a process where the academic development unit was consulted to develop a strategy for the implementation of the qualification frameworks at University of Oslo (Handal et al. 2014). However, as it turned out, for the most part, only those with an administrative responsibility for study programmes were active in updating existing learning outcome descriptions, and in most cases with relative little involvement from academic staff (Friedrich et al. 2016). The same administrative influence and involvement can also be noted in another area triggered by the Bologna process—the build-up of an institutional system for quality assurance of the educational provision. Since the introduction of this institutional system for quality assurance in the early 2000s, a typical perception among academic staff has been that the system appears to be less relevant for them and more geared towards internal and external reporting and accountability requirements (Aamodt et al. 2016). Recently, the university also took an initiative to establish a special "ombudsman" for students who reports directly to the university leadership on issues of concern in the educational provision.

Yet another initiative that was externally mandated is the requirement that all higher education institutions in Norway have a special committee for the learning environment. This requirement has been in place for more than a decade and is intended to support issues related to health, environment and security at the university, including the physical learning environment. A recent study (Abualrub and Stensaker 2017) showed that while this committee deals with important issues that also affect the framework conditions for teaching and learning, the activities are nevertheless quite de-coupled from the design and the content of study programmes, resulting in parallel decision-making and not very coordinated efforts to improve teaching and learning in general.

The university centrally took, in 2011, several strategic initiatives to further boost the quality of teaching and learning. A new centrally initiated course for leaders of study programmes has been initiated (see chapter "Faculty Development for Educational Leadership"), and the university has appointed an international advisory board to review current strategies and plan, including teaching and learning courses, and consultancy driven by the academic development unit have also been built on and extended, including several major projects in medicine and odontology. The university is currently discussing the introduction of a more merit-based system for teachers documenting excellence and good results in teaching. However, problems with coordination/lack of communication between the many support structures and initiatives provided by the university were highlighted by the academic development unit in 2013. Reviewing and acknowledging this lack of coordination, the board of the university recently (2016) acknowledged that, while much activity to strengthen the quality of teaching and learning was evident, there was also evidence of considerable fragmentation and a de-coupling of initiatives hindering the spread of good practice and not utilizing the many support structures available. Hence, the board asked for more coordination of the many activities currently undertaken and expressed the view that there was a need to link related initiatives better. This would imply a stronger collaboration between academics, administration and the leadership at different levels. How such coordination is to be designed is still an open issue.

6 Reflections on the Development Paths of Utrecht and Oslo

Although Utrecht and Oslo have launched different initiatives and have had different priorities with respect to academic development over the years, there are some striking similarities between the universities as well. First, the initial focus on training and competence building of academic staff has over time been complemented by a range of other initiatives, including curriculum innovations, experimentation with new technologies and the build-up of an administrative and professional support structure in the educational area. Second, the push for academic development seems currently to be driven by different actors inside the universities, and there is a noticeable increase in initiatives coming from or mediated through the university administration and/or the institutional leadership. Third, in both universities, the many initiatives taken and the somewhat fragmented organizational structures developed over time have led to ambitions and attempts to create better coordination and cooperation within the institutions. Whether such aims indeed are possible to realize in institutions that traditionally have been very de-centralized is another issue. Based on conversations and interviews with representatives from different parts of the universities, a nuanced picture emerges concerning the possibilities for better coordination.

6.1 A More Prominent and Dominant Role for Institutional Leadership?

In both Utrecht and Oslo, it is noticeable that quality in education has become an institutional responsibility. This is not least visible in all the strategic plans the universities have developed over the last decades and in how teaching and learning has become a much more visible topic in such documents. The formalization of academic development into specific institutional centres that are more closely linked to institutional leadership is an obvious trend. When asking informants from within the institutional leadership in one of the universities about their thinking on this development, it was argued that:

> *For us in the institutional leadership, this is also about implementation and our ability to reach out in the organization. Our university is very de-centralized where the basic units have considerable autonomy concerning teaching and learning issues. For us, we need to develop some 'instruments' that can engage those with hands-on responsibilities. I know that having an institutional strategy is not enough to instigate change. We need to build change into the organizational structure. Having specific centres responsible for teaching and learning is one way to do this.*

This statement illustrates both the ambitions and perhaps also some of the challenges facing institutional leadership in modern research-intensive universities. While ambitions are indeed high in many universities, the leadership seems to acknowledge what one might label as an implementation problem concerning how the ambitious strategies are to be realized in practice. As institutional leadership tends to have little influence with respect to the academic design and content of study programmes, the majority of institutional initiatives are related to attempts to have an impact through various support structures. In both universities, it is also possible to see a trend where institutional leadership tries to build legitimacy by picking up and highlighting promising local developments as a way to foster broader institutional change processes. As such, an interesting paradox comes to the fore: the institutional take-up and support of a range of different local initiatives can be seen as one of the drivers behind the organizational fragmentation of academic development initiatives over time. Consequently, the recent initiatives to create better coordination and cooperation in this area may not necessarily imply a dominant role for institutional leadership but could rather be seen as an attempt to "streamline" the quite fragmented outcome of previous decisions and actions.

6.2 Stronger Professionalization in the Teaching and Learning Area?

However, the increasing number of initiatives taken by the university administration, and, in particular, within HR management, does indicate a strengthened capacity and interest in professionalizing teaching and learning in the universities in question. Sometimes, these initiatives can be driven from inside the university, as seems to be the case in Utrecht. Sometimes, many of the initiatives are also instigated externally—as mandatory governmental requirements—as seems to be the case in Oslo. Regardless of the drivers behind this development, the result in both universities is a strong administrative build-up of capacity to provide training and expertise in the teaching and learning area. This trend is in many ways understandable as all educational provisions have a considerable administrative dimension—including the rules, regulations and standards that surround every study programme. Whether the build-up of capacity in this area is always coupled with other initiatives is another issue. An informant working in an HR department in the central administration explained the situation in this way:

> *Our department has grown considerably over the last decade, and we have initiated several courses and training sessions that have been very successful in terms of their evaluations. For example, we started out with a new training scheme in research management, and we think that this has been received so well that we thought we should expand into education. We now provide training for those having a special responsibility for specific study programs, with a particular emphasis on developing their leadership skills. We do see that this initiative partly overlaps with the courses and training provided by the academic development unit, but I don't see that as a huge problem.*

In arguing that a duplication of courses and training was not considered to be a problem, the informant emphasized that the purpose of the courses is very different—the training provided by the HR department focussed very much on the individual leadership skills of the participants, while the course provided by the academic development unit focussed more on how to design and coordinate specific programmes at bachelor's and master's levels. The example illustrates well why there are currently attempts to improve coordination and collaboration of the many academic development initiatives at both universities, but it also indicates that existing initiatives and actions may have partisan "ownership" that can make such coordination difficult. As a current trend seems to be that increased professionalization in the area of teaching and learning implies adapting to certain qualification requirements and training schemes, there is a potential danger that increased professionalization may focus more on such formal dimensions, rather than on the aspects directly affecting student learning.

6.3 Adaptation to Local Needs and Traditions?

Academic development is still an activity that in our two research-intensive universities are embedded in inherent sets of values and traditions that impact both academic developers working in the field and their "clients". Local initiatives and local practices are in general seen as more legitimate and relevant than anything coming from "outside" the discipline. This creates considerable challenges for those involved in generic academic development activities trying to support and stimulate development in a specific teaching and learning area. A distinct characteristic in both universities seems to be that the ways academic development is presented and the sensitivity it has to disciplinary and academic cultures are extremely important. A head of a department puts it like this:

> *I must say that I am quite happy with the courses and services we receive from the academic development unit. They bring in new perspectives to us, not least from what others are doing, and people in my department appreciate courses where they meet colleagues from other disciplines and departments. However, for us it is important that teaching and learning practices are related to our field of study. What I like is that the academic developers try to adapt to 'who we are'–not the other way around.*

The statement illustrates an ambiguous attitude towards what academic development can bring to departments. On the one side, departments seem to be quite happy to learn from what others are doing and to pick up on new things. Generic insights are often valued and seen as interesting. On the other, there is a clear message that academic development should be quite sensitive to the distinctiveness of the discipline, and that attempts to overrun the individual departments and disciplinary characteristics will not be well received (see also chapter "Educational Enhancement in the Disciplines: Models, Lessons and Challenges from Three Research-Intensive Universities"). Hence, there also seems to be a limit to such generic insights and lessons. As such, the statement also suggests that those working on academic development need to possess what we might label as "translation skills", enabling the bridging of outside and inside perspectives.

7 CONCLUSIONS

The developments taking place within the two universities focussed upon in this chapter fit fairly well with a recent overview of the changing nature of academic development emphasizing the shift from focussing on individual teachers, to organizational change and institutional strategies (Gibbs 2013). Hence, it can be assumed that the two cases reported upon may reflect broader development trends in research universities and the relationship between institutional leadership and academic development (Sugrue et al. 2016b). However, in this chapter, we also have identified three perspectives and three different understandings of how academic development is being shaped in the two research-intensive universities analysed. The perspectives show that academic development is fast becoming an activity that engages and involves a broader set of actors and areas, and that strategic, administrative and academic dimensions have become more blurred within the institutions. Seen from a historical perspective, the many organic bottom-up developed initiatives taken in this area have created considerable organizational fragmentation—and current attempts to stimulate more coordination and collaboration. Our three understandings of what academic development may imply—whether being disciplinary, professional or strategic—can also be seen as three competing logics that are not easy to integrate. The three logics are neither mutually exclusive nor are they easy to couple. Hence, when academic development units currently seem very exposed to rapid re-organization, one can argue that this is partly because the three logics create institutional tensions where different interests are contested and where there might be the potential for battles over influence and power weighting. In the two universities analysed in this chapter, we can clearly see how the three logics interact and create some paradoxical effects and some quite interesting developments as well.

One issue that stands out is that the current development implies a growing rationalization of all activities concerning academic development (Bergquist 1992). This rationalization can be said to be caused not only by increased emphasis on scholarly work and investigations into teaching and learning issues (see also chapter "The Importance of Evidence-Based Enhancement of the Quality of Learning and Teaching in Research-Intensive Universities") but also by an increased formalization driven by more regulation-based requirements, and by institutionally based strategic plans. The result of the strategic initiatives taken, and the greater organizational involvement in academic development issues, may still have the paradoxical effect that academic staff can end up more alienated as a result of such professionalization and their involvement in the policy-development processes that are meant to "develop" them. As shown in our case studies, institutional leadership has, over time, brought academic development to the centre stage in the two research universities. This can be seen as a way for the leadership to come to grips with an organization often characterized as extremely de-centralized. Hence, for institutional leadership, academic development represents a possibility to foster more vertical coordination in the university. Recent attempts to create more organizational coherence can be seen as both natural and logical—but as we have suggested through our three different logics—the underlying tensions and potential conflicts may not necessarily disappear by creating new organizational structures. Improved cooperation is not always a direct result of a streamlined vertical organizational structure.

Improved organizational collaboration is also very dependent on the creation of new and strong horizontal links. The professional build-up of administrative capacity reported in our case universities can be said to put pressure on the activities that have been within the historic domain of academic developers. It is possible to interpret the professionalization of university administration both as a form of competition and as a way to instigate new forms of collaboration broadening the focus of the work conducted in academic development units. In a more competitive interpretation, the growth of new forms of HR training activities might imply that a view of the research university as a special kind of institution is being challenged, and that more generic ways of thinking about leadership and management are gaining ground in these universities. In a more cooperative interpretation, increased collaboration with HR management may suggest that the whole idea of what academic development has historically been about is under transformation, not least concerning the type and forms of expertise that is needed for development work in academic organizations.

Worries about increased rationalization and professionalization of academic development should still be weighed against the classical challenges research universities have with respect to boosting teaching and learning. Strong internalized teaching traditions within disciplines often create resistance to new ideas and ways to organize—regardless of their potential. Interestingly, students may also be a quite conservative force, often opting for predictability rather than experimentation and radical innovations

(Knapper 2016). Leadership in teaching is still underdeveloped as a practice—despite the existence of the well-designed training and established competence building programmes found in Utrecht and Oslo—and spreading innovations between disciplinary and departmental borders continues to be a challenge.

This may indicate that we need to search for ways to coordinate and stimulate collaboration that combines structural and cultural dimensions, and that engages representatives from different "logics", and create new arenas for learning and interaction. Although they are surely not the only possible options, some of the ideas reported upon in the current book—the development of university-wide teaching academies (see chapter "Teaching Academies as a Means of Developing Institutional Quality: Academic Identities, Levels of Engagement and Organizational Cultures") and systematic ways to foster dialogues about existing practices between different stakeholders (see chapter "Fostering Dialogue About Practices")—may represent interesting opportunities for many institutions interested in fostering sustainable organisational change.

In the introduction to the current book, improving teaching and learning was seen as possible but highly conditioned by what was labelled as the "implementation challenge", related to the realization of institutional strategies; the "professionalization challenge", related to how modern research universities need to boost their organizational effectiveness and respond to new accountability-driven expectations; and the "legitimacy challenge", related to how change attempts must be translated into the existing sets of values and norms in universities. It is probably neither possible, nor even desirable, to identify one best way forward when trying to navigate between these challenges. However, by applying the three perspectives used in this chapter as analytical tools for investigating both the need for change and the type of change needed, academic developers may perhaps also play an agenda-setting role by providing more analytical and neutral input into processes that tend to be loaded with vested interests and contested but often less substantiated ideas based on historical beliefs and/or strong convictions. By providing more solid evidence of what works and why certain things work while others do not, academic developers may position themselves as both critical and constructive partners in the systematic work of improving teaching and learning (see also chapter "The Importance of Evidence-Based Enhancement of the Quality of Learning and Teaching in Research-Intensive Universities"). The recent growth in interest in re-organizing and enhancing teaching and learning is perhaps the new norm within modern research universities (Quinn 2012). What we have tried to illustrate is that, since academic development is increasingly integrated into a complex web of parallel developments in modern research-based universities, improved coordination and collaboration is very much dependent on understanding the underlying logics that currently make up the new context surrounding academic development.

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Educational Enhancement in the Disciplines: Models, Lessons and Challenges from Three Research-Intensive Universities

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1 Introduction

Disciplines form a key cultural (Becher 1989), organizational and cognitive (Donald 2002, 2011) context of academic life in research-intensive universities. Academics at research-intensive universities typically define themselves in relation to their discipline (Clark 1987; Neumann 2009). Disciplines also form a primary site around which cultures and work practices develop (Trowler and Cooper 2002). Therefore, disciplinary perspectives and concerns need to be central to efforts to enhance teaching and learning.

Across many countries, educational development (variously termed faculty development, instructional development and academic development[1]) services have been established, some as early as the late 1960s (e.g. Australia) and others (e.g. Japan) more recently. To varying degrees, these units collaborate with vice rectors of education or provosts for academic affairs or pro-vice-chancellors for learning and teaching (again, terminology varies) and those responsible for education in schools or faculties on the enhancement of teaching and learning. Often they offer programs and sometimes they assist in formulating learning and teaching strategies or policies. Educational enhancement efforts, however, have often been designed in generic ways, without addressing disciplinary differences, perspectives or concerns. This chapter argues for rethinking the relationship between those formally charged with educational enhancement (whom we will call "educational experts") and those who are specialists in the disciplines (e.g. chemistry, history, anthropology) who are teaching those subjects (whom we will call "disciplinary experts"). We deliberately refer to "relationship" to problematize the ways in which educational development is sometimes carried out (Land 2001) in the context of increased managerialism, though we particularly focus on the role of the disciplines in those transactions. Thus, we begin by defining disciplines, interweaving epistemological, cognitive, cultural and organizational differences with their educational implications. We propose a conceptual framework that emphasizes the discipline as a central force in designing effective educational enhancement strategies, while acknowledging other key contextual factors, such as the institution and its larger national context. This framework has guided an examination of three specific case studies from three different research-intensive universities in three different European countries, each with its own unique history of educational development and enhancement strategies. After outlining the method used to construct and interrogate those cases, we use the cases to highlight challenges associated with reframing educational development in relation to the disciplines. We conclude with recommendations for educational enhancement practice in research-intensive universities.

2 What Is a Discipline?

In this section, we explore definitions of disciplines before highlighting two main ways in which disciplines matter to academics and, therefore, influence teaching enhancement efforts in research-intensive universities.

Academic disciplines have been defined as social communities bounded by self-referential communication (Weingart 2010; Becher and Trowler 2001; Bernstein 2000) that tend to share a view of how knowledge is constructed (Becher and Trowler 2001). Weingart argued that disciplines share "a common set of problems and theories, concepts and specific methods to study, and criteria of quality of achievement" (2010, p. 8), though they may vary in their degree of internal cohesion, as emphasized by Biglan (1973).

Echoing Biglan's (1973) distinction between pure and applied fields, Bernstein (2000) argued that disciplinary communities vary in their degree of boundedness. According to Bernstein, "singulars" such as physics, chemistry and sociology mainly address insiders to their community. In contrast, "regions" such as medicine, engineering and information science lie at the interface between the field of production of knowledge and a field of practice (Bernstein 2000).

The boundaries of disciplines may be stronger or weaker, depending upon their epistemological and social characteristics, as well as status in relation to other disciplines.

Classification of disciplines is further complicated because, as social communities, disciplinary boundaries are constantly evolving (Fuller 1991). Despite the difficulties of definition, the notion of "discipline" captures something important about academic work, particularly in research-intensive universities. Here we explore two main ways in which disciplines vary that are likely to lead to differences in teaching and learning and responses to educational enhancement efforts initiated from outside the disciplinary community.

2.1 *Disciplines Shape Local Cultures, Which Shape Teaching Patterns and Traditions*

Disciplines have their own cultures with their own ideas and embedded practices related to how teaching is conceived, understood and practiced. Teaching and learning regimes set out particular norms, values and ideas about what is (not) required, (in)appropriate, (un)acceptable and (il)legitimate (Trowler and Cooper 2002).

While there are generic points about learning that apply to all fields (see, e.g. Ambrose et al. 2010), some of the most challenging and interesting aspects of teaching (for academics) are those that are specific to and related to their particular field. For example, while any teacher may benefit from understanding the principles of giving good feedback, disciplines *vary* in terms of *how* that will actually happen and what the instructor will give feedback *on*. In history, for instance, it may be important to focus on how students use primary sources to construct a coherent written argument (Wineburg 2001, 2011; Middendorf et al. 2007). In engineering, feedback may need to focus on how students set up a problem to be solved (Quinlan 2012). The scholarly practices of the disciplines are different and, therefore, the areas that students struggle to learn also vary.

In the late 1980s, Lee Shulman coined the term “pedagogical content knowledge” (Shulman 1986) to describe the special knowledge (e.g. examples, activities and metaphors) held by teachers about how to teach the particular knowledge of their fields. In higher education, this idea has been extended to recognize how particular pedagogies have arisen within particular fields. In the USA, these pervasive characteristics have been termed “signature pedagogies” (Shulman 2005), while in continental European educational research, they are called “didactics of [particular disciplines, e.g. math, physics, history]”. As Shulman writes:

> Signature pedagogies...implicitly define what counts as knowledge in a field and how things become known. They define how knowledge is analyzed, criticized, accepted, or discarded. They define the functions of expertise in a field, the locus of authority, and the privileges of rank and standing...these pedagogies even determine the architectural design of educational institutions, which in turn serves to perpetuate these approaches (Shulman 2005, p. 55).

2.2 *Research Takes Different Shapes in Different Disciplines*

Janet Donald (2002) documented ways in which thinking processes vary by discipline, which, in turn, affect teaching and students' learning (Donald 2011). In the hard and natural sciences, for instance, a considerable body of work in the history, philosophy and anthropology of science shows how scientific inquiry involves certain cognitive, epistemic and social practices (Duschl and Grandy 2013). The particular cognitive, epistemic and social practices that characterize other disciplinary families are different.

Thus, participants from different disciplines will have a different understanding of what research is. Educational research, generally drawn from the social sciences, typically underpins educational development programs. Yet, with their varying frames of disciplinary reference, academics often struggle with the conventions, approaches and terminology associated with educational research. In fact, some academics in literature, for example, are not even comfortable with the term "research" to describe their work. Stefan Collini (2012, p. 77), for instance, argued that "the prevailing conception of 'research', understood as the discovery of new knowledge, cannot be applied to the humanities as readily as in the natural and social sciences."

Some disciplinary experts with backgrounds in literature or history, for example, may find educational publications formulaic, finding it frustrating to navigate a long section of methodological justification before any substantive discussion. This structure contrasts to typical practices in many humanities fields in which a telling example or a rhetorically interesting introduction often serves to open up the discussion.

Statisticians or biomedical researchers, in contrast, may want quantitative studies that relate educational practices to educational outcomes. However, there are limits and caveats within social science educational research that colleagues in other fields need to understand. While the controlled randomized trial may be the gold standard in medicine and the experimental sciences, controlled experimental designs are often not feasible or appropriate in education for practical, philosophical and ethical reasons (Rudd and Burke Johnson 2008). Therefore, some hard or natural scientists may approach educational research with a quantitative, experimental bias and may struggle to even recognize what counts as evidence in education. In some cases, explicit systems have been used to help newcomers interpret and evaluate educational evidence, as in the case described by Harden et al. (1999).

There has been a move toward researching discipline-specific aspects of teaching. For instance, in the USA, the term "discipline-based educational research (DBER)" has emerged (National Research Council 2012). In Europe, the "didactics of" particular disciplines is spreading to undergraduate education. In the UK and Australia, interest in research on discipline-specific pedagogy is reflected in the popularity of Meyer and Land's (2005) notion of threshold concepts, which has spawned hundreds of articles, thousands of citations and several international conferences. A threshold concept has been likened to a portal that opens up new ways of thinking about a particular topic, enabling a learner to progress in the discipline. "Such a transformed view may represent how people 'think' within a particular discipline, or how they perceive, apprehend, or experience particular phenomena within that discipline (or more generally)" (Meyer and Land 2003, p. 1).

DBER—research that explores student difficulties with particular disciplinary concepts, processes or practices and the instructional techniques that can address those challenges—offers a growing resource to enrich discipline-sensitive educational enhancement. This body of research underpins the structured programs in the case studies at the University of Oxford and the University of Copenhagen (UCPH) below. That said, the methods used in such research are still dominated by social science approaches and conventions (National Research Council 2012).

3 Conceptual Framework

In this chapter, our aim is to take a relational and situated view of teaching enhancement. As such, we sought a conceptual framework that emphasizes the relationship between individuals (e.g. students and teachers) and the contextual influences on their behavior, including the discipline. To address the layered contexts within which individuals act, so-called ecological models have been introduced in psychology and human development (e.g. Bronfenbrenner 1986) and now shape public health (Fielding et al. 2010). Trigwell (1995) adopted a similar approach in higher education, although it overlooks the disciplinary context of academics' work. Trigwell's (1995) model can be thought of a series of concentric circles, each representing a layer of contextual influence upon the teacher and, ultimately, the student. We start with this model to analyze three cases of educational enhancement strategies because our experience suggests that there are downward pressures from national policy and context through to educational enhancement strategy. Thus, we examine, first, the national educational policy context, then how the university has responded to that context, then the particular educational development or enhancement strategy adopted and, finally, an example of a particular activity used with participants engaged in educational enhancement.

Trigwell's (1995) model, however, does not include sufficient attention to the disciplinary communities within which learning and teaching are embedded. One reason that university teaching is resistant to change from "above" (e.g. national or institutional policy) is because academics at research-intensive universities are also deeply embedded in transnational disciplinary communities, cultures and traditions (Trowler and Cooper 2002). Therefore, we expand the ecological model for analyzing and designing educational enhancement practice to include the influence of disciplinary cultures and traditions. Thus, consistent with the emphasis on disciplines in the previous section, we trace how attention to and relationships with the disciplines has influenced the educational enhancement strategies and particular activities chosen in the three universities. Thus, we introduce and demonstrate a discipline-sensitive ecological model in our analysis.

4 Methods

While surveys of practices in educational development practice have been carried out within countries (e.g. Gosling 2001), such surveys can obscure important differences in practices that may carry the same name. Such differences can be even more problematic when trying to represent practices across countries. Therefore, we sought to dig beneath surface descriptions of practice to compare and contrast assumptions about the relationship between disciplinary specialists and educational specialists in educational enhancement activities across universities in three different European countries represented by the authors.[2]

Each of the three universities has made a substantial commitment to discipline-sensitivity in their educational enhancement efforts. All are leading research-intensive universities with a strong teaching focus. Yet, there are substantial differences in how this commitment to discipline-sensitivity has come about and is enacted.

All three universities are part of a global network of some 15 research-intensive and "teaching-excellent" universities. The three institutions represented by the co-authors have been a part of this network for ten years. Network meetings involve two days of conversation each year among the pro-vice-chancellors (or equivalent) for learning and teaching and the heads of educational development at each of these universities, focusing on how to strategically lead educational enhancement within the current context. This network provided a starting point for this process of "digging deeper" in drawing out lessons across countries. In addition, two of the institutions (Leuven and Oxford) formed a stronger bond through staff exchanges and visits over some four years arising from the connection made in that network.

Writing this chapter specifically involved a series of iterative conversations among the co-authors over approximately six months, discussing how we understand discipline-sensitivity in each of our settings, how we enact it and the challenges we face. This discussion involved review of successive drafts of writing about this subject. Through some 6 h of focused discussion interspersed with iterative writing, we developed a set of issues and challenges that we face and some ways in which we have responded to those challenges. However, as we sought to populate these issues with examples, we found it was difficult to fully appreciate disembodied examples, prompting us to develop the discipline-sensitive ecological framework described above to flesh out institutional case examples for further interrogation. In this phase, each institution wrote its own case study, following a template based on the conceptual framework. A further 4 h of conversation focused on the case examples themselves and the lessons that could be drawn from them. Discussion between insiders and outsiders across the co-authorship team facilitated a critically reflective approach that allowed insiders of a given institution to see what was unique and to articulate the cultural assumptions they take for granted.

The key questions are: How do we (as educational specialists) engage with disciplinary specialists in research-intensive universities to enhance educational practice? How do the disciplines as a contextual influence intersect with the other layers of context in the ecological model? What challenges are encountered? Through close interrogation of the cases, we surface some of the questions and options that those leading educational enhancement efforts need to consider when working in research-intensive universities.

With each case below, we conclude with a discussion that reflects on the challenges encountered in each situation.

5 RESULTS: THREE CASE STUDIES

In this section, we examine a case study from each of three institutions: the UCPH, the University of Oxford and KU Leuven. For each we follow an ecological model in briefly summarizing the national context and the institutional responses to that policy context, while introducing a discipline-sensitive approach to educational enhancement that has been successful in those particular contexts. We use the cases to highlight particular challenges in being sensitive to disciplinary differences when engaging in educational enhancement. In all three cases, a "one-size fits all" conception of teaching and of educational development would not or did not work. Starting instead from an appreciation of the strengths and perspectives of different disciplines has been vital in designing successful educational enhancement initiatives in all three institutions, though the shape (and history) of those initiatives is different and questions and challenges remain. In all three of the cases, the relationship between disciplinary and educational experts is being enacted in a particular way.

5.1 University of Copenhagen

While most academics have a sense of what is meant by different disciplines, the definition and boundaries between disciplines become less clear in reality. The history of the educational enhancement programs run at the UCPH raises precisely the question of what is a discipline and how discipline-specific one can be in delivering an extended, university-mandated program of teaching development.

5.1.1 National Context

The eight Danish universities are governed by The University Act which sets rules for universities as institutions, their purpose (research and education) and their internal organization. Ministerial orders then set rules for assessment, grading scale, study programs and degrees and other teaching-related matters. Since 1970, the law mandates student representatives in all important decision-making bodies and committees, including appointment committees and the senate. Students have been a driving force, together with dedicated teachers, in the increased focus on quality of teaching over the years. The 1993 order on appointment of scientific staff at universities stated that in order to be appointed as associate professor, "it is assumed that applicants have received supervision and enhancement of pedagogical competencies and have received a positive written assessment of their teaching qualifications" (Job Structure for Academic Staff at Universities 2013, chapter 3.1). In 1997, the organization of Danish universities ("Universities Denmark"[3]) interpreted this "supervision and enhancement of pedagogical competence" as a module (teaching development program, TDP) of 250 h duration consisting of a theoretical part ("enhancement of pedagogical competencies") and a practical part ("supervision") (Christiansen 2016). The module is mandatory for assistant professors, and open to post-docs who aspire to a university career.

5.1.2 University Context

The Centre of Science Education (now the Department of Science Education (DSE)), University of Copenhagen, was established in 2003 to provide the above-mentioned TDP to academics in science and pharmaceutical sciences,[4] and to provide courses in science didactics to bachelor's and master's students aspiring to become high school teachers. The center was established as a result of persistent lobbying from a dedicated group of teachers, one of whom became dean of the faculty in 2006. He then turned the center into a department in order to send a clear signal that he wanted the faculty to take the quality and enhancement of education seriously. From the start, the idea was to hire consultants and scientific staff with a background in the science disciplines and their didactics, in order for the staff to be able to do educational development in close contact with the disciplines. This was also reflected in the TDP, which was designed to cater to the particular challenges in science and pharmaceutical education, such as designing good lab exercises. The requirements for positions in the TDP have been slightly loosened since then, but most of the staff have science backgrounds.

In 2009, the TDP was extended to the newly merged Faculty of Life Sciences (formerly the University of Agriculture), and, in 2012, the four faculties of science, health, pharmaceutical and life science merged into two large faculties of health and science. This second merger meant that the TDP had to incorporate health programs like medicine and dentistry. With mathematics, sports sciences, physics, food economics, medicine and landscape architecture in the same TDP, the original plan of staff covering all disciplines had to be abandoned, along with some of the closeness to the disciplines in the program.

Nonetheless, there are commonalities among the various scientific disciplines. More importantly, the teaching tradition across the sciences is similar. The particular challenges in lab work and fieldwork are shared by many sciences, as is clinical teaching. Furthermore, many of the introductory science and health programs share a common challenge insofar as courses are organized in ways that leave little room for students to study at their own pace or to follow their own interests (Ulriksen et al. 2010), making it difficult for teachers to best support student learning.

Another consequence of the 2012 merger was that the university board decided there would be three educational units at UCPH: one in the humanities (established in 2012), one in social sciences (established in 1995) and one in science (the DSE). Discipline-sensitivity has thus been a feature of teaching development work for many years at UCPH.

5.1.3 Programmatic Response

The Teaching and Learning in Higher Education Programme (Universitetspædagogikum, UP) is a year-long program provided in Danish and English (separate classes) with a theoretical part and a practical part, as recommended by the association of Danish universities (Universities Denmark). A four-day PhD course, "Introduction to University Pedagogy" is a prerequisite, with a focus on teaching a lesson (i.e. all participants design and teach a 20-minute lesson in their field to part of the class and get feedback from their fellow participants).

The theoretical part of the UP program is taught through seven course days and a project on designing and teaching a student-centered teaching module. Participants do peer supervision in groups, observing and giving feedback on each other's teaching. The practical part of the program involves four observations of participants' teaching and a final portfolio of about 15 pages. Two observations are made jointly by an educational supervisor (mainly teachers in the UP) and a department supervisor (senior experienced teachers in the participant's department), and two additional observations are made by the department supervisor. The supervisors write a final statement based on observations and the portfolio.

The department supervisors and former participants (often the same) are important change agents in the department. The participants need to find a department supervisor, and the DSE offers a one-day course for new department supervisors. Here the DSE staff introduce the general framework of the course (student-centered teaching) and the role of the portfolio. In general, this course receives very positive feedback. Some of the most experienced departmental supervisors end up as educational supervisors. After having provided the program for 14 years, we see an increasing number of former participants in senior positions such as heads of study and deputy heads of department for teaching.

5.1.4 A Sample Activity

Pedagogical content knowledge, or discipline didactics, is the backbone of the supervision unit. From a discipline-sensitive educational enhancement perspective, the two observations with both the department and the educational supervisor present are the most interesting, because it gives all three parties an opportunity to interact with, combine, and interpret the discipline and educational knowledge together. Each observation is preceded by a pre-supervision meeting and followed by a post-supervision meeting. Before the pre-meeting, the participant sends a reflection note with plans for the lesson to be observed and justification for choices being made, and after the post-meeting, the participant sends a reflective note on what she has learned from the supervision. We often observe laboratories, and a common concern is how to help students to "see through" the complex instruments used in the labs so that they actually engage in the process of scientific inquiry—instead of just mindlessly following a "cookbook recipe." All notes are added to the portfolio. A student focus is promoted during the meetings, often through discussion of what disciplinary concepts, practices, and so on, students find most difficult to understand and how to design activities for students to overcome these difficulties such as redesigning the labs to engage students in inquiry and the development of their own experiments and procedures. Through this process, pedagogical content knowledge is developed together, and often all three parties report having learned from it. The participant learns from practicing teaching and reflecting on it together with a more experienced peer. The department supervisor may be inspired by the teaching and learns from the common discussions and reflections, while the educational supervisor may learn how general educational knowledge can be enacted in a disciplinary setting and use that knowledge to enrich the program.

5.1.5 Discussion

In the supervision meetings, the default setting is that of a single discipline, namely that of the participant and the department supervisor. In that sense, the activity is as discipline-specific as it gets: one class in one unit in one subject in one discipline. But there is an outsider present; the educational supervisor is from a different department, and, depending on how narrowly we define "discipline", also from a different discipline. Thus, some translation and interpretation work has to be done by all parties in order to make the supervision work. The rather simple setting of having only three persons involved and only two disciplines, higher education and the participant's discipline, means that the supervision works in almost all cases.

The taught (theoretical) program, though, poses different issues. As described above, the faculties of science and health cover quite a wide range of disciplines. There are only two teachers for each class, so they cannot have more than a very general knowledge of the disciplines involved. Thus, the "translation" or reinterpretation of the general theory and literature into each participant's individual field is to a certain degree (and more than before the merger) left to the participants.

What can the educational specialists (even with some background in the sciences generally) do to facilitate this process? There are four main ways that we support participants in the process of translation to their specific disciplinary contexts. First, we read the participant projects, which offer insights on the local teaching and learning regimes. We also get ideas for how to enhance teaching and learning in that field which can be passed on to future participants. These ideas and examples can be used in class discussions and when giving advice, particularly in relation to projects. Second, discussion with other participants about how they interpret the literature in relation to their discipline provides more perspectives and examples that may resonate. Third, we try to direct participants to journals of relevance for their field. In science and health disciplines, there are several "Journals of XX Education" that also cover the tertiary level. And finally, the supervision process is central in the translation process, as described above.

Even if we do all this, we still have participants who do not seem to make progress in their teaching practice. So the question still remains: How specific do we need to be in catering to specific disciplines?

In sum, in this case, the government mandated an educational development program that assumes that disciplinary experts need to develop competencies in teaching in addition to their disciplinary training. The scientific community at UCPH took responsibility for providing this program from within their own ranks. Thus, the DSE originally assumed that educational expertise must be coupled with disciplinary expertise to effectively develop practice. Now, with a wider range of disciplines to serve, the program builds on collaboration between an educational and departmental supervisor focused on the participant's own practice. As the remit of the Department has expanded to a wider range of science disciplines, the link to the disciplinary communities has become more tenuous, yet the core program activity (classroom observation) still provides a site for partnership between educational and disciplinary experts.

5.2 University of Oxford

The Oxford case example highlights a relatively new program. Like UCPH, it also raises the question of what a discipline is, but does so with consideration that a discipline might be taught in quite different ways in different institutional contexts. Investigations of how disciplines are taught necessarily blur the boundary between teaching and curriculum, which can pose challenges related to ownership and territory in leading such programs.

5.2.1 National Context

Educational development has received considerable attention in the last 15 years in the UK, in part fueled by the establishment of a UK Professional Standards Framework for Teaching and Supporting Learning in Higher Education (UKPSF) in 2003 (Higher Education Academy 2011). The UKPSF defines a core set of teaching tasks, skills and values that serves as the benchmark for accrediting programs of educational development in higher education that lead to a nationally recognized teaching qualification for higher education (Fellowship of the Higher Education Academy). The subsequent integration of the UKPSF into the probation and promotion policies of a majority of UK universities has ensured that most early career academics undertake an accredited program about teaching and learning, or apply for recognition of prior teaching experience. Although most universities have mandated that pre-tenure academics must take a UKPSF-aligned program of educational development, a small number of institutions, including the University of Oxford, do not require such programs.

5.2.2 University Context

The University of Oxford is a research-intensive institution that recruits academic staff internationally. It has a large number of doctoral students and postdoctoral researchers, the latter often on time-limited contracts linked to research funding. They are relatively unlikely to gain long-term academic posts at Oxford, and, consequently, anticipate moving institutions. Permanent academic posts at Oxford are typically awarded to individuals with considerable previous experience in research and teaching in higher education. There is no mandatory requirement for new or experienced teachers at Oxford to undertake an educational development program, although there is a requirement for doctoral candidates teaching for the first time to attend an introductory workshop in their department.

The system of teaching and learning at the University of Oxford is unique to Oxford and the University of Cambridge. (Colleges are responsible for selecting high-achieving, high-potential students for admission, and provide them with “tutoring”, regular teaching in very small groups of typically two students per group, but sometimes one-to-one or up to six.) Colleges also provide accommodation and pastoral care. The college setting and its intensive tutorial teaching model is paired with lectures and, in some degree programs, laboratories, classes or seminars (with groups of up to 20) offered by university academic departments to students from all colleges. This complex system presents challenges and opportunities for early career academics. Incoming academic staff or doctoral students at Oxford may want assistance in adjusting to this new instructional setting and developing strategies to engage with both tutorial teaching and the impacts of tutorial teaching upon other settings (e.g. how students learn across a combination of lectures, classes and tutorials). Doctoral and postdoctoral researchers whose first teaching experiences have been in Oxford need to learn how they might have to adjust to other settings in the future.

5.2.3 *Programmatic Response*

The University of Oxford’s Enhancing Teaching Programme (ETP) is a response to this institutional and national context. ETP is taught through four full days of workshops across six months, alongside a range of activities (teaching observation and evaluation) and writing. The course is assessed by written portfolio (7000–12,000 words) and aligned with a Fellowship-level qualification in the UKPSF. The program runs in two separate pathways: one for the humanities and social sciences; and one for the sciences. Both programs use the same learning outcomes and assessment criteria but address them in ways that are sensitive to the disciplinary groupings of participants in each pathway. This means, in particular, that different reading lists are offered; different ways of approaching the activities and writing are used; and the program leaders have expertise in teaching in a relevant discipline (e.g. sciences/humanities/social sciences) in order to be able to facilitate discussions around discipline-specific teaching concerns. For example, staff on the humanities pathway may discuss how to set and mark essays, while staff on the sciences pathway may discuss how to design inquiry-based laboratory practicals. By drawing on DBER, readings may also vary. The sciences pathway may focus on identifying and teaching to specific scientific pre-conceptions or the nature of science (drawing on, for instance, Duschl and Grandy 2013). The humanities academics instead resonate with seeing education as a process of deepening academic literacy (e.g. Northedge 2003).

Like UCPH, the staff who teach the program only bring a background in one of the many different disciplines that are included on the pathway, but this does enable them to broadly tailor the program. Participant portfolios are double-marked by an educational expert and an academic from the same division (disciplinary family), ensuring ongoing partnership with the divisions to build on input to the original program design.

ETP responds to the transitory nature of postdoctoral time in Oxford by simultaneously helping participants new to Oxford to learn about the tutorial system and helping all participants to think about teaching in higher education in other settings (both in the UK and internationally).

5.2.4 A Sample Activity

Core to the conception of ETP as sensitive to discipline and institutional context is the "module review" assignment, which is part of both streams of ETP. Participants must review a module (e.g. a taught course of around 10–30 European credits or equivalent) from outside Oxford in their discipline/research area by studying the course outline/syllabus and, preferably, contacting the academic who teaches it to clarify their rationale. In a written report, they must consider how the module functions pedagogically (e.g. what are the core ideas/themes/objectives, teaching and assessment methods, sequence of topics, readings and examples used) and the strengths and weaknesses of the design. We encourage participants to look to institutions at which they might work in the future. Many investigate how researchers in their discipline configure and reconfigure their teaching and course design as a way of reshaping the discipline. For example, one recent participant on the course examined how the use of creative writing exercises can affect studying medieval literature. Another has analyzed the use of "gaming" to reconstruct historical events and model historical thinking in a history course. In all cases, participants must situate their discipline and teaching expectations in a broader higher education context, and they must acknowledge the ways in which pedagogy and discipline respond to and emerge from the intersection between institution, research, teacher and student.

5.2.5 Discussion

At Oxford, a central unit dedicated to educational development has designed (with input from collaborators in the relevant divisions) a taught program that is sensitive to disciplinary families, using readings and examples that are more likely to resonate with academics in those fields. Educational experts with a doctoral degree in one of the relevant disciplines design and lead each pathway. As such, educational experts play a facilitative role in enabling critique from within a disciplinary framework. The module review assignment enables participants to interrogate their own field and question their own assumptions about how their subject might be taught, enabling a critique from within the discipline by participants (disciplinary experts).

Insofar as the educational experts are outside the disciplines, this approach can be challenging to academics within the discipline. These disciplinary-based discussions of teaching and learning tend to stray into curricular questions: what should be taught, to what purpose, and when. Thinking of teaching and learning only as the "how" of process or methods misses the intellectual substance of teaching and learning. It is this intellectual substance that we aim to harness when designing discipline-sensitive interventions such as the module review described above. However, to the extent that curriculum is guarded closely by faculties and held to be "off-limits" to those outside the faculty, finding the right role for educational experts in those discussions becomes fraught.

Often ETP participants cannot make curricular changes at Oxford but go on to make these changes in their own teaching when they move institutions, which effectively allows them to reinvent themselves. Thus, at Oxford, we work with staff who may not ultimately benefit the institution, but may be more open to making changes because of their career stage and may go on to innovate in other universities.

On the flip side, inasmuch as the educational expert is reasonably conversant with a participant's field, it can also be disconcerting for participants. Academics can sometimes hide behind their disciplines, arguing that a particular innovation "wouldn't work" in my field or is "not applicable." While this objection may be true, sometimes it is simply a defense mechanism to avoid change. If the educational expert is familiar with their field or participants research a successful module within their own field that challenges their assumption, there can be nowhere for them to hide.

In sum, the structures within which Oxford's educational development program has evolved places educational experts outside the disciplines, but collaborating with those in the divisions to mentor and assess program participants. In the programs themselves, assignments require that participants investigate how their discipline may be taught differently in different institutions, with different students, in different contexts. In this way, assignments are intended to problematize and broaden early career academics' own understanding of their disciplines.

5.3 KU Leuven

The situation at KU Leuven is somewhat different again from both Oxford and UCPH. During the past decade, the university faced a growing impact of technocracy, jurisdiction, administrative regulations and considerations. This managerial approach affected, sometimes even dominated, the discourse and practice of teaching and learning. A growing number of academics found it difficult to continue to enact their disciplinary uniqueness and identity in what they experienced as managerial mortar. It is against this background that the university launched a (still ongoing) discussion about the balance between the university as an overarching structure and the disciplines it comprises. So far, these discussions have yielded a first tangible outcome: a university-wide, bottom-up educational quality monitoring and improvement approach has been launched. What has not been discussed yet (but will be in the near future) is the role and position of educational development within the university and/or the disciplines.

5.3.1 The National Context

The higher education environment in Belgium has been dominated by the broader European policy context. In 1999, 31 countries signed the Bologna Declaration, creating a coherent European Higher Education Area intended to build a "Europe of knowledge." By bringing greater consistency to higher education across Europe, they hoped to prepare youth for the future European labor market. To facilitate student and teacher mobility, study programs would fit within a common framework prescribing their structure (undergraduate and graduate programs), as well as components (courses described in terms of a shared European Credit Transfer and Accumulation System stating student workload in terms of learning outcomes). A European dimension to quality assurance was also included as a reform objective.

Although each of the countries that signed the declaration proceeded at its own pace to implement it by 2010, the declaration had a major impact on

European higher education in general. A technocratic language of controllability, manageability, measurement, regulations, efficacy and efficiency began to dominate higher education. Academics became increasingly uneasy with this approach as their disciplinary approach of teaching came under pressure. Gradually, education started to feel cold to the academic touch.

For educational development, too, things changed. The scope of educational development was broadened from instructional development related to individual courses to curriculum and even institutional development (Gibbs 2013). Starting from the best intentions and ambitions, educational developers often had a hand in aligning learning and instructional concerns with the administrative, policy and human resources agendas within their institutions. This alignment gradually contributed to alienation.

5.3.2 University Context: Coping with Alienation by Dialogue

A growing number of academics at the KU Leuven signaled that technocratic considerations increasingly dominated the university scene: rules seemed to become more important than lecturers and researchers who were actually doing the core research and teaching work.

In order to address this alienation, the education unit (i.e. the vice rector of education and the two authors of this case) opened a dialogue in 2013 among all primary stakeholders of education (students, disciplinary experts). The starting point of these discussions was a reflection on the disciplinary core of learning and teaching. This dialogue revealed a rich variety of disciplinary interpretations of learning and teaching, examples of which are given in Sect. 5.3.4. Based on positive experiences with this open dialogue, disciplinary experts expressed the need to develop a university-wide methodology allowing them not only to reflect together with their students in a systematic way on the disciplinary core of learning and teaching but also to couple this reflection with one on the preconditions needed to keep this core flourishing. Actions developed in that respect are described in Sect. 5.3.5.[5]

5.3.3 A Sample Activity

In order to launch a reflection on the disciplinary core of learning and teaching, we invited disciplinary experts and students to identify metaphors from within their discipline echoing their understanding of the essence of university learning and teaching in their discipline. The metaphors included, among others, the Hohmann transfer orbit, fractals, the structure of DNA and secondary socialization. All of those metaphors opened spaces for unsettling and examining assumptions and beliefs about learning and teaching.

The Hohmann transfer orbit, for instance, illustrated how the physics disciplinary community defined learning and teaching as a process of students being attracted to physics by a gravity field. In doing so, students come into an orbit around their discipline where they will gain power and velocity to move their own way later on.

Likewise, one of the mathematicians we spoke with compared the process of learning and teaching with the calculus of fractals. In the interaction with mathematics, students gradually acquire the distinctive features to define themselves as “mathematicians”. However, they never become exact copies. Just as a Mandelbrot set, students gradually incorporate small copies of the entire fractal (the disciplinary field) in slightly slanted and unique combinations. The interaction between student and discipline thus results in a “quasi self-similarity” between themselves and “their” discipline.

Overall, the discussion about metaphors revealed several things that prompted a rethinking of teaching, learning and educational enhancement in higher education. First, talking about learning and teaching in metaphors made everybody, the vice rector of education included, *listen* carefully to one another in order to understand. For instance, we had to ask what exactly a “Mandelbrot set of fractals” means.

Second, the joint effort to define, understand and discuss a metaphor revealed that talking about learning and teaching does not necessarily need psychological or pedagogical *jargon*. It need not be stated in terms of didactics, nor does it need to be captured in the discourse of credits, curriculum mappings or learning outcomes. Rather, talking about learning and teaching without this jargon proved to be very rich.

Finally, what became clear through the discussions is that disciplinary communities as a group have a good idea what learning and teaching in their discipline are about. Prototypical knowledge, skills and attitudes (preferably developed by students in an active way) are crucial cornerstones, but certainly not the only ones. Who people in the discipline are, what characterizes them, how they understand and approach the world, in other words their *disciplinary identity*, and the disciplinary community they function in, are pivotal aspects of learning and teaching.

Talking about learning and teaching in metaphors created a forum in which disciplinary communities could point out that teaching in line with their own view and ideas about how to enhance the quality of their study programs requires, in some instances, the creation or adjustment of preconditions at the Faculty or university level. As such, the talks also led to a reflection upon the university's decision-making processes with regard to teaching. Instead of the vice rector of education (only) imposing (top-down) rules and regulations stated in an alienating discourse, it became clear that directing teaching could also be a matter of facilitating learning and teaching by creating or adjusting adequate preconditions so that disciplinary communities can work according to their discipline-specific approach.

5.3.4 Programmatic Responses: Moving Forward

Inspired by this idea, a new internal, light-touch education quality monitoring method was put into place in 2015. The primary stakeholders of study programs (disciplinary experts and students, but also international disciplinary colleagues and relevant societal stakeholders) reflect once a year on a single question: Are we successful in realizing the learning and teaching we aim for in our program? Based on this reflection, study programs take action to strengthen positive points and improve weak ones. In case some preconditions for their work should be adjusted or created, over which the study programs themselves have no say, they can pass these issues on to their Faculty policy makers or eventually to the vice rector of education.

5.3.5 Discussion

The metaphor conversations and the first outcomes of the new quality monitoring method demonstrated that disciplinary communities are not waiting for educational experts to prescribe how to design teaching, nor are disciplinary communities expecting educational developers to direct them or monitor their work. On the contrary, disciplinary communities are quite capable of coming to a consensus on what would improve learning and teaching within their study programs. Further clarification is needed of what educational enhancement involves in a context that trusts disciplinary communities to know best how they can introduce students to their community and help students to learn better by addressing their (future) disciplinary identity.

Obviously, in such a context, it would be inappropriate for educational developers to claim that learning and teaching within the disciplines can be boiled down to their generic educational expertise or that they are in charge of determining which preconditions serve study programs best. Yet, withdrawing from organizational and curriculum development does not have to imply that educational experts from outside the disciplines have nothing to offer disciplinary communities. When it comes to developing knowledge, skills and attitudes, disciplinary experts in charge of students' competency-based training may still benefit from sound instructional advice based on state-of-the-art knowledge in instructional sciences or in DBER.

Based on our first experiences with the new education quality monitoring method, time seems right now to further reflect on the position and orientation of educational development so that it better fits the changing context. Further input from the disciplinary communities and dialogue will be crucial in this process. What is clear already, however, is that the change our institution is going through is an opportunity for educational developers to re-discover their disciplinary identity and future.

6 Conclusion

Through our case analyses and cross-institutional conversations about our approaches to educational enhancement, we uncovered different ways in which external educational priorities and institutional responses intersected with the disciplines. In all three cases, there were external pressures for accountability for teaching quality, whether that took the form of mandated programs of educational development (UCPH), the introduction of a standard framework and national expectation of a formal teaching qualification (Oxford), or curriculum redesign and quality assurance regimes (KU Leuven).

Each university had unique responses to those pressures that led to discipline-sensitive approaches to educational enhancement organized in different ways. At UCPH, the sciences Faculty itself seized responsibility, creating a center (and then a department) staffed by people from the disciplines who also had pedagogical expertise. At Oxford, a central unit aligned its programs to the academic divisions and hired staff with disciplinary backgrounds to create discipline-sensitive programs. At KU Leuven, the imposition of an external agenda created a sense of alienation that led to a reflection on and changes in governance, quality enhancement and quality assurance procedures to put disciplinary experts back in the driver's seat.

The cases also illustrate some of the factors underlying institutional commitment to a discipline-sensitive approach to educational enhancement. For instance, the principle of subsidiarity (decision-making at the lowest possible level) is associated with a discipline-sensitive approach to educational enhancement insofar as it respects disciplinary experts who do the teaching and curriculum design as decision-makers. At Oxford, the principle of subsidiarity is deeply engrained, while KU Leuven has recently re-asserted that principle as part of its teaching and learning strategy. In doing so, the notion of subsidiarity was further refined. Not only are problems handled at the level where they can best be addressed, but, when it comes to learning and teaching, KU Leuven disciplinary communities are trusted to ask academic authorities to create the preconditions necessary to support the implementation of disciplinary communities' decisions. The result is a policy of non-interference from educational experts, with an emphasis on consultation and collaboration with disciplinary experts rather than compliance.

The way in which—and ease with which—a commitment to a discipline-sensitive approach emerged also varied between the cases. At Copenhagen, unlike the other two institutions, discipline-sensitive educational enhancement programs were built within the Sciences Faculty from their inception. At Oxford, centralized programs that were not specifically tailored to different disciplines were in place or trialed prior to the programs described here. At Oxford, attendance was very low on the previous undifferentiated program. At KU Leuven, there was a backlash against centralized policies charged with carrying out the European policy mandates. Thus, commitment to a discipline-sensitive approach emerged in different ways. In all three cases, key leaders either in the Faculty (UCPH), the educational development unit (Oxford), or the education unit (KU Leuven) rallied allies, support and resources to create a discipline-sensitive approach. In all cases, a discipline-sensitive approach required the involvement and commitment of both educational experts and disciplinary experts. While the relationship between educational experts and disciplinary experts varies in the three cases, all three universities have depended upon interest, commitment and ownership from disciplinary experts in co-creating and monitoring educational enhancement efforts.

The cases highlight that ownership of educational enhancement can vary. A central administrative unit dedicated to educational development clearly owns and manages the Oxford program, although it has input from disciplinary experts and collaborates on matters such as assessment. The challenge at Oxford has been to create the linkages with the faculties and departments to build up productive collaborations. The Faculty owns the UCPH program, though with a series of recent mergers, the sense of ownership among newly merged faculties is likely to be weaker than from the original departments that lobbied for it. At Leuven, there is a shift toward disciplinary experts owning the educational enhancement agenda, while educational experts create supports to enable departments to make the changes they want to see.

In addition to appreciating the contextual and institutional elements required for a discipline-sensitive approach, we also suggest some programmatic recommendations for implementing discipline-sensitive educational enhancement based on the cases. When offering formal taught and assessed programs that meet external requirements, the following practices underpin programs that are sensitive to the disciplines:

1. Courses bring together participants from similar disciplines; and/or group them by discipline once on the course.
2. The teacher/tutor or facilitator of a course or session has expertise in a relevant discipline, making it discipline-sensitive, though not discipline-specific.
3. Assignments or project work specifically arise from or relate to a discipline-specific issue, such as a review of how a module in one's discipline is taught elsewhere or joint conversations between a participant, educational supervisor and departmental supervisor about particular class observations.
4. Educational literature (e.g. a reading list) is discipline-sensitive. Alternatively, the models/theories of learning used on a course might have a special relationship to the discipline or be taught by starting with and/or contrasting with ideas which are familiar within a discipline.
5. Both disciplinary experts and educational experts provide feedback or assess course assignments. Disciplinary and educational experts can conduct joint peer observations of teaching, or both sides of the partnership can double-mark final portfolios of course work.
6. Good practice is shared across similar disciplines where it is more likely to be recognized, understood and taken up than across dissimilar disciplines.

Based on the cases, there are three main recommendations that can be made with regard to the relationship between educational experts and disciplinary experts. First, the educational experts must be open to learning from their disciplinary colleagues. Educational enhancement work can be structured so that educational experts are able to learn about other disciplines within the family of disciplines they serve, whether through reading and assessing participant work, seeking input from disciplinary experts or just plain listening.

Second, a re-examination of the language used by educational experts engaging with disciplinary experts is crucial. Several options are available here. The language of education can be tailored to the discipline, or deliberately placed in dialogue with disciplinary ways of thinking and speaking. Disciplinary experts can be invited to offer metaphors for learning drawn from their own fields and educational experts can then speak in that new, disciplinary language to identify educational enhancement priorities.

Third, the cases raise questions about power, prompting a re-examination of the roles disciplinary experts (academics) and educational experts (educational development specialists and administrators) can play in research-intensive universities. Power is a key issue. Who do we think should take the lead for educational enhancement, and who sets and assesses the agenda?

Ultimately, a partnership between educational experts and disciplinary experts enables educational enhancement in ways that would not or could not happen without the contributions of disciplinary experts. By honoring the disciplinary perspective, we are more likely to realize a form of truly higher education that befits a research-intensive university. Higher education can be seen as an induction into disciplinary communities. As we saw in the first section of this chapter, disciplines are characterized by particular ways of thinking and acting that students need to learn. Education seen as increasing participation in disciplinary communities (Lave and Wenger 1991) is more than just the acquisition of prepackaged knowledge, skills and attitudes. Only disciplinary experts can integrate students into their disciplines. Furthermore, disciplinary experts offer different perspectives and strengths that can be brought to bear on education, opening new ways of understanding, researching and resolving educational issues. The metaphors generated by disciplinary experts, for example, contained new ways of conceptualizing teaching and learning that are not a part of existing education literature.

We conclude that educational enhancement in research-intensive universities should respond not only to external (regional or national) contexts and institutional contexts but also continue to strengthen collaborative relationships between disciplinary and educational experts.

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NOTES

1. The nuanced differences between these terms and the extent to which the different terms accurately reflect differences in practices is arguable and beyond the scope of this chapter. We use the term "educational development" or, more broadly, "educational experts".
2. Quinlan was the Head of Educational Development at the University of Oxford from 2009 to 2016. Buelens and Clement were respectively the head and staff member of the educational development unit of the KU Leuven until 2012. In 2013 they both moved to the education unit of the university, one of the vice rector's offices with a research focus.
3. http://www.dkuni.dk/english
4. The Faculty of Science and the nearby then University of Pharmaceutical Sciences had established a collaboration on the matter.
5. While these issues were explored and further elaborated, the university's educational development unit kept offering taught programs on university teaching. We do not discuss these in this case study.

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Faculty Development for Educational Leadership

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1 Introduction

At most research-intensive universities, academic careers are largely driven and determined by success in the domain of research, and most faculty members in leadership positions at these universities typically have a strong track record in research (Goodall 2006; Goodall et al. 2014; Spendlove 2007). However, more and more these universities recognize that academic leadership not only needs to be provided in research but also in education (e.g. 'LERU Mission' 2016). This requires specific expertise, which still needs to be developed in many research-intensive universities. For this reason, universities committed to the enhancement of teaching and learning offer professional development aimed at developing expertise in educational leadership.

This chapter describes five examples of dedicated faculty development trajectories for educational leadership in research-intensive universities, focusing on their nature and effects. We first discuss the concept of 'educational leadership' as an important component of academic leadership in

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research-intensive environments. We will then portray and compare professional development trajectories for educational leadership in five research-intensive universities: the universities of Edinburgh, Lund, Oslo, Copenhagen, and Utrecht. The final sections summarize and discuss the main characteristics and the perceived gains and challenges of the educational leadership trajectories in these five universities.

2 What Is Educational Leadership?

In this chapter, we refer to leaders in formal positions in universities with a responsibility for teaching as *academic leaders*, and to academics in both formal and informal positions with a responsibility for leading education as *educational leaders* (cf. Grunefeld et al. 2015). This implies that educational leadership is not the equivalent of educational management which refers to formal positions for resource allocation, logistics, administration, and so on (cf. Bolden et al. 2012). Being able to take the lead in education in research-intensive universities requires a thorough understanding of the typical mix of qualities (in knowledge and research, education, human capital, and potential for public service) of a research-intensive university, because educational leaders need to have the capacities to mobilize these qualities to the maximum for enhancing the quality of education (Bryman 2007; Gibbs et al. 2008; Milburn 2010; Raines and Alberg 2003; Scott et al. 2008; Vilkinas and Ladyshewsky 2012; Wolverton et al. 2005). Educational leadership also requires a thorough awareness of the context (such as development of their field in the wider context of academia, the labour market, or the social impact of science) and key insights of the educational sciences (Eraut 1994; Knight and Trowler 2001), people skills (Spendlove 2007), and personal characteristics such as self-control and resilience (Goodall 2006). Competence in educational leadership shows in the quality of the design, deliverance, and evaluation of teaching activities and curricula, and in their evaluation and analyses, but also in the capacity to motivate and involve others. Faculty development programmes and courses for educational leadership typically combine these elements of educational competence and leadership skills, in a mix that differs between universities. The expertise required for educational leadership is sometimes labelled as ‘scholarship of educational leadership’ (SoEL, see: Hubball et al. 2015; Boyer 1997).

3 Paying Attention to Educational Leadership

Although many presume that excellent researchers will make excellent teachers, research evidence shows that there is no significant relationship between faculty's research productivity and the quality of their teaching (Marsh and Hattie 2002; Qamar uz Zaman 2004). This implies that also in universities with a strong reputation in research, attention needs to be paid to the quality of teaching. The quality of educational leadership is very important for the quality of teaching in research-intensive universities. Graham Gibbs and his colleagues (Gibbs et al. 2008, 2009) studied the impact of educational leadership in 11 research universities in 8 countries. Nineteen case studies were undertaken to identify the role of leadership in creating and supporting excellent teaching. Educational leadership practices and approaches varied across these cases, but in only 2 of these 19 cases, there was little evidence of leadership playing a major role in creating teaching excellence. In all 17 other cases, leadership appeared important and, in many, it was pivotal according to Gibbs and his colleagues (2009, p. 2).

Educational leadership should be provided at various levels of the organization. Educational leadership within the schools or departments of a university will ensure bottom-up innovation and quality improvement of teaching and learning practices. Moreover, educational leaders in academic departments may be indispensable as change agents when universities want to implement strategic institutional policies for raising the quality of teaching and learning (Scott et al. 2008). A recent study by Mårtensson and Roxå (2016) shows that leadership is enacted in very different ways, and that educational leadership does contribute to educational development in a faculty. Educational leadership at the university level can stimulate university-wide discussions on quality teaching and stimulate the development of a culture in which education is accepted as 'core business' of the university.

4 Providing Faculty Development for Educational Leadership

The quality of educational leadership is important for the quality of teaching. Universities that do not offer faculty development for educational leadership may assume that faculty in leadership positions will simply learn what is needed on the job, and that experience and the leadership qualities that faculty members have shown in research teams or in administration will 'automatically' transfer to educational leadership. Research on expertise shows that expertise is task and domain specific and that there is little transfer from high-level proficiency in one domain to proficiency in other domains, even when the domains are very similar (Feltovich et al. 2006). It may not be expected, therefore, that research or leadership expertise in any academic discipline, which will probably include analytical skills, knowledge of the discipline's deep structure, writing skills, skills in prioritizing, and self-management and the like, will automatically 'transfer' into educational leadership qualities when academics land in such positions.

Experience is indeed important for the development of expertise; however, experience alone is not enough (Ericsson 2006). After an acceptable and stable level of performance has been reached in the first years of practice, for many it is enough to maintain this level and do so with minimal effort for years or even decades (Ericsson 2006, p. 691). This explains the weak correlate of experience and job performance beyond the first years of practice in both low- and high-complex jobs (McDaniel et al. 1988). To develop educational leadership expertise, according to Ericsson (2006) individuals need to deliberately and systematically improve their performance on relevant tasks through seeking suitable challenges and systematically analysing their performance. Ericsson refers to this process as *deliberate practice*. A coach or mentor has an important role in providing feedback on performance and the identification of suitable tasks (Ericsson 2006, p. 692). Other authors rather use the concept *reflection* when describing the cyclic process of performance, evaluation, analysis, and planning for improved performance (e.g. Korthagen et al. 2001; Hatton and Smith 1995; Mann et al. 2009; Schön 1983), but in all these publications, the importance of systematic and deliberate improvement of performance is emphasized as crucial for continuous professional development and expert performance.

From this literature, it can be concluded that if research universities with a strong reputation in research are not satisfied with just an 'acceptable and stable' level of performance in teaching, they need to invest in faculty development for teaching and educational leadership.

5 EDUCATIONAL LEADERSHIP TRAJECTORIES IN RESEARCH-INTENSIVE UNIVERSITIES

In this section, we portray five trajectories for educational leaders that are offered by research-intensive universities in Northwest Europe. In these portraits, we will focus on (1) history and aims of the trajectories,

(2) characteristics of their content and format, and (3) evidence of the effectiveness of the trajectories. The five trajectories were identified using a survey to identify interesting practices. Four universities have substantial dedicated programmes, while a fifth chooses a substantial individual approach, aimed at enhancement of educational leadership. In the following, we focus on these five universities: Utrecht University, Lund University, University of Oslo, University of Copenhagen, and the University of Edinburgh.

The portraits are based on documentation and additional site visits, where designers, facilitators, and participants of the trajectories were interviewed. The descriptions of the format of the trajectories provide information about the five core features that have been identified as contributing to the effectiveness of teacher professional development: *content focus, active learning, coherence, duration, collaborative practice* (Desimone 2009; Garet et al. 2001; Guskey 2003; Scott et al. 2008; Steinert et al. 2006; van Driel et al. 2012; van Veen et al. 2012).

5.1 Utrecht University

5.1.1 History and Aims

Utrecht University's *Onderwijskundig leiderschap* (Educational leadership) programme was developed in 1999, in the context of the university's policy to systematically invest in the quality of university education including the quality of the teaching. Among the other measures taken were the introduction of teaching qualifications for all academic teachers and a career structure in which esteem for teaching and research was more balanced. The central level of the university supported the development of the programme, but the initiative was taken by the deans of the science faculties. They anticipated major curriculum changes and wanted their senior academics to have sound knowledge of, and experience with, current higher education pedagogy and leading curriculum change processes, and to build a network with like-minded colleagues throughout the university. These became the aims of the programme. Between 2000 and 2016, the programme was offered 13 times, with about 200 participants in total. Time investment for participants throughout the 14 months of the course is about 200 hours. The two facilitators of the programme are always a professor in educational sciences and an educational consultant.

The programme aims at faculty with leadership roles in teaching: programme leaders, programme coordinators, directors of studies, and leaders of curriculum change processes. From the very beginning, the idea was that the educational leadership programme should add to the status of teaching at the university and that faculty would regard participation as an honour and as a reward for their endeavours to improve teaching and learning. The programme board (Centre of Excellence in University Teaching or CEUT), consisting of respected professors from all faculties, selects about 16 participants per course from a larger group nominated by the deans of the faculties, and monitors the quality of the course and the development and progress of participating faculty.

5.1.2 Characteristics

The backbone of the programme is a series of eight 24-hour meetings, with approximately six-week intervals, away from campus in a conference hotel. The thematic parts of the meetings align with the overall theme leadership for educational change. The programme is flexible and responsive to the needs and questions of participants.

An integral part of the programme is the study tour of one week to universities abroad. Witnessing education and educational innovation elsewhere helps to put developments at the own institution in perspective. It also provides new ideas and insights that can be implemented in the home institution.

Each participant is carrying out a curriculum development project in her or his own faculty, department, or school. The project should result in a substantial change. The participant has a leading role in a project team within the faculty. Examples of projects are developing and implementing a new postgraduate degree programme, improving and implementing the assessment strategy in an undergraduate degree programme, and internationalizing the curriculum.

Strong communities are formed in the peer coaching groups, where groups of maximum six participants reflect on and discuss in a systematic way critical incidents that have happened in the daily practice of group members.

At the end of the programme, participants write a reflection on their learning gains and the results of their project. All participants who complete the programme receive a certificate of participation.

5.1.3 *Effectiveness*

Over the years, Utrecht University's educational leadership programme was evaluated several times. A recent study of the design and effects of the programme (Grunefeld et al. 2015) made use of surveys among alumni of the programme and among supervisors of participants, in order to establish the effects of the programme in terms of personal development, teaching practice, network, and career, and to find the components that are seen as especially effective for the development of leadership qualities. The alumni survey was sent to 117 participants of eight cohorts, with a response of 66%. Interviews were held with 20 academic leaders (vice-deans, heads of department, directors of education), all responsible for nominating or sponsoring participants of the programme.

Participants themselves report strong effects of the programme on the development of their knowledge of education and educational change, on the range of activities they are involved in, and on the size of their network. The programme helped them to develop a broader vision on learning and teaching, and gain a better overview of what is going on at Utrecht University and in higher education institutions more broadly. They also report having a better overview of developments in education. Participants have also changed their teaching practice and became more involved in curriculum development projects and educational coordination tasks. About half of the respondents report still being in contact regularly with other participants of their cohort of the leadership programme or with other former participants, even long after the programme ended. Since a few years, a yearly dinner meeting for alumni is supported by the university to help with maintaining contacts.

The effects were recognized by the academic leaders. They see the alumni of the educational leadership programme as colleagues with useful knowledge of learning, teaching, and curriculum development, and as leaders of educational innovation. The innovative projects they did during their participation in the programme were seen as successful and were followed up with other innovative activities (Grunefeld et al. 2015). The academic leaders also mention that former participants take on more formal leadership tasks in education. The proportion of former participants of the educational leadership programme in positions as director of education of undergraduate or graduate programmes has grown to 50%. Since 2014 it has been a university strategy to recruit—where possible—new Directors of

Education from the pool of alumni of the CEUT educational leadership course.

Former participants see the opportunity to discuss with, exchange experiences with, and learn from fellow participants as the single most formative element of the course. Second is the study tour abroad and the input by experts during the thematic meetings. The academic leaders, who nominated candidates, consider the selective nature of the programme and its connectedness to daily work (through curriculum projects) as the most valuable characteristics.

5.2 *Lund University*

5.2.1 *History and Aims*

The Lund University programme for educational leaders was developed in 2008, as a logical next step for members of faculty who had been involved in the many educational development activities in the university, as participants and as leaders. The academic developers had recognized the importance of leadership for the development of teaching, and the importance of support for local leaders of teachers and teaching. The Centre for Educational Development designed the course *Ledning av pedagogisk verksamhet* (Leading Academic Teachers). The programme aims at academics with formal leadership roles in programmes and departments: programme leaders, programme coordinators, directors of studies, and heads of departments. The programme aims to support the participants in their work as leaders of educational development, to support the development of university teaching and with that of student learning, and to collect and document pedagogical leaders' experiences, in order to substantiate further development. Between 2008 and 2016, the programme was offered five times with 12 to 14 participants per group. Time investment for participants is about 200 hours. Two academic developers are the designers and facilitators of the programme.

5.2.2 *Characteristics*

An essential element of the programme is a leadership project. Participants volunteer for the programme and apply individually or in groups with a draft of a project involving educational development and improvement of student learning, and involving leadership concerns in their own professional context. The plans for this project play an important role in the selection process. Examples of projects are: studying how quality assurance for a department's study programmes could be organized, leading development of teaching in the department, reorganizing a complete curriculum, investigating the role of programme leaders across a faculty, developing academic writing skills across a programme, and developing a teaching quality system within a big department.

The group meets one half day per month, with two full days at the start, over a period of ten months. Guests, who are experienced educational leaders at department, programme, faculty, and national level, are invited to several of the meetings. They share their experience, participate in discussions, and then leave, giving the participants time to reflect together on leadership issues that were raised in relation to their own project and daily practice. Participants work continuously on their projects, make several progress reports, and discuss these with their peers. During the meetings and in the reports, the emphasis is on reflection on the leadership projects. The facilitators provide participants with leadership literature that is relevant for their situation and their project. At the end of the year, participants write and peer-review final scholarly reports of their projects, and they present the results in the group. The reports remain available for participants in the programme, as well as for future cohorts, to learn from experiences of peers.

Characteristic for education development and teacher development at Lund, and also for this leadership programme, is the emphasis on the forming of communities of practice (Wenger 1999). The group of participants functions as a community of learners throughout the programme, in which trustful conversations and collegial support are possible.

The programme supports educational leaders in developing their leadership expertise by providing opportunities for reflection and a repertoire of examples of how problems can be solved, as well as scholarly literature on relevant leadership issues.

About two-thirds of the participants received a certificate for completing the programme with the presentation of their final report.

5.2.3 Effectiveness

The programme was evaluated shortly after each course ended, using an online evaluation form with open questions and with written, paper-based evaluations. These evaluations had an 80–90% completion rate.

The participants characterized the results of the programme as increased insight in (theoretical) leadership perspectives that are useful for practice. They gained self-confidence in their leadership roles and recognition as trained leaders. Elements of the format of the programme perceived as especially important are the role of both facilitators (assessed as superb), the secure space and time for reflection they offered, the guest teachers and discussions in the group, and the opportunity to compare experiences with the situation in other universities.

It seems that the communities of practice are effective during the programme but not thereafter, except when participants are co-workers in the same department.

5.3 University of Oslo

5.3.1 History and Aims

The University of Oslo *Utdanningslederprogrammet* (Study Leaders programme) was developed in 2013 to support leaders of study programmes in their responsibility for leading teaching and learning. The University wanted to offer an education-focused variant for the very successful Research Leadership Programme. Using information from several focus group meetings with study programme leaders and other stakeholders, and using the format of the Research Leaders Programme, senior advisors of the central administration unit (human resources) of the university and external consultants (with leadership development expertise) developed the programme.

The programme aims to stimulate the participants' efforts to build excellent educational environments and to facilitate good conditions for teaching and collaboration between the administration, students, and different academic communities. Between 2013 and 2016, the programme was organized three times with a total of 70 participants. The people who designed the programme also facilitate it.

The programme is aimed at academics and administrative employees with leadership roles in programmes and departments: study leaders, degree programme leaders, degree programme coordinators, and directors of studies. Two-thirds of the participants are members of faculty; the others are administrative staff with key roles in education. The facilitators create a group from lists of candidates provided by the faculties, a group that is heterogeneous with respect to faculties and years of experience in academia. Real leadership responsibility is required.

5.3.2 Characteristics

Just before the start, all participants are interviewed about their expectations and the format of the programme, about their current topics of interest and current challenges. Participants are asked to write a personal development plan. Examples of challenges are reducing drop-out in an undergraduate programme, the politics of a small degree programme in a large department, or leadership/process issues concerning the restructuring, reorganization, or development of a study programme.

The group meets three times during a period of six to nine months, in off-campus meetings of respectively three, two, and two full days. For each meeting, some preparatory work is required. Time investment for participants is about 80 hours.

Characteristic for this programme is the focus on individual development as a leader and the role of leaders in the development of the university organization. To perform adequately, leaders need to understand themselves, their role, and their influence on the environment. Therefore, the three central themes during the meetings are strategic leadership and visions for study programmes, implementation and management (moving from intention to action), and leadership in educational environments (how to encourage colleagues to best performance). Experienced educational leaders and guests, who offer models and theories that can be used by participants to reflect on their own experiences as leaders, introduce these themes during the sessions.

The reflection process is supported in core groups, or reflective teams, which is a very central feature of the design of the programme. The facilitators each lead such a small reflective team. Topics are participants' leadership role, feedback participants have asked and received from colleagues, and leadership in change processes. The reflective teams provide a safe learning environment and an opportunity to learn from each other's insights and experiences.

At the end of the programme, all participants receive a certificate.

5.3.3 Effectiveness

All meetings are evaluated with face-to-face feedback from the participants and with an online questionnaire. About 90% of the participants of the most recent cohort find the programme useful for the development of their leadership competence. The participants report effects of their participation in the programme on their daily working environment; they mention increased confidence and clarity as a leader, increased reflexivity, and a higher awareness of their scope as leaders. They feel that they are more visible for faculty management and colleagues, and that their qualities as leader are recognized. Participants develop expertise as reflexive leaders. Some of the core groups still meet, and participants contact each other on education topics when necessary. An inspiration day in the year between cohorts, organized by the facilitators for participants of all cohorts, stimulates contacts and further cooperation.

5.4 University of Copenhagen

5.4.1 History and Aims

The University of Copenhagen *LedelsesUdvikling for studieledere* (Leadership development for programme directors) was developed in 2014, as a specific version of the university's general approach to leadership and leadership skills development. It was part of the university strategy to invest in education and educational leadership. The programme for programme directors was developed through collaboration between the central HR department and the pedagogical units at faculty level. The programme is aimed at programme directors, heads of study, course coordinators, deputy heads of department for teaching and the like, typically leaders in middle management positions with a focus on leading teaching.

While the general leadership programme aims to develop personal leadership skills, the specific programme adds the aim to develop the knowledge and skills necessary to address challenges regarding leading teaching and curriculum design and development. A third aim is to develop a network of colleagues in the same managerial positions. Between 2014 and 2016, the programme has been organized four times with a total of 50 participants. The designers also facilitate the programme.

The programme is strongly recommended for all programme directors, as is the general programme for all other leaders. The HR department invites programme directors from all faculties to participate in the programme.

5.4.2 Characteristics

A preliminary interview is held with each participant to discuss the programme, their work, and their expectations and wishes for the content of the programme. An educational change project or innovation is selected to be used as a means to link the programme to daily practice. Examples of the educational change/innovation projects are curriculum change or quality enhancement projects, or the development of pedagogical competences among staff. Typical questions that participants have revolve around ways to involve colleagues in the project or ways to align university, faculty and programme strategies.

The programme consists of two two-day retreats, two one-day meetings, five workshops of 2–4 hours, and three extra learning group meetings of 3 hours each in between the meetings. The entire programme is completed with an optional two-day trip to a foreign university. The time investment for participants is about 80 contact hours, plus the study trip.

Characteristic for this programme is the combination of leadership and curriculum topics. Personal leadership skills and receiving and reflecting on 360-degree feedback are planned in the first meetings. Other leadership topics are the structure of a university organization and leading and managing in a university setting. The education topics focus on curriculum design and curriculum development and align with relevant educational development within the university. Guests from senior management and leadership positions are invited to share their experience as leaders, and to discuss university and faculty strategies with a focus on education.

The learning groups, or reflective teams, are an important feature to bring daily practice into the programme, and to offer an opportunity to start a longer-lasting network. Facilitated by one of the course leaders, one participant presents his or her project and a dilemma or question. The other four or five participants in the group think along, discuss, and offer their own experiences and ways to deal with these questions.

The study visit is included to help forming a network, to find inspiration in comparing the home system with another system, and to find contacts abroad.

Participants receive a certificate if they ask for one.

5.4.3 Effectiveness

All parts of the programme are being thoroughly evaluated, showing a high degree of satisfaction among the participants. They report to have gained inspiration, but also that from time to time it can be difficult to get a complete picture of their management role. They feel that they have learned a language to discuss dilemma's that occur in leadership roles, and to discuss curriculum design and development issues.

A short survey revealed that participants have formed a network that had meetings twice a year, for some years after participating in the programme. To have administrative support in organizing these meetings has proven to be essential.

5.5 *University of Edinburgh*

5.5.1 History and Aims

The Edinburgh Teaching Award (EdTA) was launched in 2014 as part of the University of Edinburgh's continuing professional development (CPD) framework for faculty and staff involved in learning and teaching. The Institute for Academic Development (IAD) designed the framework on behalf of the Senate Learning and Teaching Committee (LTC) in 2012. It was developed as an opportunity for academics at all levels in the university to engage with professional development at different points in their career and be directly linked to what they do to enhance teaching and learning. By focusing on the professional development of teachers, the framework should have a positive impact on student learning. The framework, including the Award, is mapped against the UK Professional Standards Framework and accredited by the Higher Education Academy, which means that achievements are transferable to other universities in the UK.

EdTA aims to provide all staff involved in teaching and supporting learning with rich opportunities to reflect on and develop their practice throughout their careers. While levels 1 and 2 are aimed at teachers near the start of their career, levels 3 and 4 are aimed at experienced academics with a leadership or management role at course, programme, or school level, and include a strong focus on leadership and impact at a strategic level in relation to teaching and learning. Taking part in the EdTA at the leadership levels 3 and 4 involves CPD activities that fit with daily work as an academic teacher at a senior level and an educational leader, with a particular focus on critical engagement in reflection about their practice. Between 2014 and 2016, about 90 participants started at levels 3 and 4, and new cohorts are enrolled twice each academic year. Candidates for the EdTA register for the programme themselves or in response to suggestions from their School. Participants have between six months and two years to complete a level of the EdTA. The time commitment varies from participant to participant depending on their prior experience. The IAD is the designer and main facilitator of the programme.

5.5.2 *Characteristics*

Characteristic of the approach at the University of Edinburgh is the combination of an overarching framework of professional development goals for different roles and career stages of university teachers, with provision based around flexible pathways and a broad range of CPD activities to achieve those goals. Participants choose those activities that help them best with their daily practice. The CPD opportunities for the leadership levels vary from workshops and courses, to secondments, networks and mentoring, to working on curriculum development projects, pedagogic research, and evaluation.

Participants work towards a submission to the Award Panel, who assess the work against the criteria of the chosen level of the Framework. The submission could be a reflective blog or a presentation, and includes also a record of CPD activities, relevant experiences and success, and two references. Relevant experiences to reflect upon at the leadership levels could be, for example, leading a learning and teaching enhancement project in the School, or involvement in a University-wide initiative to improve assessment and feedback, or taking a role in a review team for a Teaching Programme Review.

The most important criterion, however, is not just which activities people have done, but what they have learned. This reflection on practice is supported and encouraged by a mentor, who gives feedback on blogs or accounts of reflection on practice. The mentor will meet with the participant face to face or online. Interactions between mentor and mentee will, for example, include discussions about what leadership or seniority actually entails. The mentor will also point participants to external resources including educational literature. The mentor is allocated to a participant by the IAD and will have been awarded Level 3 and/or Level 4, either via the EdTA or directly from the Higher Education Academy.

To introduce and support participants, group meetings are organized. The purposes are always to provide support and encouragement and to share experiences, address queries and concerns about the practicalities of the EdTA, facilitate a reading or discussion activity, and offer protected writing time. As the Framework is aimed at CPD, participants can meet at the various CPD activities organized by the IAD and in schools. Some level 3 and 4 participants attend writing retreats and journal clubs.

5.5.3 *Effectiveness*

About 20% of the enrolled participants in levels 3 and 4 have already completed the Award within the first two years. The programme was evaluated after two years by an external researcher, using interviews with participants, Heads of School and members of staff of the IAD, and an online questionnaire for participants.

Participants give positive feedback about the EdTA. They reported to have gained useful insights and confidence, a deeper understanding of and changes to teaching practices, benefits of time discussing and sharing practice with a broader range of colleagues, and a sense of being valued and supported in the teaching role and CPD. More than half of the completers have taken up a mentor role for other EdTA participants. Mentor mediation was seen as crucial in the process of reflection on learning.

Some schools are developing school versions of the Framework, linked to curriculum development and/or teaching enhancement activities. Schools increasingly build the EdTA into reward, review, and recruitment policies. Completion of levels 3 and 4 is included in evidence of excellence in education for academic promotions.

6 COMPARING THE FIVE TRAJECTORIES

In this section, we compare and discuss the five trajectories for educational leaders. The focus will be on the history and aims, the characteristics of the design of these trajectories, and the achieved effects.

6.1 History and Aims of the Five Trajectories

Four universities chose to adapt an existing programme or develop a course for groups of educational leaders, whereas Edinburgh chose to create an individual CPD approach. Several motives were mentioned to develop professional development opportunities for educational leaders: to fundamentally improve the quality of education, and a need for informed senior academics prepared for leading educational change (Utrecht); the university teaching and learning strategy, especially the need to improve the status of teaching compared to research (Oslo); to support educational leaders in their specific tasks and responsibilities (Lund, Copenhagen); and to stimulate CPD, including for leadership levels, and to offer an award that is recognized as an achievement at other universities (Edinburgh).

Enhancing personal leadership skills and reflection on leadership practice are central in the aims of the Oslo, Copenhagen, Lund, and Edinburgh trajectories. The aims to develop knowledge on current topics in higher education research and change processes, and to design and successfully implement solutions for education problems, are central in the programmes at Utrecht and Copenhagen. Building a network of like-minded colleagues in the same positions is an added aim in Utrecht, Oslo, and Copenhagen.

The trajectories are not open for everyone. All are meant for academics with leadership roles in programmes and departments: programme leaders, programme coordinators, directors of studies, heads of departments, and sometimes leaders of educational change projects. The nomination and selection approach at Utrecht reflects their desire to offer something special to the academics who play a crucial role in improving the quality of teaching and learning. Lund's and Edinburgh's academics on the other hand can enter without selection.

The certificate given to participants at Utrecht University has a formal effect because, for some positions in the university, having been a participant is recommendable or even required. The most consequential assessment is done in Edinburgh, because the Award is recognized throughout the UK at member institutions of the Higher Education Academy.

6.2 *Characteristics of the Five Trajectories*

We take a closer look at the various formats of the programmes, using the structure of the five core features for effective professional development (Desimone 2009).

6.2.1 Content Focus

Content focus refers to whether the content of a programme is related to the ultimate result the participants have to achieve (Desimone 2009), in this case, leadership of education or educational change, with a positive effect on student learning. In the five approaches, three content areas are present with different emphasis: leadership, change processes, and higher education pedagogy and curriculum design.

Leadership refers to personal leadership and the leadership role in the university and faculty organization. The programmes in Oslo and Copenhagen use a variety of methods to support self-knowledge and development. The 360-degree feedback method is an example. Learning from and discussing with experienced leaders from different levels in the university is another method, used in Oslo, Lund, and Copenhagen. Oslo's compact summary is that educational leaders need to understand themselves, their role, and the environment. Understanding the environment is implemented through, for example, discussions about the university's teaching strategy.

In all programmes, change processes are part of the content, for example, through invited lectures (Utrecht), reading and discussing literature about change in higher education (Lund), or through learning from experienced leaders (Oslo, Copenhagen, Lund). All five universities ask participants to reflect on their leadership of educational change projects that they are carrying out in their daily work.

The third main content area is higher education pedagogy and curriculum design. Both the programmes in Utrecht and Copenhagen spend about half of the time on topics in this area. Literature and discussions with guest teachers and among the participants are important sources for learning. Discussions about the use of these theories in the real-world educational change projects of the participants help with the transfer to daily practice.

We can conclude that the programmes, although with different emphasis, focus on the areas that are crucial for the roles of educational leaders.

6.2.2 Active Learning

When participants are invited to be actively involved in discussions, observations, and giving feedback, instead of just listening, we speak of active learning (Desimone 2009). The four programmes have as a key feature the reflection on leadership practices. Different methods are used: a reflective team or learning group approach in Utrecht, Oslo, and Copenhagen, and reflection during the group meetings in Lund. In the reflective team approach, the group learns under supervision of a facilitator a method to together reflect deeply on critical incidents. The reflections can lead to deliberate changes in the participant's approach to the tasks on hand, where they think that is appropriate. The course facilitators and the mentor offer suitable information, knowledge, and activities that help participants in developing their leadership role.

In the four programmes, participants are invited to take an active role in discussions with guest teachers and other participants, in reflection and reading tasks. In Lund's programme, scholarly reflection using literature on leadership and peer review is a key activity in the meetings. Utrecht participants travel to several universities abroad, as an inspirational and informative activity. Participants at Utrecht, Lund, and Edinburgh write reflective reports on their learning gains and the results of their project. In summary, all trajectories require participants to take an active role in their learning process.

6.2.3 Coherence

Based on the description given by Desimone (2009), coherence is necessary between the programme and the prior knowledge and beliefs of the participants, and between the policies and strategies of the organization and what happens in the programme. By asking participants to choose an educational development project in daily practice, as is the case in Utrecht, Copenhagen, and Lund, or by selecting participants based on their educational leadership role as is the case in Oslo, a connection is made between programme and daily practice. In the Utrecht programme, the project functions also as a source for requests for certain topics or for invitations to certain guest teachers in the remaining part of the programme. This provides the participants with knowledge from areas that are education specific, rather than discipline specific. In all trajectories, the most important feature seems to be not just what the daily practice is but what participants learn from it, their reflection on practice (Schön 1983).

6.2.4 Duration

According to Desimone (2009), to achieve intellectual change, a programme needs to be of sufficient duration, which would be at least about 20 hours in a period of at least six months. All four programmes require participants to work on their personal development in a period of 4 to 14 months, investing around 80 hours (Oslo, Copenhagen) or 200 hours (Utrecht, Lund) of work. Most of the time of the Utrecht and Copenhagen programmes is contact time. Furthermore, the two-day meetings of the Utrecht, Copenhagen, and Oslo programmes are organized off-campus, which intensifies the opportunities for discussions and socializing. In summary, the duration of these four trajectories should be sufficient to achieve intellectual change.

6.2.5 Collective Participation

The last core feature in Desimone's model is collective participation of colleagues of the same organization, that could lead to continued interaction and peer learning even after the programme ends. In the programmes of Utrecht, Oslo, and Copenhagen, building a network throughout the university is an explicit aim. In contrast to the four programmes, Edinburgh's approach is not aimed at bringing colleagues together. The four programmes are targeted at academics of one university. Continued interaction and peer learning is indeed happening in Utrecht and Copenhagen, but less so in Oslo and Lund. Evaluations in Utrecht and Copenhagen show that about half of the participants continue to meet and learn with and from each other, even across faculty boundaries. Oslo and Lund find that continued contact exists mainly between colleagues working in the same department. An explanation might be that when participants work in the same faculty or department, continued interaction is more naturally happening than across faculties (Trowler 2008). Another explanation may be found in the intensity of the interactions during the programme. The reflective team method used in Oslo, Copenhagen, and Utrecht aims at forming communities of learners (Brown 1994). It may be that when these teams operate more often, the community is stronger, and the participants feel the desire to maintain contact. Other possible explanations could be the amount of opportunities for building relationships, for instance, in off-campus meetings, or in formalized meetings that bring former participants together because of their role.

In summary, building a network of like-minded colleagues working on enhancement of education is not easy to do. Intensive interactions in a series of small group meetings, combined with continued support in bringing people together, help to sustain contacts long after the programme ends.

7 Lessons That Can Be Learned

We summarize the lessons that can be learned from the experiences with educational leadership trajectories in five research-intensive universities. We asked two questions: What are the main formats of faculty development for educational leadership in research-intensive universities? What are the perceived gains and challenges of these trajectories?

What are the main formats of faculty development for educational leadership? There seem to be two major routes to the development of the educational leadership programmes, with consequences for the format. The first route starts at the central level of the university, perhaps with involvement of the Human Resources department. The programmes in Oslo and Copenhagen are examples of this route. An important driver is the aspiration to enhance the quality of leadership in the university and to offer academics in leadership positions the opportunity to develop their leadership skills in the university context. The university teaching and learning strategy, especially the need to improve the status of teaching compared to research, adds the drive to develop a programme especially for educational leaders. The second route starts bottom-up, in which deans or the leaders themselves, or the Educational development unit, recognize a need for professional development for educational leaders. In this route, the content is more focused on leading educational innovations. The Utrecht and Lund programmes are examples of this second route.

Both routes lead to different content and formats. The first route leads to programmes focusing on leadership skills. Citing Oslo's example, 'to perform adequately, leaders need to understand themselves, their role and their influence on the environment'. Because leaders are busy, a programme of 80 hours seems long enough. To accommodate the specific tasks of educational leaders, parts of the programme are tailored to the university's teaching and learning strategy, and, as in Copenhagen's programme, topics in the area of curriculum design and curriculum development are added. The second route leads to programmes focusing on leading educational innovation. Educational leaders in these programmes are apparently willing to invest much more time, around 200 hours. Their role as change agent is central in the programme. In the Lund programme, the emphasis is on learning about leadership of educational innovation, while Utrecht takes the knowledge needed for smart educational change as point of departure. We might have exaggerated the differences. These distinctions are formulated in very general terms, and there is perhaps more overlap than is visible in the descriptions of the trajectories.

A third route, that does not result in a programme for a group of colleagues, is Edinburgh's individual CPD approach. The driver was a national development, the UK Professional Development Framework, which was embraced by the central level of the university.

8 Perceived Gains and Challenges

The formats of the educational leadership programmes in Utrecht, Lund, Oslo, and Copenhagen share the same characteristics, except for the duration: the aims of the programmes are in line with the concerns that participants have in their daily practice, they use a reflective approach, they provide the participants with input and feedback from experts and experienced leaders, they invite and expect active involvement of the participants, and they are embedded in the university organization.

Most of these characteristics also apply to the individual approach at Edinburgh. The main difference is that participants are not brought together in a group to form a community of learners, although participants could join in any faculty development activity offered by the University or others.

We can infer that the five core features (Desimone 2009) have been attended to in the design of the programmes. Desimone claims that formats with these features are effective professional development programmes. According to the available evaluations, all five trajectories are received positively at the universities. Participants are excited about what they have gained from partaking, for instance, increased authority as educational expert with their colleagues, confidence, inspiration, and skills for being a better leader, and a network of like-minded colleagues. For some trajectories, impact on the quality of education and on continued innovation of teaching and learning has been reported, and HR policies have changed. We can conclude that these trajectories are effective professional development opportunities.

Challenges remain at the level of the programmes, at the individual level of the participants, and at the organizational level.

The programmes are evaluated mainly at the first of the four levels of evaluation of training programmes identified by Kirkpatrick: satisfaction of the participants (Kirkpatrick and Kirkpatrick 2006). Kirkpatrick's other levels of evaluation are learning, behaviour, and results. The evaluation of the Utrecht programme looks also at the levels of behaviour and results (Grunefeld et al. 2015). More thorough evaluation of the effects of the programmes and especially of the processes that lead to these effects could help us understand better why these formats work. Desimone (2009) and others (e.g. van Driel et al. 2012; Wayne et al. 2008) propose to look for a theory of change underlying the programmes. Van Driel et al. (2012) especially recommend looking at the role of the facilitators, which could be interesting because in some of the trajectories the participants are particularly positive about them.

Challenges at the individual level, the level of the participants, are the time investment and the rewards of participation. As mentioned before, the time participants invest is very different in the five trajectories. What makes it possible that some programmes can require 200 hours (and more), while other programmes need to restrict the time investment to 80 hours? Is it the rewards that make the difference? At Utrecht, it is considered an honour to have been selected for the programme, and participants report having gained authority among their colleagues. Participants at Lund report increased confidence and recognition as leaders. To what extent is the content of the programme and the role of the facilitators important for the motivation to spend time? Another challenge at the individual level that deserves further research is the actual learning that takes place. What is the effect of the important reflective activities? Have knowledge and skills of the participants increased, and how do they apply their new knowledge? Do they continue to deliberately seek opportunities to improve their performance?

At the organization level, the goal to establish an inspirational network of professionals in leading education is difficult to achieve in a research-focused university, as is making time for participating in a programme in the busy agenda of educational leaders. A rather long duration of a programme provides many opportunities for the participants to get to know each other, which makes continued interaction after the programme ends more likely. Peer learning in the learning groups (reflective teams) seems also a good way to develop longer-lasting contacts within the university. Still, the forming of a network to which most participants belong is not easily achieved. In a study of academic middle manager's experience of organizational working conditions at the University of Copenhagen, Harboe et al. (Harboe et al. 2016) found that a category of leaders experience a feeling of being overloaded and isolated, and that these leaders had not been participating in a network with other leaders, or in a leadership development course, which could have provided them with tools to tackle the pressures (Harboe et al. 2016). Further research could be helpful. From the examples in Utrecht and Copenhagen, we learn that administrative support for organizing network meetings seems to be an essential requirement.

9 CONCLUSIONS

This chapter showed that, in these five universities, the professional development trajectories support educational leaders in their work on leading and enhancement of teaching and learning. We have seen that the differences in content are substantial. The three areas that are seen as important for educational leaders, personal leadership skills, change processes, and higher education pedagogy and curriculum design, are emphasized in different ways. The choices in the design of the programmes are surprisingly similar: key activities are reflection in a peer group, exchanging experiences and learning from experienced and expert guests, and a vital role for the facilitators as coach in the whole process. It is remarkable that both durations of 80 hours and 200 hours are perceived as challenging for the busy agenda of educational leaders, but also appreciated as a valuable investment.

The evaluations show that the investment in faculty development for teaching and educational leadership certainly has had positive effects. We have seen that in the five universities in our study, the drive to strengthen the leadership leads to different programmes than the desire to enhance the quality of education. The challenge for research-intensive universities is to choose their own route to establish a trajectory for educational leaders.

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Building Academic Staff Teaching Competencies: How Pedagogic Continuous Professional Development for Academic Staff Can Be Organised and Developed in Research-Intensive Universities

Sofie Kobayashi, Jens Dolin, Anni Søborg, and Jon Turner

1 INTRODUCTION

The quality of teaching and the pedagogical development of teaching staff is a key issue in higher education (HE). University faculty, particularly in research-intensive universities, mostly identify themselves as researchers. This understanding is, to a large degree, reinforced by universities due to the influence of league tables based on research performance and other economic and cultural factors. While many universities are increasing their focus on teaching improvement, the general value system, from hiring

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requirements to promotion criteria, and institutional culture often still revolve around research. Around the globe reward systems strongly favour publications (Turner and Gosling 2012). Many universities are starting to try to redress the balance and give greater prominence to teaching, first and foremost by rewarding excellent teaching, and to a lesser extent through promotion structures (Parker 2008; Subbaye and Vithal 2017). Research is the hard currency and, within such a context, teaching competence development can be difficult to prioritise, for individual faculty members, departments and universities.

In this chapter, we consider how universities internationally are responding to this challenge. We discuss some of the factors that influence policy and practice within institutions in general and through the strategies pursued by two comparable research-intensive universities, the University of Copenhagen (UCph) and the University of Edinburgh (UoE).

2 INTERNATIONAL TRENDS

Teaching quality has always been on the agenda in HE. Until recent decades, the responsibility was placed mainly on the individual teacher. Now, with increased external scrutiny of institutional performance, and with a growing body of research into teaching and learning in HE, the focus has changed towards an organisational responsibility. This is often manifested by an organisational focus on building teaching competencies through formal, structured staff training and Continuing Professional Development (CPD) programmes. This shift has been supported by international initiatives and reports (McAleese et al. 2013; Hénard and Roseveare 2012). A central focus of these reports has been the relatively low status of teaching compared to research. For example, McAleese et al., in their report to the European Commission, noted that:

> In most Member States, an academic career is still more strongly linked to research than to teaching in terms of initial selection at job interview and subsequent promotion and performance related reward (McAleese et al. 2013, p. 30).

They point to the obvious solution that:

> Every institution should develop and implement a strategy for the support and on-going improvement of the quality of teaching and learning, devoting the

> necessary level of human and financial resources to the task, and integrating this priority in its overall mission, giving teaching due parity with research. (ibid., p. 27).

In research-intensive universities, the emphasis on research performance is even greater. Academics are hired primarily on the basis of their research merit, and the common narrative among faculty follows the dictum of 'publish or perish'. The emphasis on research performance is evident in the incentive structures of most universities. For academic positions, the requirements are first and foremost a PhD degree, that is, three to four years' further education in research, and then documented research competences in the form of publications, H-index and research funding. This understanding permeates the whole culture at these universities: '…research is the major driving force for personal engagement and institutional *ethos*' (Mårtensson et al. 2011).

As the organisational focus on teaching increases, we are beginning to see requirements for teaching competencies being explicitly stated and defined in relation to promotion and career paths. As stated by Chalmers and Gardiner (2015, pp. 82–83):

> there are clear expectations that teaching staff will increasingly be required to provide evidence of the quality of their teaching and of ongoing participation in teacher development programmes.

The requirements for certified teaching competencies are commonly linked to initial university teacher development programmes. Globally, there is a large variation in the status (e.g. mandatory or voluntary), target participants, resourcing, purpose and scope of these programmes (Chalmers and Gardiner 2015). In Australia, it is left to each university to decide on their requirements for teacher training, while, in Canada, most universities provide support for developing teaching competencies (Taylor and Znajda 2015). In Denmark and the United Kingdom and other countries like Malaysia and Sweden, this is a general sector-wide expectation or requirement for university teacher training (Chalmers and Gardiner 2015). In Sweden, the requirements are higher than average, with participation in a ten-week pedagogical course required for a tenured academic position (Roxå and Mårtensson 2008).

In Denmark, information on CPD and teachers' pedagogical competence is a part of the institutional accreditation, but there are no official requirements with regard to the extent of CPD. Universities Denmark (the organisation of the eight Danish universities) recommends a 250-h course (app. ten ECTS), and most universities have requirements aligned with this recommendation. Qualifications required for different positions in universities are regulated through governmental circulars, and the latest government circular from 2013 attempted to strengthen the status of teaching by making career options more visible and by making the two main functions of universities, teaching and research, clearer (Christiansen 2016). However, universities in Denmark still employ postdoc researchers on fixed terms in increasing numbers, with limited potential for them to undertake CPD (Christiansen 2016).

In the UK the pedagogic development of staff has been the focus of government and sector bodies, since the late 1990s, and the publication of the Dearing Report, a major government review of UK Higher Education (Dearing 1997). Key actions have included the development of the United Kingdom Professional Standards Framework (UKPSF) for the staff involved in teaching and supporting learning in HE (Higher Education Academy 2011), the role of the Higher Education Academy (HEA) in externally accrediting University CPD programmes, as well as the requirement for institutions to include information on the number of staff with a teaching qualification or in their annual return to the Higher Education Statistics Unit. It has also been suggested that information on staff teaching qualifications may form part of the new Teaching Excellence Framework (TEF) which will determine the level of student fees that universities can charge (BIS 2016). The introduction of the TEF mirrors the long-established UK Research Excellence Framework (REF) that seeks to recognise the quality of research activity and is used to allocate funding to institutions.

3 CPD Design Considerations

Whilst contexts and drivers vary between institutions and countries, there are a number of common issues to consider when designing CPD provision to enhance university teaching. The complexity of academic roles and what this means in terms of workload and time for staff to prioritise teaching and particularly for CPD is a key issue. Balancing research and teaching commitments is at the heart of this challenge for many individual staff and institutions. Other significant considerations include national regulatory, Quality Assurance and funding arrangements; academic career pathways, staff recruitment and opportunities for promotion; changing curricular and student requirements linked to different modes of study and demographics; evidence from educational research and the scholarship of teaching on effective pedagogic practices; as well as student, employer and other external feedback on educational provision and outcomes.

Organisational structure also plays a significant role in influencing the optimal design of CPD activities and the chance of successful implementation. It will be easier for new CPD initiatives to gain acceptance in a streamlined organisation, with a coherent value system and tight linkages between the different elements and levels, than in a more loosely coupled system. Universities often show the characteristics of a loosely coupled system as defined by Karl E. Weick (1976). This concept of organisations as loosely coupled systems is a powerful tool for describing educational systems in terms of their degree of shared values and the amount of common variables across sub-systems. As Weick puts it (1976, p. 3):

> ... if we did not find many variables in the teacher's world to be shared in the world of a principal and/or in the variables held in common were important relative to other variables, then the principal can be regarded as being loosely coupled with the teacher.

In addition to practical implications for the efficiency and effectiveness of CPD provision, these issues will have a major impact on personal and institutional motivations. For example, in considering the model of self-determination and personal engagement proposed by Ryan and Deci (2000) (Fig. 1), there will be colleagues who engage with CPD for intrinsic motivations linked to their interest, commitment and passion for teaching,

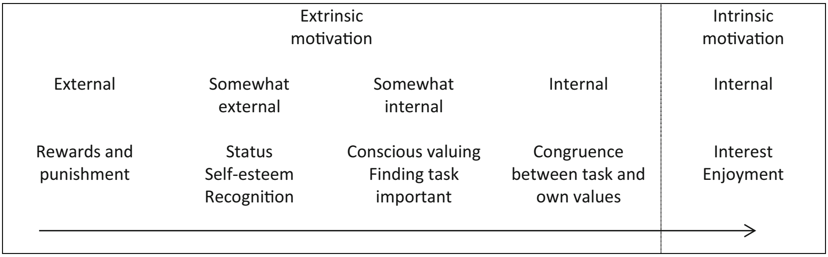
Extrinsic motivation
Intrinsic motivation
External
Somewhat external
Somewhat internal
Internal
Internal
Rewards and punishment
Status
Self-esteem
Recognition
Conscious valuing
Finding task important
Congruence between task and own values
Interest
Enjoyment

Fig. 1 Framework for understanding extrinsic and intrinsic motivation, the internalisation of extrinsic motivation and personal engagement, based on Ryan and Deci (2000)

seeing it as central to their identity as an academic. For others, extrinsic motivations such as links to career advancement, pressure from managers or the university will be more important. The relative weight of these intrinsic and extrinsic motivations will have an impact on how individuals engage with the CPD and what they learn from this engagement. For both individuals and institutions, if compliance-based extrinsic motivations dominate (e.g. focussing on ticking the box of CPD completion for individuals or targets for numbers of staff completing CPD for institutions) over the desire to use the CPD to better understand, support and enhance teaching and the value of teaching, there is a significant risk of undermining the value of CPD and its impact on teaching quality.

Some of the specific design decisions this raises includes the balance between theory and practice in CPD provision; the role of reflective practice versus formal teaching; the relationship between CPD and disciplinary contexts; centralised versus decentralised provision and support; adaptability to various organisational sub-cultures within the overall value system; links to processes around staff recruitment, management and promotion; as well as specific approaches (including peer observation of teaching, researching personal teaching practice and production of teaching profiles).

4 Different National and Institutional Contexts

To explore and understand the impact of these different design considerations, we consider the approaches taken to develop and embed CPD for teaching staff in two comparable research-intensive universities from different national contexts: the UCph in Denmark and the UoE in Scotland (UK).

The UCph is the oldest Danish university, founded in 1479. It is a comprehensive university with 38,000 students, 21,000 at bachelor level and 17,000 at master level. The university formulated its first institutional strategy in 2007 named 'Destination 2012'. This focussed on research as its foundation, and the UCph is placed between 30 and 120 on international ranking lists. The strategy of 2012 (Strategy 2012–2016, extended to 2017) has a strong focus on education and as such puts education and teaching on the agenda for the first time in the history of the university (University of Copenhagen 2012).

The UoE is one of the ancient Scottish universities, founded in 1583. It has more than 35,000 students, 40% of whom are from outside the UK, studying a very broad spread of academic disciplines. Edinburgh has an international reputation for research excellence, ranked within the top five UK institutions and top 20–50 in global rankings. Recent University Strategic Plans have emphasised the importance of teaching, with the 2016 Strategic Plan (University of Edinburgh 2016) explicitly stating that the university aims to be known as much for the excellence of its teaching as it is for its research.

Enhancing the status of teaching and education in such traditional universities that are highly esteemed for their research excellence has to build on local engagement and ownership, involving changes of institutional culture that will take time to achieve. Both universities have a clear strategic priority to enhance teaching and learning, but with different approaches to developing and implementing the strategy—partly due to their different national contexts and conditions.

In the Danish context, the liberal government established an Expert Committee on Quality in HE that emphasised the need to balance demands for both research and teaching competences (Søndergaard et al. 2015). There is no sector-wide framework for teaching competencies in Denmark equivalent to the UKPSF. In general, the only requirement linked to teaching for a permanent position (associate professor level) is a positive statement obtained through completion of a university Teaching and Learning in Higher Education Programme. There are no other explicit requirements for certified teaching competencies for promotion or salary increases. Teaching features as one factor among five to six others, including research merits, fundraising, services and leadership experience. The recommendations made by the Expert Committee (Søndergaard et al. 2015) have not, so far, resulted in policy changes.

Whilst much of the context described earlier for the UK as a whole, including the UKPSF, the role of the HEA in accrediting university CPD programmes and the focus of government agencies and funding bodies on teaching quality and the pedagogic development of staff, is relevant to Scotland, there are some significant differences linked to its status as a devolved nation. This includes important differences in how HE is funded (e.g. Scottish students do not pay fees), in having an enhancement-led approach to institutional quality assurance, and there being no current requirement to report on staff teaching qualifications or participate in TEF.

Within these different national contexts, the UCph and the UoE have developed different CPD structures, incentives for CPD participation (including the weight given to teaching qualifications in promotion decisions), institutional discourses on teaching versus research and different roles for teaching and learning (t/l) units.

4.1 *University of Copenhagen*

From the UCph, we describe two of the central levers for CPD: the pedagogical competence profile and the teaching portfolio. We then present a small qualitative study identifying drivers and barriers for their design and implementation and conclude with some perspectives on their expected impact at university and national levels. The authors from UCph are central actors in the implementation of these initiatives, and this case study is based on our participation and reflections of how to organise the work, carrying through centrally decided goals while taking into account local needs and ownership.

The pedagogical competence profile and teaching portfolio are key drivers for educational quality enhancement at UCph and integrated parts of a general institutional-level Education Initiative. They are closely linked, with the TP using the pedagogical competence profile as a template or descriptor. The pedagogical competence profile has a wider intended use. It has been designed to be a general tool for describing teaching competence, that is, job application, promotion and course development. Two separate committees were appointed to oversee these developments, with members of teaching and learning units and representatives from each of the university's six faculties working in close collaboration with university teachers, study leaders and university leadership at all levels.

Work on the pedagogical competence profile started in September 2014 with the final profile approved by the central university leadership team in June 2015. Work on the teaching portfolio began in May 2013 and by December 2016 a common understanding of what a portfolio is and how it can and should be used at different occasions had been established together with examples of TPs. During 2017, faculties will adapt the portfolio to complement local regulations, and teachers will begin to complete their own teaching portfolios. From 2018, the teaching portfolio will be used by all staff and leaders in their annual performance and development reviews.

4.1.1 *The Pedagogical Competence Profile*

The engine of the Education Initiative is the pedagogical competence profile. It provides a descriptive model of teaching competences, aiming to build discursive practices by affording a common language for university teaching and education. It is intended to be used when staff and leaders need to describe and reflect on teaching competences and on the development of teaching and learning.

The pedagogical competence profile (PCP) was developed by a committee with representatives from teaching and learning units and faculty members from all six faculties, to provide a thorough understanding of teaching and learning across all disciplines. As representatives of their faculties, members of the committee ensured dialogue and feedback with their faculty. The committee agreed on a number of central principles for the PCP:

- Student learning should be central to teaching practices
- Pedagogical competence was broadly defined as scholarship of teaching and learning
- There is no one-to-one correlation between job category and pedagogic competence level, but it seems natural that certain teaching functions require certain pedagogical competences
- The descriptive categories and terms used should be compatible with 'The UK Professional Standards Framework for teaching and supporting learning in higher education' out of consideration of international mobility of staff.

The committee worked with categories identified through research in the field as being significant in supporting high-quality teaching. The concrete structure and visual representation of the model was discussed (e.g. taxonomy, concentric circles, spider's web). A key consideration was how leadership and faculty might perceive the model and how it will be used. The committee was conscious of the importance of emphasising the development dimension of the descriptions, rather than being overly prescriptive or controlling. They therefore aimed for slim, brief descriptions.

The first model developed by the committee had a linear taxonomic structure based on consultations with international experts, including Mick Healey in the UK and Thomas Olsson from Lund University in Sweden, and attempting to define and measure pedagogical competence (Ryegård et al. 2010; Mårtensson et al. 2011), with similarities to 'The UK Professional Standards Framework'. The taxonomic model was circulated and discussed widely at the university, and returned with a no-go! There was general agreement about the utility of a common descriptive model for pedagogical competencies, but the hierarchical structure was disapproved of. Rather, faculty and leadership wanted a model consisting of areas that could be covered in different ways reflecting disciplinary and individual contexts. In response, the committee then designed a model in the shape of a fan with six leaves, representing six areas of competencies that can be used to map the faculty member's teaching and teaching-related competencies.

The model is not normative. It does not prioritise certain teaching methods or course types over others, but instead emphasises the importance of understanding aspects that promote student learning. With student learning at its heart, the competence profile maps out areas of teaching practices, the teacher's ability to reflect on and develop his or her teaching and engage in collegial and organisational collaboration around development of teaching and education. The model is shown in Figs. 2 and 3.

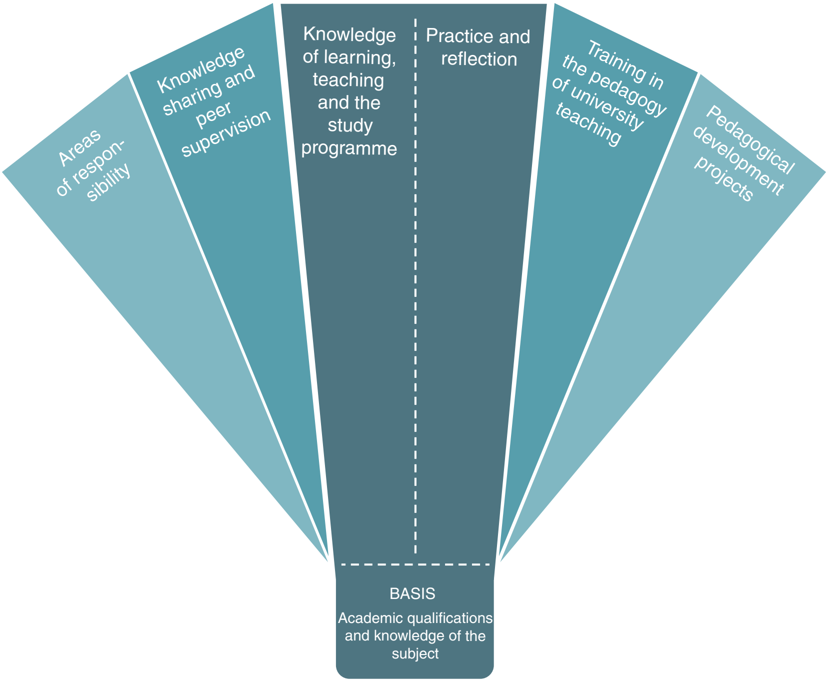
Areas of respon-sibility
Knowledge sharing and peer supervision
Knowledge of learning, teaching and the study programme
Practice and reflection
Training in the pedagogy of university teaching
Pedagogical development projects
BASIS
Academic qualifications and knowledge of the subject

Fig. 2 The pedagogical competence profile (PCP) (University of Copenhagen 2017)

AREAS OF RESPONSIBILITY
teacher's responsibilities – from teaching courses organised by others to planning longer courses independently and helping to develop whole courses and programmes

KNOWLEDGE SHARING AND PEER SUPERVISION
One important aim is to develop as a teacher; another aim is to develop the quality of teaching in the department. A third aim is to contribute to knowledge sharing on a broader organisational, societal or international level

KNOWLEDGE OF LEARNING, TEACHING AND STUDY PROGRAMMES
Understanding of teaching and learning in higher education, including didactics of own subject area. Capabilities to bring this knowledge into practice in teaching and education to support students' learning

PRACTICE AND REFLECTION
The teacher's ability to establish and develop good teaching practices through continuous reflection on their own teaching. This links to the area of Knowledge of learning and teaching, since good practice is qualified by knowledge

UNIVERSITY PEDAGOGY PROGRAMMES
the teacher's formal pedagogical qualifications and the ongoing development by participating in and contributing to formal activities

PEDAGOGICAL DEVELOPMENT PROJECTS
the pedagogical qualification that is based on participating in development projects

Fig. 3 The six areas of the pedagogical competence profile

The two areas 'Knowledge of learning, teaching and study programmes' and 'Practice and reflection' constitute the core of the competence profile (see Fig. 3). The other four areas are spread out on either side of the core to indicate that this is where the acquired competencies are put into play. The two core areas emphasise that direct teaching is central. However, other areas can be as important for student learning, such as the structure of study programmes, development and evaluation of courses and programmes, as well as the learning environment at the university.

The areas of the PCP differ in structure and progression. In some areas, competence development is a matter of quantitative growth, while in other areas it is rather a matter of qualitative thresholds. Competence development may happen faster within one area and slower in others, hence the mapping of an individual teacher's competencies is an overall (holistic) assessment of the whole profile. In principle, any university teacher can achieve high competence levels in any area of the profile, although this may not be demanded or expected.

The PCP also forms a basis for the assessment and evaluation of teaching skills, as they are described in the teaching portfolio, particularly in relation to job applications. This work was carried out by the teaching portfolio group.

4.1.2 The Teaching Portfolio

The objectives for introducing a teaching portfolio (TP) for all teachers in the university are to support teachers in making continuous and systematic reflections by writing about their teaching practices, hence, over time, enhancing their pedagogical competences and ultimately benefitting students' learning.

The initial idea was to create an e-portfolio where selected parts or folders could be shared with selected peers and leaders. The committee developed a format for a common TP that was tested by selected users representing all faculties and the different levels of teaching staff. Test groups were asked to follow the dimensions of the pedagogical competence profile and adjust the TP to various situations: Applying to become a member of an imaginative teaching academy, preparing for the annual Performance and Development Review, applying for an academic position, presenting a course and as an assignment for the teaching and learning in HE programme. However, the teachers involved in testing and developing this e-portfolio argued against a single common format and structure because it would require experienced teachers to reorganise and duplicate all the teaching material they already have in different formats. There was a strong demand for freedom in choice of methods and teacher autonomy.

It was already a requirement and established practice for faculty to submit a TP as part of teaching and learning in HE programmes, and as part of applications for academic positions at the UCph (since 2011). However, in order to achieve the objective of more continuous reflections on teaching practice and evidence of competency, it was necessary to identify additional and recurrent opportunities for written reflection.

A new, recurrent opportunity for reflection is the mandatory annual 'Performance and development review', where faculty meet with their leader (manager) to discuss results, competence development, well-being, work conditions, and so on. Both research and teaching should be discussed in these meetings. While research outputs are measured through publications, citations and achievement of external funding, no similar measures exist for teaching. The basis for discussing research has its drawbacks, as the focus arguably is on quantity rather than quality and societal impact. Using the TP as the basis for discussing teaching can perhaps help avoiding the same drawbacks emerging in teaching. The format being tested as we write

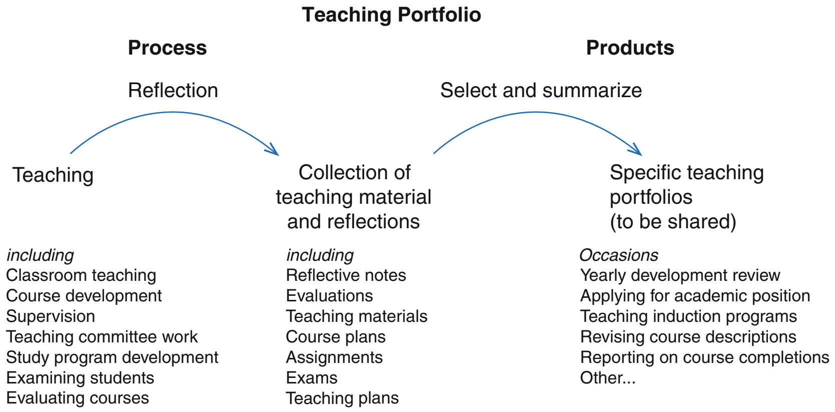
Teaching Portfolio
Process
Products
Reflection
Select and summarize
Teaching
Collection of teaching material and reflections
Specific teaching portfolios (to be shared)
including
Classroom teaching
Course development
Supervision
Teaching committee work
Study program development
Examining students
Evaluating courses
including
Reflective notes
Evaluations
Teaching materials
Course plans
Assignments
Exams
Teaching plans
Occasions
Yearly development review
Applying for academic position
Teaching induction programs
Revising course descriptions
Reporting on course completions
Other...

Fig. 4 The complexity of the teaching portfolio (TP) concept of the University of Copenhagen

is a TP summary of half to one page, to be submitted in advance of the performance and development review. A useful TP summary would require that the teacher maintains a TP continuously, systematically and in writing.

The freedom in choice of methods for the TP makes the concept complex and difficult to communicate. Figure 4 is an attempt to illustrate this complexity.

There has been a lack of common language to assess teaching in applications, as well as in discussions about teaching in the yearly performance and development reviews. The PCP ensures a common language and criteria for quality teaching and is meant to be used together with the TP either as a dialogue and reflection tool or as a means to structure the TP. This will support teachers in being systematic in their reflections. The PCP is based on a broad understanding of competence as the scholarship of teaching and learning, and it is hoped that using the PCP together with the TP will urge more teachers to become increasingly scholarly.

4.1.3 The Design and Implementation Process

The PCP and TP have been developed iteratively through the involvement and interplay of different levels in the university: individual teachers, study leaders, heads, deans, rectorate. This interaction with many actors and boards at the university have made them think and react and give feedback, and, based on the feedback, the ideas and approaches have evolved.

As part of this iterative process, a variety of methods have been employed to collect data and to inform the process of designing and implementing the two initiatives. The data collected through interviews and feedback from hearings and committees have been gathered as field notes and audio recordings and analysed thematically (Braun and Clarke 2006) for barriers and drivers for implementation. By barriers we understand expressions of resistance, hesitation or questioning the measures that may be signs of real or imagined issues that the implementation of the measures could evoke. By drivers we understand expressions of curiosity, support and constructive contributions that may be signs of the measures being in demand by staff and/or leadership.

4.1.4 Data Collection Methods

For the pilot testing of the PCP, we recruited teaching staff across faculties and with different levels of teaching experience from teaching assistants and PhD students to professors. The data originating from this process include the portfolios produced, notes from the feedback sessions and recorded focus group interviews.

The questions and feedback we received from various committees and fora when presenting the PCP and TP are regarded as field notes as part of data collected.

A workshop with staff members at a university conference focussed on expressing concerns and ideas. In the workshop, an exercise led to a collection of post-its describing the need for spaces and situations for reflection on teaching.

The project staff also conducted individual interviews with experienced assessors of teaching qualifications across faculties to shed light on how TPs currently inform the assessment and how teaching qualifications are assessed. PCP and TP were presented at national conferences and feedback treated as field notes.

4.1.5 Results

Both the PCP and the TP have been continuously revised as a result of the many hearings and feedback sessions. The PCP has been definitively approved by the central university cooperation committee and is now being integrated in relevant documents and decision procedures.

TPs are already used when appointing academic staff at the university, and this practice was evaluated through the TP project (University of Copenhagen 2017). Interviews with staff assessing applications and deans appointing new staff have revealed the need for a common language and a standard or reference at the university, supporting the use of the PCP (Kobayashi et al. 2017). Other staff questioned the idea of the TP as a valid means to assess teaching competences.

Some staff fear that the PCP and the TP will be used by leadership as a control mechanism rather than a means for developing teaching. So, the language used was important. It was not accepted to call the PCP a tool for measuring competences; it had to be rephrased as a framework for mapping competences. Some also fear that the TP will create extra work at the expense of research. So, the high status and importance that research has for career advancement and status constitutes a barrier for implementing the TP. But, on the other hand, some staff believe that making the use of TP mandatory in leader–staff consultations and in course assessment will raise the status of teaching in the long run.

Faculty, in general, recognise the need to increase the status of teaching and are welcoming initiatives that can support this—especially the large proportion of staff who are engaged in teaching. Staff also confirmed the need for tools and space for reflecting on one's own teaching in a broad array of situations.

Some staff expressed a fear that the PCP as a standard will work instrumentally and narrow teaching development, rather than creating space for new thoughts and initiatives.

Deans support the use of TPs as a means to assess teaching competences and welcome the pedagogical competence profile as a common reference.

4.1.6 Perspectives

In a research-intensive university environment, it is very difficult to give teaching a status equal to research. The PCP and the TP were passed by the university leadership team in October 2016, and the deans committed themselves to implement the measures in their respective faculties. The drivers and barriers identified obviously reflect the spectrum of extrinsic to intrinsic motivation, like the fear of yet another extrinsic measure or the welcoming of an initiative that will enhance the status of teaching. The qualitative study of drivers and barriers has shown that initiating discussions at all levels and in many fora at the university can bring support and concerns out into the open for a fruitful exchange of pros and cons. Through this open and iterative design process, the two fundamental measures have gained broad acceptance among both staff and leadership. The project is also an illustration of the fact that culture change takes time, especially at institutions with long traditions, and it is important to be cautious not to force initiatives through the organisation. In a loosely coupled system like UCph, this is even more important. The decision-making fora are not directly connected; they adhere to different agendas and values either concerned with research or education primarily, while staff are caught with a foot in each of these agendas. Obviously, it will take a lot of effort to implement the two measures into the everyday life of the university, but as the rector said at a meeting for the top leaders at the university in October 2016: ‘We have set a direction’.

The implementation of the Education Initiative at the UCph has involved collaboration with partners in other Danish universities, including the University of Southern Denmark, Aalborg University and Aarhus University through the Danish Higher Education Network as well as Universities Denmark. This collaboration has been a mutual inspiration, especially concerning the TP as other Danish universities also work to implement TPs in different formats. A huge effort feeds into influencing Elsevier to develop the research registration system PURE to include teaching activities, and this work has strengthened collaboration between Danish universities. In this sense, the Education Initiative will have impact beyond UCph and influence the national discourse on HE.

4.2 University of Edinburgh

A key priority for the UoE, reflected in its strategic plan and several recent investments and initiatives, is to raise the status and reputation of teaching to an equivalent level to research. This represents a significant change in culture and will require a range of institutional and local actions over several years. In this section, we describe two of the actions taken to support this shift: the development of a set of exemplars of excellence in student education to inform academic promotion applications and decisions, along with the creation of a CPD framework for learning and teaching. These actions are being coordinated through a University Learning and Teaching Policy Group and are linked to other work designed to support conversations around learning and teaching, changes in recruitment practice, staff annual reviews and practice sharing.

4.2.1 Exemplars of Excellence in Student Education

Culture change can require a focus on supporting the implementation of existing policies as much as the creation of new provision or structures.

Academic promotion structures and policies are a good example of this. There has been a widespread view in Edinburgh, as in many institutions, that academic career advancement and promotion is only possible through either research excellence or a move into a management role (e.g. Graham 2015).The reality is more complex.

Several years ago, the university adjusted its academic promotion criteria to make it clear that promotion to Senior Lecturer and Professor could be achieved on the basis of teaching-focussed as well as research-focussed and leadership-focussed applications. Practice in promotion panels moved to reflect this change in policy, but awareness remained low amongst individual staff, line managers and referees. One of the key difficulties faced was that, thanks in part to the Research Excellence Framework, colleagues were much more familiar and conformable with metrics (e.g. grant income, publication profile) and indicators of esteem that could be presented in support of a research-focussed promotion case than for teaching-led cases.

In September 2013, the university introduced a set of 'Exemplars of Excellence in Student Education'. These exemplars describe equivalent metrics and esteem indicators for teaching-led promotion cases, including front of house teaching, leadership in teaching, dissemination (i.e. publication) and external esteem for grades 9 (Senior Lecturer) and 10 (Professor). Promotion committees, referees and assessors use these exemplars when judging cases and, after a slower start from promotion applicants themselves, we are seeing an increasing number of teaching-focussed promotion cases being developed and taken forward. The exemplars are also proving useful in establishing common expectations for teaching contributions in all promotion cases.

4.2.2 Continuing Professional Development Framework for Learning and Teaching

In establishing a University CPD framework for learning and teaching, our ultimate objective is to have a positive impact on student learning through staff engagement with substantive continuing professional development activities. We also want to recognise, validate and support staff expertise and experience in teaching and supporting student learning.

Work on the CPD framework began in 2012, led by the Institute for Academic Development (IAD) working with the University (Senate) Learning and Teaching Committee. The IAD operates at a university level to support teaching, learning and researcher development. In developing the framework, our key concern was to respond to university priorities and provide a coherent framework of opportunities that can be tailored to different roles, career stages and personal requirements, that can also be linked to staff annual review discussions, individual career development, promotion processes and local plans for teaching enhancement. During the period over which the framework has been developed and implemented, there have been several significant external changes (most recently plans for the development of a UK TEF). Other factors influencing the design of the framework were recognition of the complexity and time pressures associated with academic roles, the need for a robust and credible system for validation and accreditation of CPD achievement, and the importance of engaging staff in CPD throughout their career. This led to the setting of the following design principles for the framework:

- Provide flexible pathways for individual staff (linked to career stage, role, experience and individual requirements)
- Emphasise and support the relevance of CPD throughout an academic career
- Encourage reflective practice and draw upon a broad range of CPD opportunities
- Strengthen symbiotic link between CPD and practice
- Have robust and credible system for validation and accreditation of CPD framework and specific pathways
- Pilot and develop appropriate model to scale up.

Based on these design principles, we developed a structure that provides staff with a range of options, tailored to career stage, preferred mode of learning (credit bearing/structured vs. flexible/self-directed) and specific areas (clinical education, digital education). This allowed us to incorporate existing credit-bearing programmes into the framework (e.g. Postgraduate Certificates in Academic Practice, Clinical Education, and Digital Education), alongside structured programmes aimed at early career teachers (e.g. graduate teaching assistants) like the Introduction to Academic Practice course and Clinical Educator Programme (Fig. 5). We have also developed a more self-directed portfolio route, the Edinburgh Teaching Award (EdTA), which can be tailored to different career stages and roles.

All of these elements are mapped against the UKPSF, and the framework as a whole has been accredited by the HEA. This means that all university employees who successfully complete elements of the framework are

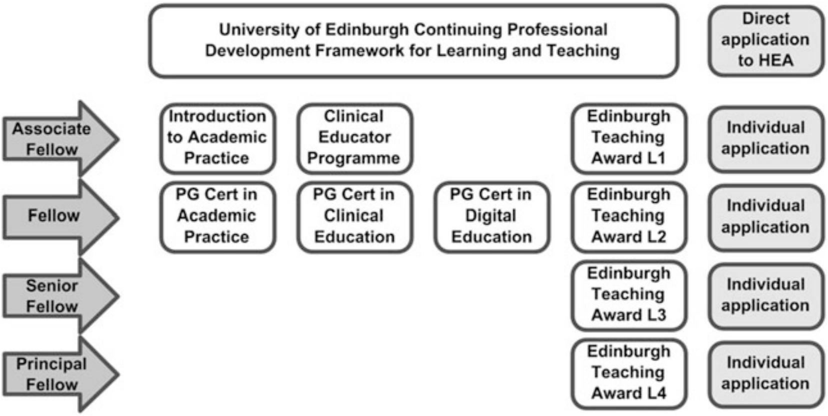
University of Edinburgh Continuing Professional Development Framework for Learning and Teaching
Direct application to HEA
Associate Fellow
Fellow
Senior Fellow
Principal Fellow
Introduction to Academic Practice
Clinical Educator Programme
PG Cert in Academic Practice
PG Cert in Clinical Education
PG Cert in Digital Education
Edinburgh Teaching Award L1
Edinburgh Teaching Award L2
Edinburgh Teaching Award L3
Edinburgh Teaching Award L4
Individual application
Individual application
Individual application
Individual application

Fig. 5 Overview of CPD framework for learning and teaching at the UoE

awarded equivalent HEA Fellowship status. Staff are also able to make a direct application for Fellowship to the HEA.

Whilst participation on all strands of the CPD framework has grown since it was accredited by the HEA in early 2014, the EdTA is the area with the most rapid growth and scope for further expansion. EdTA participants are able to select from a wide range of CPD activities, including workshops and courses, secondments, mentoring, peer observation, curriculum development and applied pedagogic research. On enrolment, participants are allocated a mentor and advised on the EdTA level appropriate to them. Participants are also supported through access to group meetings and writing retreats. Time to complete is between six months to two years, with the final assessment being based upon a record of completed CPD, reference and reflective blog or presentation reviewed by a panel including an external member. Since the enrolment of a small pilot cohort in spring 2014, 53 colleagues have successfully completed the EdTA, 200 are currently on programme with a further 90 due to begin in November 2016. Twenty-five participants have withdrawn from the EdTA, mostly due to either moving away from Edinburgh or enrolling for an alternative CPD pathway.

4.2.3 Impact of New CPD Routes: A Pathway to Culture Change

Flexible portfolio routes to formally accredited CPD as an alternative to structured, credit-bearing programmes are a relatively new approach, and there is little published literature on their relative benefits to participants. We therefore commissioned an external evaluation of the EdTA to look specifically at this question, alongside its potential impact on departmental and institutional culture. This evaluation identified several outcomes for participants that have been identified by Gibbs and others as having significant potential to enhance teaching quality (Gibbs 2010). This included evidence of critical reflection on and changes to teaching practice, engagement with educational research results and use of insights from peers and students.

It has been interesting to see the extent to which those completing the EdTA have emphasised what could be termed intrinsic motivations and benefits (e.g. a desire to better understand and develop their teaching practice and engagement with educational literature) compared to extrinsic motivations (like ambitions for promotion or pressures from the institution or national developments like TEF). Whilst these extrinsic motivations are present, they are perhaps less prevalent than noted in other studies (Spowart et al. 2016).

A key characteristic of the EdTA model is that it can be organised at either a university level or within a specific academic school (department). Participants on local, school versions of the EdTA are able to draw upon both university-level CPD provision and activities and events run locally, tailored to their discipline. Importantly, running local versions of the EdTA provides an opportunity to develop a critical mass of colleagues with a shared commitment and equivalent CPD experience. Two local versions of the EdTA have been established so far, one in Veterinary Medicine (at levels 2 and 3) and one in Mathematics (level 1). Several other schools are currently exploring the potential to develop local versions of the EdTA, with support from the academic lead of the Veterinary Medicine EdTA through a secondment with the IAD.

While it is too early to tell whether this approach is having a positive impact on departmental and institutional cultures, initial signs are promising. Within Veterinary Medicine participation in the EdTA is now compulsory for all new staff who do not already have a teaching qualification, staff completing elements of the CPD framework are offering to mentor less experienced colleagues and staff are reporting a greater sense of community and being valued for and supported in their teaching activities. Achievement of different HEA Fellowship levels has been included in exemplars for promotion cases (see above), while time for CPD is being included in workload models and in suggested models for staff annual review conversations. Meanwhile, staff are increasingly sharing their insights and experiences of teaching informally and online.

As with student learning, the motivation of individual staff and departments in engaging with CPD will influence its impact. Rather than set rigid targets for participation and completion and risk a compliance model linked to superficial engagement, our focus is on supporting staff and departments to make an informed and personal decision on participation. This means being transparent on the significant time commitment for individual staff and the pros and cons of the different options available to them. We are also encouraging a small number of staff to participate in the central version of the EdTA before contemplating the launch of a local version. Thus far this approach is working, sign up rates from individual staff are increasing and we are seeing strong interest in the launch of local EdTAs. It has been particularly encouraging to see colleagues sign up for higher levels of the EdTA as part of their commitment to leadership roles in learning and teaching (see also chapter "Faculty Development for Educational Leadership").

5 DISCUSSION

Despite the many similarities between the two institutions (research intensity, similar size and spread of disciplines, position near the top of international rankings, particularly linked to research), there are important differences linked to national contexts, internal structures and cultures. These similarities and differences help to illuminate some of the key factors that influence the design, implementation and impact of CPD structures and related processes and systems. In discussing these factors, we consider the impact of Ryan and Deci's framework for extrinsic and intrinsic motivation, for individual staff, for departments and institutions. We also consider the relationship between these motivations and their interplay between the organisational and individual level with reference to Weick's notion of a loosely coupled system.

In developing its CPD scheme, Edinburgh has utilised national standards (UKPSF) and arrangements (HEA accreditation) reflecting the longer term focus from government and funding bodies on the pedagogical development of teaching staff and potential links to mechanism like TEF. This is a key extrinsic motivation for the university and some individuals for whom participation in accredited CPD is mostly voluntary. Whilst Denmark has no equivalent national requirement, Copenhagen has established a mandatory system for CPD forcing all teaching staff to design and maintain a TP, intrinsic motivation for the institution but extrinsic for individual staff.

Within Edinburgh, award of HEA Fellowship through the CPD framework is included in the exemplars for excellence in student education used to inform promotion decisions. In Copenhagen, there is no explicit link between CPD completion and promotion. Whilst the extrinsic element of motivation provided by this link to promotion in Edinburgh is seen as positive, it is important that this is not their main motivation. In both institutions, we have seen that many staff are engaged with this provision (CPD framework at Edinburgh, pedagogical competence profile and the TP at Copenhagen), because they personally value (and enjoy) teaching and are keen to further develop their practice and role. This has a positive impact on the impact and effectiveness of their participation. They have an enhancement mindset and intrinsic motivation to engage in teaching and competence development.

For others in Copenhagen, the portfolio is a purely extrinsic driver, as they see it as a duty laid upon them, and they question its usefulness, fear the misuse by leadership as a control mechanism and protest (quietly) against the extra burden that will be time taken from research. And of course, we will find every nuance in between the two extremes. At the same time, interviews with experienced assessors indicate that the culture has changed over the past decade towards higher recognition of the value and importance of teaching (Kobayashi et al. 2017), which indicates to us that the ground is fertile for further changes. However, in a culture where decoupling from central initiatives is commonplace and where it is up to the local environments to interpret the central initiative to fit the local environment, the impact of such central initiatives may be a slow process of change. Much effort has been put into making the TP meaningful for faculty, and hopefully many will receive the initiative with some degree of internal congruence between the task and their own values, or at least recognising the importance of working towards a higher recognition of teaching. Similarly, in Edinburgh, if colleagues only see their participation as linked to compliance with university or external requirements or purely as box to tick towards promotion, a reliance on extrinsic rather intrinsic motivations can limit the value of the CPD engagement and make it harder to complete the programme, given other competing demands on time.

A further key consideration is the relationship between CPD activity and systems and other dimensions of the academic role and broader university systems. In both the Copenhagen and Edinburgh approaches, a key success factor has been the ability for individuals to tailor the approach (use of competency profile and portfolio at Copenhagen and EdTA CPD pathway) to their disciplinary context, personal interests, activities and priorities. Ensuring that these approaches are loosely coupled in this way makes it easier for individuals to focus on and build their intrinsic motivations for participation. Linking CPD to arrangements for promotion, staff management and review further helps to emphasise its relevance to an institutional commitment to CPD and hence to the status of teaching.

The level at which CPD provision is organised and supported is also relevant to this discussion. In Copenhagen, local, disciplinary teaching and learning units support the TP and competency profile. Whilst support in Edinburgh is provided at a university level from the IAD, a key element of the design of the EdTA, in particular, is the ability to run local department/ discipline level versions and in all case emphasise the importance of a range of local CPD activities. This ability to support local contextualisation and cohort building alongside institutional-level consistency and opportunities for practice is an important element of both approaches.

Our analysis highlights the complex interplay of factors for universities to consider when developing institutional CPD frameworks and structures. The degree of coupling between different university systems, the balance between intrinsic and extrinsic motivations for individuals and organizations and the relationship between these are particularly important. In order to limit barriers and incentivise participation, it is important that CPD is connected with policies and practices around staff promotion, recruitment and annual review and that staff have time available to participate. At the same time, it is important that staff participation is not solely driven by extrinsic motivations (demands of university policy, requirement for promotion) as this risks a negative impact on the nature of the engagement. Furthermore, in order to secure high levels of intrinsic motivation, CPD needs to align with the sense of an individual's academic identity, the disciplinary identity and identification as researcher and/or teacher. This requires flexibility in the organisation and location of a CPD system that is loosely coupled between faculties and the university.

The relationship and level of coupling between national, institutional, department and individual requirements and activities, and the importance of shifting motivations from extrinsic to intrinsic to increase ownership and engagement for individuals and institutions are key factors to consider and build into the design of pedagogic development opportunities and arrangements.

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Teaching Academies as a Means of Developing Institutional Quality: Academic Identities, Levels of Engagement and Organizational Cultures

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1 INTRODUCTION

There are at present a great variety of teaching academies (TAs) in Asia, Australia, Europe and the USA, with new ones being set up continuously. Many research-intensive universities establish TAs to raise the status of teaching (Pyörälä et al. 2015), mostly by engaging teachers who are deemed excellent in formal or informal communities. Despite a number of differences, these academies have one thing in common: they aim to support the development of excellent teaching. This chapter investigates the different ways in which 13 research-intensive universities have approached the development of TAs and provides a deeper picture of how two of these universities have designed theirs.

After providing a brief overview of TAs, we attempt to situate them within the scholarship of the teaching and learning (SoTL) movement. While in the case of some academies recognition of excellence is their only direct purpose, others come with various expectations of members: that they make use of grants given to conduct educational research, or meet regularly to discuss learning- and teaching-related matters, or to provide policy advice on educational matters or interact with colleagues to provide pedagogical support. TAs, in recognizing and rewarding excellent teaching, have largely done so from a perspective that seeks to encourage a more reflective, evidence-based approach to student learning by academic teachers. They have further often been brought into being in awareness of the potential power that underpins communities, the idea that bringing people together can play a role in changing institutional culture and thereby help build capacity around teaching and learning.

The two case studies from Singapore (the National University of Singapore, NUS) and Sweden (Lund University, Faculty of Engineering) exemplify distinctly different instantiations of such academies. We employ Wenger's theory of communities of practice (CoP) (Wenger 1998) to deepen the perspective on how these two universities foster teaching excellence through their academies. We do so by focusing on the complex issue of academic identities and use a survey to investigate how these two academies are perceived by their members.

The frame of CoP is especially helpful for accounting for some of the differences among TAs. It can help us understand how TAs may contribute to strengthening teaching and learning, within the context of the development of academic identities in research-intensive universities.

2 Teaching Academies: An Overview

TAs of different kinds are reported in the literature. Our focus is not on "teaching academies" as foundation programmes or institutes aimed at incoming faculty and/or more experienced colleagues, which is how this term is sometimes used, in particular in the United States. Nor are we interested in TAs that have been set up with the explicit goal of fostering peer mentoring, for example, in the context of academic medicine (Scott Taylor et al. 2013). Both of these kinds of "teaching academies" consist of a suite of educational development programmes for faculty or students accessed within specified periods of time, and they tend to be run by an academic development unit (ADU). The faculty or students who participate in the programmes to develop their teaching skills become members of the TA for this period. In this respect, such TAs draw on the idea of faculty learning communities (FLCs), which have the specific aim of fostering the SoTL in order to improve student learning (Cox 2003; Beach 2016) and have been influential in attempting to narrow the gap between educational research and teachers' practice.

This chapter's focus is instead on academies for recognition and reward of teachers who have demonstrated high levels of achievement, usually, but not always, based on criteria that require evidence of scholarly engagement with student learning and teaching. These bodies consist of individuals who can in principle support the development of excellent teaching. A literature survey reveals a wide range of conceptions of this kind of TA, but issues relating to academic identity underlie all of them. TAs that seek to reward and recognize teaching achievement are tied up with questions of academic identity and work: what it is to be an academic and what it is that academics do. In most cases, questions about academic identity contribute to the perceived tensions between research and teaching within an institutional culture driven by quality discourses (Harvey and Stensaker 2008), most particularly international rankings that privilege research metrics (Douglass 2016). In addition, the relation between quality assurance policies and practices is imbricated with organizational structures and the aims and cultures of the academy (Mårtensson et al. 2014).

In several cases, the decision to found TAs has been motivated by the attempt to extend the impact of institutional teaching awards (Chism et al. 1996). Rather than just receiving a prize, teaching award winners could come together to constitute a "community of expertise", on the assumption that they possess a degree of expertise in teaching. A TA is then "a group of faculty who are considered excellent or highly interested in teaching and who have been tapped by their institutions to engage in advocacy, service, or advising on teaching matters" (Chism et al. 1996, p. 25), with the central idea being that "effective teachers, working through an honorary and service-oriented collective, can have a significant impact on an institution's pursuit of teaching excellence".

This kind of academy appears to have originated from medicine, variedly labelled as faculty/educational fellowships, medical education fellowships, academies of distinguished educators or indeed TAs. A key rationale for the rise of medical academies was the erosion of the educational mission of medical schools because of disparity in recognition of research and patient care on the one hand and the educational mission on the other (Irby et al. 2004, p. 729). From this perspective, a TA is:

> a formal organization of academic teaching faculty recognized for excellence in their contributions to the educational mission of the medical school and who serve specific functions on behalf of the institution (To meet this definition, this group *must be a functioning organization; not simply a group of recognized faculty*) (Dewey et al. 2005, p. 359)

By 2006, the academy movement had grown to such an extent in the USA that a special issue of *Academic Medicine* was devoted to the educational fellowship programmes associated with it. Summarizing the articles in this issue, Searle et al. (2006) outline the history of educational fellowship programmes in North American medical schools as part of faculty development initiatives both to meet the challenge of the lower status of education compared to research, and to respond to changes in the practice of medicine. In a follow-up study, Searle et al. (2010) reported that of 122 responding medical schools, 36 had academies, 21 had initiated academies recently and 33 were planning or considering academies.

Although the SoTL was not necessarily a strong component in early TAs, at least beyond medicine, their spread can be said to coincide with the rise of SoTL. The proliferation of TAs from the late 1990s onward was in large measure a consequence of attempts to encourage conversations on US campuses with regard to a more precise definition of the scholarship of teaching, in particular through collaboration between the American Association of Higher Education and the Carnegie Foundation (Glassick 2000, p. 880). The link between the notion of TAs and SoTL is that "at its best, the teaching academy model seems to be a structure for support of the scholarship of teaching, for instance when … goals include the creation of community among teachers and the fostering of research on college teaching and learning" (Hutchings et al. 2002, p. 235). In chronicling the formation of a TA at the University of Georgia, Kalivoda et al. characterize it as "a structural model that can marshal the collective energy of individuals who have participated in faculty development programs or who have received teaching awards" (2003, pp. 79–80). In order to foster learning through advocacy, members of the TA need to inquire into student learning in a scholarly way, since doing so will place advocacy on a firm footing through fostering community. Consequently, one of the key activities of the academy they describe is the establishment of mentoring programmes (see also Palmer and Collins 2006).

Lee Shulman directly connects the idea with SoTL, defining a TA as an organizational entity "to support, preserve and enhance the scholarly work of teaching and learning" (2004, p. 9). He sees TAs as "a combination of support structures and sanctuaries, that is, places where faculty whose scholarly interests include teaching and learning can find safety, support and even colleagueship for doing good work on the pedagogies of their fields". He proposes four possible models: the interdisciplinary centre, the graduate education academy, the centre for technology and the distributed academy. His main message is that, regardless of how academies are organized, they have to balance the necessity of local relevance with the need to develop a critical mass: "The kind of work I'm pointing to could not be done by just one person in engineering or in medical education; the program must have the resources to establish a *community* of scholars" (p. 17). He goes on to emphasize "The importance of work that has the capacity to be more than local.... Indeed, scholarship is by definition more than local, and if teaching academies are to contribute to a real scholarship of teaching and learning, then they cannot work in isolation; they must be connected, in communication, building on one another's work" (p. 19).

Shulman clearly advocates TAs as foundations for scholarly communities. His vision is that of the research university that puts investigation at the very centre of its existence—also when it comes to teaching and learning. He sees this approach also as an important aspect of academic identities and the local practice of engaged teachers: "They [scholarly investigations] can be facilitated, funded, encouraged, reported, and rewarded by the top, but the investigations must be conducted at the level of the individual school or program" (p. 21). He further discusses whether a TA of this kind could be a broadening and elaboration of the functions of a centre for teaching and learning that might already exist on campus. However, as long as the central purposes of such centres are limited to technical assistance and faculty development, Shulman does not judge them as a suitable core for the kind of academy—the scholarly community—he proposes. Of course, since Shulman wrote this text, teaching and learning centres have evolved and many of them today engage seriously with a scholarly approach to educational development (Felten et al. 2007) in order to foster scholarly community (Mårtensson and Roxå 2016). The question he struggles with throughout the chapter, and which also informs his four sample models in different ways, is what kind of mutual engagement, or joint scholarly enterprise, must exist that could characterize TAs as communities of scholars; this question also informs our investigation in this chapter.

3 THEORETICAL FRAMEWORK: LEARNING AS PARTICIPATION IN SOCIAL PRACTICE

Since the publication of *Communities of practice: Learning, meaning, and identity* (Wenger 1998), CoPs have been the focus both for scholarly studies and for academic development all over the world. It is quite common to argue that a CoP is a fruitful way to support academic development and some teaching academies are designed as CoPs. However, the concept has sometimes been activated more because it is fashionable than anchored in Wenger's theory. For this reason, we will briefly outline the theory here and will deploy it to deepen the perspective on the development of TAs in research-intensive universities. The popularity of the concept of CoP in management literature (see, for instance, Wenger and Snyder 2000) has somewhat blurred the core of the theory. For that reason, we not only concentrate on Wenger's original contribution (1998) but also with recent explanations (Wenger 2010; Wenger-Trayner and Wenger-Trayner 2015).

The concept of CoP is a constitutive element of and a point of entry into the broader conceptual framework of Wenger's theory. Here, *practice* is regarded as the source of coherence of communities, shaping their boundaries and interrelationships. Moreover, it is understood primarily as ongoing learning processes sustaining the development of meaning, competence and identity for those who participate. Thus, the primary focus of his theory is on learning as participation in practice:

> What we learn with the greatest investment is what enables participation in the communities with which we identify. We function best when the depths of our knowing is steeped in an identity of participation, that is, when we can contribute to shaping the communities that define us as knowers (Wenger 1998, p. 253).

The theory is general, as it covers any kind of human practice, regardless of the purpose the practice fulfils. However, with its focus on learning, it has a special appeal for academic development, as the ultimate purpose of both research and teaching (besides contributing to the development of meaning, competence and identity for participants) is to provide society with the outcomes of learning processes.

Wenger delineates the crucial difference between social practices that are borne by a high level of mutual engagement and those that are not. The learning that is most personally transformative and thus affects our identities and competence the most turns out to be the learning that involves membership in different CoPs. It should also be noted that for a CoP to have significant effects on development, the participants' level of engagement in the practice has to be quite substantial.

A CoP then offers a specific and shielded environment for the development of meaning, competence and identities through the different learning trajectories made possible for its participants. Newcomers may move from peripheral participation to become full members. Through its joint enterprise, a CoP also develops a regime of competence, which includes the use of tools, specific language, conceptions and values in shared repertoires. Practice consists of the continuous interplay between participation and reification, where the latter is the human propensity to design, stabilize and use meaning in the form of things: A certain understanding is given a thing-like form, and both the processes of reification and the use of reified products are part of practice. Written language is the most obvious reification of practice, but many kinds of tools and artefacts are necessary for practice to work.

Whether teaching and research are integrated or separate practices, belonging to the same or to different CoPs, cannot be theoretically answered. It has to be investigated in each specific university environment and probably will elicit very different answers even at the same institution. When Ernest Boyer (1990) described the competence of qualified academics as consisting of the scholarships of discovery, application, integration and teaching, he did not discuss these in the form of separate practices.

Instead, he argued for the importance that they should develop in an integrated fashion and thus together sustain a complete academic identity. However, the prerequisites for such an integration will differ depending on whether these competences are developed by membership in different CoPs or whether they are developed by following learning trajectories in one community supporting all the scholarships.

According to Wenger (1998), each CoP has a specific regime of competence, which is nurtured in core practices. The regime defines what counts as valuable learning trajectories to serve the practice and the joint enterprise. In his view, such paradigmatic learning trajectories thus offer a spectrum of possible identities:

> Exposure to this field of paradigmatic trajectories is likely to be the most influential factor shaping the learning of newcomers (p. 156).

Some of the trajectories may pave the way for participants to occupy central positions in the CoP, while others may marginalize other participants in the periphery of the practice. Wenger identifies two kinds of marginality:

(a) marginalities of competence, where certain members are not full participants
(b) marginalities of experience, where "certain experiences are not fully accountable to the regimes of competence because they are repressed, despised, feared, or simply ignored" (p. 216).

The prestige and importance of a full membership may hide the fact that all kinds of participation are important for practice to continue. Wenger points out: "When a community makes learning a central part of its enterprise, useful wisdom is not concentrated at the core of its practice. There is a wisdom of peripherality – a view of the community that can be lost to full participants" (p. 216). Viewed from an organizational perspective, practices close to the boundaries of a CoP may be as important as the practice in the core. For instance, in research-intensive universities, the students may be described as peripheral participants, travelling through different CoPs, which make up the curriculum and the professional context for the academics. The students are not meant to stay in any of the CoPs to become full members, but to learn and leave. They are "marginalized" in this sense (see (a) above), and rightly so. Still, how their learning trajectories, and their experiences of participation, contribute to the development of their identities and competences are of utmost importance for the university as these translate into the quality of the education.

Academic teachers, then, participate in a practice—teaching—in which some participants (students) are and should be "peripheral". However, this fact does not make it a theoretical necessity to presume that the learning trajectories academic teachers follow in teaching should be marginalized (see (b) above) in their contribution to academic identities. What the theory tells us is that an increase in the status of teaching is similar to bringing about a change in the regimes of competence in the CoPs the academic teachers belong to. And this is a task TAs may take on, which may not be accomplished easily and is likely to be approached in different ways. What the theory also tells us is that in research-intensive universities, where research practice is ubiquitous, this may be a somewhat harder endeavour, as the regimes of competence may be rooted primarily in research.

According to Wenger (1998), different practices and the communities they create are not equivalent to the formal design of the organization: They are the actual stuff (human mutual engagement) organizations consist of and are trying to handle by regulating mechanisms such as policies, resources and structuration. An organization, according to Wenger, is "the meeting of two sources of structure: the designed structure of the institution and the emergent structure of practice" (p. 244). This does not mean that all CoPs are informal entities, but that their boundaries are in constant flux and tension in relation to the formal structure. Wenger points to the importance of a productive relationship between CoPs and the design of the organization that houses them. When a university decides to start a TA, it may specify the formal conditions and resources for the academy with the intention that the practice will form a CoP. Whether this intention will be accomplished depends on the participants and on the quality of their emerging practice.

It is important for large organizations like universities to coordinate aspects of their activities. A spectrum of shared practices (p. 118), linking and managing activities across the boundaries of different CoPs, is thus developed and maintained. The most common way for an organization to coordinate activities is the use of formal systems, like those for handling finances, administration, curriculum or promotion. According to Wenger, such systems are to be viewed as reified practices, affording common tools to be used in different CoPs. However, when tools or methods prescribed by a system are imported into the practice of a certain CoP, they may work as boundary objects: how they are applied in practice (appreciated, avoided or altered) depends on how they are interpreted in relation to the regime of competence in the specific CoPs.

Most academics have to participate in several CoPs and in different shared practices, thereby developing a multi-membership (p. 216). Wenger also describes how individuals that move between different CoPs may function as "brokers" introducing new practices. Daily choices of how to direct their engagement become necessary to keep up with the practices in each of the CoPs. A multi-membership includes important balancing acts for those concerned. In his later work, Wenger (2010) underlines that professional identities are formed not only by engagement in CoPs but also by multi-membership, in which imagined communities and alignment with broader landscapes of practice are fundamental aspects of learning (Wenger-Trayner et al. 2015).

How then could we understand what TAs are and how their practices may work in raising the status of teaching, in strengthening the SoTL from the perspective of Wenger's theory? Both academies and academic development units could be perceived as specialized CoPs, devoted to serve other CoPs in the development of teaching. When TAs are organized with the aim of raising the status of teaching, we also have to presume that, regardless of whether they are considered as CoPs or other kinds of shared practices, their mission is to raise the status of teaching in a substantial portion of the CoPs where teaching is practised. A further investigation is needed to see how research-intensive universities embrace TAs as part of their organizational structure.

4 METHODOLOGY, DATA COLLECTION AND ANALYSIS

In order to understand the different types of TAs found in research-intensive universities, we carried out a three-pronged investigation: a questionnaire sent to a group of research-intensive universities, a case study of TAs at two of these universities in Singapore and Sweden, and a survey of the members of the two established academies at NUS and Lund University.

To obtain an overview of existing TAs and their character, a short questionnaire was first issued to the centres for academic development via email at 13 research-intensive universities. The questionnaire consisted of open-ended questions relating to the motivations for establishing (or not establishing) an academy, their funding source, selection criteria and expectations. All 13 institutions responded to this questionnaire.

From the range of responses to the initial questionnaire, it was clear that we needed to sharpen our own understanding of the ways different academies may constitute communities and the mechanisms of their practice as they relate to the issue of academic identities. A literature review of similar conceptual frames, such as networked communities (Bryk et al. 2011) and micro-cultures (Mårtensson & Roxå 2016) revealed that Wenger's theory would serve us best because of its rich conceptualization of learning in relation to identity. It helped us shed light on not just the two case studies undertaken as a second step, at NUS and Lund, but also on the outcomes of the questionnaire and the survey (see below).

Thirdly, an in-depth survey was distributed online to all members of the NUS and Lund TAs. The survey included six questions concerning how members perceive themselves, their own role and the academy as a whole. The first and final questions were open-ended, while the remainder asked for responses scored on a five-point Likert scale, with an option for free-text justification. The questions were formulated in order to gauge members' understanding of the TA, in particular the degree to which it constitutes a community and the way this can be linked to their academic identity. One question was specifically about whether the academy members regularly read education scholarship and have conversations about it. Finally, there was an opportunity to give suggestions for how to strengthen the academy in future.

5 Approaches to Teaching Academies: Questionnaire Findings from 13 Research-Intensive Universities

The questionnaire covered 13 research-intensive universities and was directed to the directors or heads of ADUs. The answers from the institutions fell into two major groups. In the first group, seven of those surveyed—the universities of Cape Town, Hong Kong, Leuven, MIT, Oxford, Stanford and Sydney—do *not* have a TA, while in the second group, six universities do or are in the process of starting one. These are the universities of Copenhagen, Helsinki, Lund, National University of Singapore, Oslo and Utrecht.

We note that institutions that do not have a TA in name nevertheless in some cases do have a TA in spirit, insofar as a range of TA-type practices are in place. Of the six universities in the second group, four had established TAs (Helsinki, Lund, Singapore and Utrecht) and two were in the process of setting one up (Copenhagen and Oslo). On why they had decided to establish an academy, five of the six institutions were motivated by the long-term vision to develop teaching quality (or more broadly, educational quality). The other main reason was to increase the status of teaching, a reason given by five institutions.

When asked to characterize their TA, though, five institutions in the second group (except Lund) used words like "community", or "community of scholars" or "community of practice" or "network", qualified by the adjectives "engaged", "committed", "scholarly" or "autonomous/independent". These five institutions clearly expected the members in their TA to form some kind of community in a wide sense, regardless of all the evident differences between their practices. It is not possible to say much about how academic identities or the SoTL may be supported by the practices of these TAs, since they are very different, nor is it possible to determine if the TAs described as "communities" could be perceived as CoPs in Wenger's sense, even if this in some cases may be the intention.

Our interest lies in understanding better how TAs may contribute to supporting the development of academic identities and the SoTL. To be able to say something about this, we have to capture a more detailed picture of the interplay between institutional conditions and the social practices, understood from the theoretical perspective of social practices in relation to the development of academic identities among TA members. We therefore present two case studies—NUSTA and Lund Excellent Teaching Practitioner (ETP)—in more detail below.

6 Two Case Studies: National University of Singapore and Lund University

6.1 Case Study of National University of Singapore

The rapid development of NUS from a medical college (established in 1905) to being top-ranked in Asia and 12th in QS Rankings (2016) resulted from a series of strategic decisions to make NUS global and Asian, with dedicated investment in niche research areas and a globally competitive standard in faculty recruitment and from 2000, the alignment of research excellence with an incentive system for career advancement. As an unintended effect of this drive for research excellence, education has often been left a step behind, and this has created a fragmented view among academics that teaching, research and academic service are separate activities, exerting conflicting demands on them. Consequently, over the past decade, NUS has begun to re-integrate the twin missions of research and teaching. It is against this backdrop that we focus on two internal changes introduced in 2008/2009—the overhaul of the Centre for Development of Teaching and Learning (CDTL) and the establishment of the NUS Teaching Academy (NUSTA).

CDTL has played a key role as a support unit for teaching and learning since its establishment in the 1980s, and over the years it relied heavily on faculty-facilitated staff development programmes. Today, it consists of half-a-dozen academic developers and educational technologists, who increasingly focus on literature-based course design and academic development. Much of this shift in staffing and programme emphasis took place from 2008 onwards, and 2008 marked the start of the journey to actively foster engaged learning and a new direction for assuring teaching excellence. Some immediate changes included:

(a) a concerted effort in community engagement to foster collegiality, spread good practices and build capacity
(b) the then director was tasked to explore the establishment of NUSTA.

CDTL thus started playing a more significant role in shaping the education culture at NUS, including the establishment of NUSTA in 2009. NUSTA's original proposed aims and scope were to:

- be an independent think tank that could "critically examine university practices" on education
- "provide an additional avenue to incubate, experiment, and scale-up educational ideas for wider implementation and adaptation across the university"
- be a platform for fostering "an active learner-educator community, providing a bridge between these stakeholders and the university administration" (Samavedham et al. 2012, p. 156).

In addition, it was hoped that NUSTA would be a platform for recognizing and consolidating talent in education, forming a community of practice to facilitate a cultural shift, as NUSTA draws mainly from the pool of educators in NUS who have been recognized as excellent and/or faculty members who have demonstrated deep investments in teaching and learning. These original intentions for creating NUSTA are still perceived to be true today. In response to our survey, one NUSTA fellow said that its aims are:

> to provide ground feedback to leadership about teaching activities; to spot and identify trends in education; to advise colleagues on teaching methodologies; to develop SoTL expertise and provide advice to NUS community (R14).

However, these aims stand in some degree of tension to the reality experienced by other fellows, as we will discuss in a later section (see survey findings).

NUSTA fellows are nominated by deans during an annual call for application to the Academy with a few senior members nominated by the Provost's Office. The only criteria candidates have to meet are a self-professed interest and commitment to education, the latter being conventionally attested to through faculty and university teaching awards; there is no formal requirement of scholarly engagement with student learning or teaching. A simple dossier is submitted to support each application, and interviews are conducted by the Academy Exco for shortlisted candidates. Fellows are confirmed if they garner 75% or more of the votes cast by all existing fellows. At present, there are over 40 fellows, coming from all ranks in the university (e.g. lecturers/assistant professors through senior lecturers or full professors), and NUSTA community-engagement projects and activities are funded through a budget provided by the Provost's Office. Fellows do not obtain any additional salary but those who are top contributors (e.g. lead a project, serve on the Exco, etc.) can expect to be provided with a performance bonus by the Provost's Office. NUSTA fellows are expected to participate actively in the academy's activities, but the expected level of commitment has not been made explicit.

We note here that NUSTA's development is in part a function of its history, the level of commitment and expertise exhibited by each fellow and their perceived influence in the community, and its own search for an identity that is actionable within its semi-formalized status in a research-intensive university context (see survey findings).

A key issue that dominates NUSTA conversations sees fellows attempting to articulate their own identity. In the earlier phase, this was seen as something pre-defined from the top, as an alternate and independent voice, with an explicit wish to safeguard that independence from both the university administration that created it and to do so *against*, that is, in contradistinction to CDTL. This talk has now evolved to a more explicit process of soul-searching, though fellows are still asking: Who are we, if not a think tank? This is where the dynamic and path with CDTL again cross—currently, from the discourse circulating within NUSTA, it would appear that both the academy and CDTL are moving in parallel, albeit at different speeds and with different expertise levels with some visible overlaps in activities. If in the early years NUSTA actively tried to be different from CDTL, in its current stage of development, it seems now from the CDTL perspective to be undertaking rather similar teaching and learning and community engagement activities, creating overlapping CoPs that operate along similar lines. That NUSTA is housed within CDTL complicates this picture further. While it is not necessarily a bad thing for NUSTA to engage the community in the ways that CDTL does, from the point of view of the key stakeholders the struggle to distinguish between the academy and CDTL has increased. The crucial question is what this bodes for NUSTA, for fellows' identity and for CDTL, and what this means for the university, which has an interest in enabling a coherent and enhanced teaching and learning culture where each party does what it does best rather than replicates what others do. The tensions, opportunities and risks that lie in this mix will need to be carefully thought through if the university's aspiration to be a place of excellence is to be a productive vision in the years ahead.

6.2 *Case Study of Faculty of Engineering at Lund University*

Lund University in Sweden (established in 1666) is a research-intensive institution with about 41,000 students and 7500 employees. It was ranked 90th in the world (2015, Times Higher Education). Lund has eight faculties, each with significant independence from the central university leadership. One consequence is a weak coordination with regard to pedagogical career paths, assessment of and rewards for pedagogical excellence. On their own initiative, four faculties have established TAs, while four others have not taken this step. The four faculties that have established academies, each designed somewhat differently, are engineering, science, medicine and social sciences (Larsson 2015).

Established in 2002, the TA at the Faculty of Engineering was the first of its kind in Sweden (Olsson and Roxå 2013) and formed a model that has spread widely across the country (Ryegård et al. 2010) as well as internationally. The Faculty of Engineering is large, with 9600 students and 1500 employees (www.lth.se). During the 1990s, pedagogical courses were offered to teachers as a step in the faculty's work to develop teaching and student learning (Olsson et al. 2010). Around the turn of the century, funding was allocated for a three-year academic development programme including a number of new pedagogical courses and consulting services for all levels of the organization regarding pedagogical issues. The newly established ADU, *Genombrottet*, was given the responsibility. At the same time, a group of experienced teachers collaboratively developed the TA, an initiative supported by the dean, aiming towards recognition of excellent teachers to support a systematic and long-term strategy towards pedagogical development. The intention was to make an equivalent career track to what already existed in the area of research. The system is based on what in Sweden is called a "Docentur", that is, achieving the title of senior lecturer or reader but without a specific appointment. The aspiration was that by making the new track similar to the research track, the status of teaching would rise and would legitimize the pursuit of a career in teaching. Making pedagogical merits more valuable by giving the opportunity to earn a title sends a signal to academics that it is important to develop, document and reflect on one's teaching. When applying for membership, it is essential that applicants present an advanced ability to reflect qualitatively on their pedagogical practice (http://www.lth.se/genombrottet/lths-pedagogiska-akademi/). The developed procedures and the criteria used have become essential factors in the faculty when assessing pedagogical skills.

To date, there are no obligations to engage in new activities when one becomes a member of the TA. In comparison, a title like associate professor on the research track is mainly based on the scientific merits and involves new possible tasks, for example in relation to postgraduate education, and also involves an increased influence over research practices at the faculty. So far, there have not been similar opportunities created for members of the TA.

The faculty invites all teachers, except PhD students, to apply to the academy and become awarded the pedagogical rank ETP (Excellent Teaching Practitioner). The number of members is not limited; anyone who fulfils the criteria can be admitted. Applicants are required to present a pedagogic portfolio to account for how they, during an extended period of time, have deliberately and systematically developed student learning in their own subjects and how they have shared their own experiences of pedagogical work with others. Furthermore, applicants should be able to problematize and reflect on their own pedagogical practices in literature-informed ways and how they, with the aid of secondary sources, have developed their own ideas regarding teaching and learning in relation to the following three criteria:

- focus on student learning
- distinct development over time
- a scholarly approach

In addition to the portfolio, an interview is conducted. Applicants' qualifications are assessed by a group of teachers from the faculty who themselves previously have been awarded ETP. Any teacher with the title of ETP and who has completed specific training can become an assessor. Assessors are appointed by a special board (Karriärnämnd LTH), which has principal responsibility for the assessment processes and which distributes work to the assessment group. Members of the board are teacher representatives and students. Assessment at the Faculty of Engineering is an internal process, based on the view that the pedagogical academy is an instrument for systematic pedagogical development at the faculty. It is maintained that internal procedures ensure control of processes and, hence, can affect development in ways that would be difficult to achieve through individual external assessment.

Admitted teachers are awarded the pedagogical rank, ETP and receive a salary increase. Membership lasts for the duration of the employment. Additionally, the department where the ETP is employed receives a greater portion of faculty resources to compensate for increased salaries, thus emphasizing that teaching and learning is important and invested in at the institutional level (Olsson and Roxå 2013). These additional resources are allocated from other departments.

The active and long-term pedagogical development conducted at the Faculty of Engineering is an example of a systems approach for educational development. This work consists of various collaborative efforts to support and encourage pedagogical discussions at the faculty. Courses in higher education teaching and learning form the nucleus of this development, but it is also underpinned by consultancy, a common system for course evaluations, arenas for discussing and sharing teaching experiences, research in the subject "engineering education", as well as by the TA. However, there is no formal relation between the ADU Genombrottet and members of the

TA in terms of members having commitments to be involved in the work of the unit, nor is there any formal forum for the group of ETPs to meet.

As of 2014, 110 members have been appointed ETPs and have, accordingly, become members of the academy. The majority of teachers admitted are active researchers and one-third are professors. Gender-wise, the proportion of female teachers in the academy corresponds to the overall proportion of female teachers in the faculty. Members of the faculty board are well represented. The former Dean at the Faculty of Engineering (from 2008 to 2014) and two assistant deans from the same period have all been appointed ETPs and one-third of the heads of the department at the faculty are members of the academy. Several boards at the Faculty of Engineering have members that have been appointed ETPs and some of them are Chairs of such boards.

Experiences from and analyses of the TA show that it has led to positive changes in the local culture with regard to how teaching and learning is viewed (Olsson and Roxå 2008). The system has affected policy levels, especially recruitment and promotion, faculty competitiveness and many official documents. The TA has been important for the recruitment and specific promotions of teachers. Official appointment documentation has been drafted and developed with the help of experiences drawn from academy processes, and teachers apply for ETP titles as deliberate steps in their career planning (Olsson and Roxå 2008).

7 SURVEY FINDINGS

In addition to the questionnaire issued to research-intensive universities, we conducted a survey of the members at both NUSTA fellows and Lund University ETPs. We now turn to the results of these two surveys as they provide us with more detailed information of the self-perception of members of these two very different TAs (Table 1).

A large majority of both ETP and NUSTA members agree that their membership forms part of their academic identity. There is quite a big difference between the groups with regard to the extent to which they read education scholarship and have conversations about it. A majority of ETP members do this, compared to a little more than one-third of the NUSTA fellows. However, a large majority of the NUSTA fellows are very involved in the work of the academy, whereas the ETP members do not have any common activities connected to the academy.

Table 1 Self-perception of academy members

Survey questions	*Very/fairly strongly*		*Somewhat/not sure*		*Rather/very weakly/ not at all*	
	NUS	*LU*	*NUS*	*LU*	*NUS*	*LU*
Being a member of the academy forms a part of my professional identity as an academic.	10 63%	34 72%	4 25%	6 13%	2 12%	7 15%
I am very involved in the work of the academy (only NUS).	10 63%	– –	6 37%	– –	0 0%	– –
I regularly read education scholarship and have conversations about it.	6 37%	27 57%	10 63%	9 19%	0 0%	11 23%
Since it was established the academy has become an influential voice on campus.	7 44%	17 36%	8 50%	17 36%	1 6%	13 28%

NUS *n* = 16/38 (response rate 42%), LU *n* = 47/98 (response rate 48%)

The survey respondents also provided a rich amount of information in their comments, and we have discerned three important "themes" that are most directly relevant to this paper. The three themes are: the academic identity professed by members; the level of scholarly engagement by these; and the amount of influence members think the TA has (or does not have) within the institution. We elaborate on each of these in turn.

7.1 Academic Identity

An important theme that emerged from the responses relate to academic identity. More than 70% of ETP respondents believe quite strongly that the Academy forms a part of his/her professional identity. They articulate this identity in the following ways:

> I see myself primarily as a teacher and achieving ETP is something I am proud of (ETP, R11).

> I feel I belong to a community with teachers caring for teaching (ETP, R23).

> I am docent (Associate Professor) which reflects my research identity; I am ETP (member of pedagogic Academy) which reflects my teaching identity (ETP, R16).

NUSTA fellows have somewhat different things to say about their own identity as academics and as fellows, with a number feeling proud to be a fellow but others expressing their primary affiliation to their disciplinary domains:

> Yes, I take great pride in being a member of the TA as it is a good platform to show other colleagues that teaching/education is [a] very important part of a successful academic (NUSTA fellow, R15).

> … I deem it very important to be part of the Academy to help shape and contribute to this noble course [i.e. for academics 'to ensure that wisdom/ knowledge of the next generation will always be better than the previous generation'] (NUSTA fellow, R16).

> [M]y discipline activities identify me more as an academic; my work in TA is for pleasure – and to keep me involved in education work in NUS (NUSTA fellow, R14).

While being accepted as a member of a TA is an individual reward, the purpose is both individual *and* organizational. However, most respondents do not mention the organizational aspect of his or her membership. The positioning evident from responses like the ones above poses difficulties for realizing the concept of a CoP in the sense that Wenger suggests and adds to the challenge of building capacity among fellows to promote teaching (excellence) in the organization.

7.2 Readings and Conversations on Education Scholarship

Our survey also shows that, while a majority of Lund ETPs reported being engaged in regular conversations about education scholarship, quite a large proportion of ETPs do not regularly read education scholarship, due mainly to a perceived time constraint and lack of opportunities to pursue discussions. Some respondents emphasized the collegial aspect of improving teaching and learning rather than focusing on scholarly engagement with literature. Words like “discuss”, “spread”, “share” and “reflect” are used to characterize their preferred activities. In their words:

> … I find it very interesting when I come across relevant information about teaching to read it. Sometimes I actively search for education articles but that is rare (ETP, R28).

> I do read quite a lot. But the discussions I have are quite limited. [Among] my colleagues in this [big] Department, only a handful are really interested in developing pedagogically (ETP, R40).

> To establish a platform for excellent teaching practitioners within the faculty, such that interactions between teachers can take place to discuss new teaching ideas/practices etc.(ETP, R25).

Very similar responses were elicited from NUSTA fellows:

> I try to keep up, but will not say ‘regularly’ (NUSTA fellow, R7).

> Mostly conversations with colleagues, although always on the look out for interesting education scholarship articles (NUSTA fellow, R5).

> [To] read [the literature] is harder, but [we have] conversations all the time (NUSTA fellow, R2).

If as a CoP academy members do not feel it is a priority to engage with established literature, preferring to devote their limited time and energy to conversations and collegial sharing instead, the attempt to foster good practice and a deeply engaged community will understandably be diluted, and this speaks then to the perceived lack of influence and ultimately to their identity as teacher-scholar in a research-intensive university context.

7.3 Influence

Even though a majority of ETPs state that the academy forms a part of their professional identity, just less than half who responded were unsure whether the academy has become an influential voice on campus or believe that the influence is at best very weak:

> It lacks visibility - and activities…. it is just a recognition (ETP, R32).

> As far as I know, the academy as an entity does not have much of a voice on campus. There are no requests raised from the Dean office or from students/teachers addressed to the academy (ETP, R15).

Other than a few who actually think their expertise is valued, most ETPs however think that the Lund Academy is influential given the extent to which many ETPs are part of the leadership in the faculty or departments and members in the various boards.

> It has been a strong voice indirectly. Members from the academy belong to different boards and influence the work on the campus in different ways. It is important to belong to the academy (ETP, R23).

The mixed ETP views above are echoed by the NUSTA fellowship, where more than half who responded were unsure of their influence:

> … the academy itself is not highly valued by colleagues outside it (NUSTA fellow, R3).

> Though NUS colleagues around me may not know what [the] Teaching Academy does, most of them do know I am a Fellow in the Academy (NUSTA fellow, R7).

> [colleagues/peers] do not feel that they are drastically affected by anything the Academy is proposing or doing. As for students, they are also not aware of what the Academy is doing (NUSTA fellow, R16).

Quite tellingly, like the ETPs who felt empowered mostly indirectly through university board membership, some NUSTA fellows also felt the influence came from the association with the Provost's Office:

> The more prominent and influential works that were associated to the academy were driven by PVO (NUS, R7).

As these responses suggest, a key theme that surfaced is the lack of visibility and limited influence of the academy. If we see this body as part of an initiative to build teaching and learning capacity through a CoP concept, then a (perceived) lack of visibility for the work of the academy would seem to expose the weak links somewhere in activating such a CoP in both the NUS and Lund contexts.

8 Discussion: Teaching Academies as Spaces for the Development of Scholarship and Academic Identities

The questionnaire to the research-intensive universities showed that almost half of the group had organized TAs and that most of them were expected to form communities or networks for raising the status of teaching. However, the design of these academies was strikingly varied and we faced the same problem Shulman (2004) identified: What kind of common practice do these academies signify and how is the development of SoTL supported by their practice? In the two case studies we conducted, two very different ways of organizing TAs were described. In this concluding part of our chapter, we return to Wenger's theory to see how to evaluate the outcomes of our investigation. Our focus is on the relationship between the practice of the academies and the development of teaching excellence as part of academic identities at research-intensive universities.

According to Wenger (1998), the formation of identities mainly takes place in the communities where we invest our time and energy in mutual engagement, following learning trajectories that simultaneously develop our competence and our identity. However, as academics, we have to take part in different shared practices and handle a multi-membership as we often participate in several communities in which the practices of teaching, research and outreach are either intertwined or separated. We therefore have to reconcile the complete range of practices (Boyer 1990) that constitute our academic identity, prioritizing some over others. Both the development of SoTL and TAs are aimed at "put[ting] the pieces of teaching and research back together, and [we] continue to ask how teaching can find a right and dignified place in the research university setting" (Shulman 2004, p. 9). So, how have NUS and the Faculty of Engineering at Lund University set about doing this?

At Lund University, the TA is a formal system for promotion to a level of teaching excellence that is clearly defined in the promotion criteria for ETP, which are firmly based on a SoTL perspective. The social working mechanism, that is, the practices that the system induces and which contribute to raising the status and quality of teaching at the faculty, is not an outcome that derives from a specific community of scholars, as Shulman envisioned. He proposed that the members of a TA, in mutual engagement, would contribute to the development of shared knowledge. Instead, the formal system of ETP opens up an *individual* possibility for each academic teacher, regardless of where they teach at the faculty, to fulfil the SoTL-based criteria for excellent teaching practice.

However, the intended effects are both individual and organizational in a *nested* way. First, there is the journey to ETP for the individual. Since the promotion is linked to a raise in salary and compensation for the department, there is the double reward of both a title and money and with an initial neutrality for the department. When the teacher starts his or her journey towards ETP, a new learning trajectory is opened up in the CoP to which the teacher belongs. Both the competence and the academic identity of the teacher will develop and, in the long run and if several teachers follow, also affect the regime of competence in this CoP, as the eventual marginalization of teaching experiences is counteracted. Since ETP is voluntary and in the first instance works at the individual level, it does not matter if the promotion, as a boundary object, is despised or rejected by some of the CoPs at the faculty. However, at the organizational level, this promotion system is embedded in a faculty environment supportive of SoTL. The SoTL-based criteria for becoming an ETP include the necessity to show a scholarly contribution of interest also for the faculty, for instance, by presenting at conferences or through publications. At the organizational level, the prospective members of the academy, while they are striving to fulfil the criteria for ETP, also contribute to and reinforce the wider culture of SoTL at the faculty.

The learning trajectory opened up for ETP academics has its endpoint in the acquired and rewarded level of teaching excellence. What the system has achieved so far is to bring a large group of academics through this learning experience, which has affected both their competence and their academic identity, not only in holding an ETP but as a part of their ordinary practice in the CoP they belong to. The TA has also equipped important positions at the faculty with ETPs. However, there is no specific community only for ETPs for their further development. The ETP itself is not a CoP; there are members, but there is no joint enterprise or mutual engagement which could signify a TA as a community of scholars. This could be perceived either as a benefit—the ETPs may use their competence in their ordinary communities and surroundings—or as a problem—the ETPs are not offered a community for further collegial development and influence through their new level of expertise. Some of the answers from the survey point to the fact that some members would prefer to be part of a community to engage them at a higher level of expertise. However, for such an academy to be valuable for the organization, its practice should yield something useful in raising the quality and status of teaching, not only for the members themselves but also for the faculty or the university. From Wenger's viewpoint, we may describe the ETPs at Lund University as a formal system which affects practices at different levels: inducing new learning trajectories in the CoPs of the faculty and sustaining shared practices of SoTL at the faculty, thereby strengthening scholarly teaching both as a part of the academic identities of the ETP members and in the wider teaching culture of the organization.

Unlike the Lund ETPs, NUSTA fellows' entry into the academy is based more on reputation for teaching excellence than on SoTL criteria. Their reputation is certainly based on a spectrum of professional qualities, related to experiences of different teaching tasks and teaching positions, which were made distinguishable for the institution as a base for the nomination to become a NUSTA fellow. Thus, they may share an implied appreciation of good teaching practice based on what has worked for them in the different CoPs to which they belong. One consequence of this is that there may be a lack of explicit theoretical underpinning that guides fellows' understanding of teaching quality. Moreover, unlike Lund ETPs who all come from engineering, NUSTA fellows come from across the disciplines, which inevitably gives rise to a diversity in the teaching practices bounded by the CoPs and their regimes of competence in different subject domains. Therefore, we may conclude that there could be a larger variation in their conceptions of teaching and, by implication, of teaching excellence than the conceptions guided by the criteria to become an ETP, while there is no requirement for a scholarly approach to teaching and learning among the NUSTA fellows. That said, NUSTA fellows do share a commitment to what they consider quality teaching, though once again not with reference to a regime of competence that includes specific understandings and shared values framed by a mindset informed by SoTL. For this reason, we cannot say that they form a community of practice that builds shared knowledge in any of the directions pointed to by Shulman's (2004) four models. Instead, fellows form a shared practice, which consists of meetings and group-initiated projects, responding when the university asks them for expertise that they are assumed to possess, and providing advice to the NUS community and feedback to senior management. And when these are the predominant aspects of their activities together, this suggests that NUSTA at this stage does not have a joint enterprise, in Wenger's sense. NUSTA might thus more accurately be described as a shared practice in service of the university rather than a CoP. When NUSTA fellows regard the membership in the academy to form a part of their academic identity, their answers come from a completely different angle than the ETPs. Actually, one could say that the question in the survey, though worded identically for NUSTA and ETP in reality, is asking for very different judgements.

According to Wenger (1998), there is no exact demarcation line between different kinds of practices. Such lines are part of the formal organization. Therefore, a shared practice may develop into a CoP if mutual engagement starts to grow and creates a joint enterprise, regardless of the formal tasks at hand. And a CoP may fall apart, if the resources necessary for its practice disappear or the joint enterprise and mutual engagement dissolve. This is why Wenger points to the difference between the nature of practice (as primary) and the formal design of the organization (as secondary), where practice may be framed but not decided by the formal structure throughout. From the NUS case, we can observe a clear intention from the formal organization to design a TA, which also may evolve to form a CoP. However, from the survey we can see that the fellows seem to be struggling with the nature of the joint enterprise.

A common thread that runs through the cases presented in this chapter is the relationship between TAs and the ADUs. When ADUs in several cases (clearly at NUS and LU and in other research-intensive universities) seem to have taken on the SoTL perspective as an important possibility to strengthen both the quality and the status of teaching, and when both the ADUs and the TAs are supposed to form CoPs, they may be perceived as doing "the same thing". This seems to be a mounting issue in NUS but not in Lund, since the Lund ETP members do not form a community at all. The Lund ADU does not have to handle such a relationship since there is no collective regarded as similar to them in exerting expertise in SoTL at the faculty level, and the unit has full support from the faculty. One could also note that the publications researching Lund ETPs are rooted in this ADU (Olsson and Roxå 2008; Olsson et al. 2010; Olsson and Roxå 2013). However, there is no formal relationship between the ADU and the organization for rewarding ETPs. The situation becomes quite different when both the TA and the ADU are perceived as "communities of scholars" and are presented with a responsibility to, with each of their practices, do some work for the organization in strengthening the quality and status of teaching. Their circumstances and qualifications for doing this may differ. In the case of NUS, there may be differences in the conceptualization of teaching excellence between the ADU and the TA. When TA fellows engage in the practice of the academy, this is more or less a voluntary undertaking, added to their previous multi-membership. To participate in the forming of a new CoP will take time and engagement. And when academic developers are supporting SoTL, they may work to this end within a set of practices that perhaps are a part of their main professional CoP, which will not cause any substantial strain in their other memberships. It will be important for further development whether the respective practices of ADUs and TAs are regarded as competing or complementary in the support of SoTL. Contrary to the pessimism of Shulman, regarding the possibilities of ADUs to contribute to the development of SoTL, we are convinced of the importance of a fruitful relationship between TAs and ADUs in a joint mission.

9 Conclusion

Our purpose in this chapter was to capture an overview of the development of TAs in research-intensive universities and how they have set out to foster teaching excellence through their academies. We did so by focusing on the complex issue of academic identities, with an attempt to situate the academies within the SoTL movement. From a questionnaire to 13 research-intensive universities, we learnt that a common way of describing the intention behind the six academies they had designed was to label them as scholarly communities or networks. Furthermore, a practical conception of TAs could be discerned: It is a number of designed practices, chosen by the institution to raise the quality and status of teaching, with the intention to link and prioritize these practices by naming them a “teaching academy”.

Using Wenger’s concept of CoP, we then turned to case studies conducted at two research-intensive universities to examine the social working mechanisms through which these different TAs support the development of teaching excellence and academic identities. We could conclude that both academies, in the view of their members, had contributed to strengthening the teaching part of their academic identities, though in quite different ways. At Lund University’s Faculty of Engineering, the development of the academic identity for the members was rooted more firmly in the SoTL, as proof of scholarly teaching was a requirement for membership. Looking more closely at the academies at NUS and Lund

University, we were also able to conclude that neither of them is working as a community of practice in Wenger's sense of the concept. One obvious conclusion from our study is that TAs may be designed in many forms and that they also may strengthen the teaching part of the academic identity without fulfilling the criteria for a community of practice, since both our case studies are examples of such academies. However, if the members of a TA are supposed to mutually engage in a joint enterprise, a community of practice certainly would be beneficial for that purpose. But as Shulman (2004) noted, the nature of such a joint enterprise at a research-intensive university is far from self-evident.

When TAs evolve in research-intensive university contexts, and when the SoTL is also a prioritized agenda, great care has to be directed towards the relationship between the academy and the design of the support for scholarly teaching so as to ensure these are fruitfully aligned. We initially noted that several of the ADUs in the group of 13 research-intensive universities in different ways have integrated the SoTL in their mission. Shulman (2004) did question whether centres for teaching and learning (ADUs in this chapter) really could be part of scholarly communities. This raises the question of the nature of academic development. When it is perceived mainly as administrative support, Shulman's view may seem accurate. However, when academic development is perceived as a recent branch of the academic profession, specializing in developing the SoTL, and with necessary roots also in the other of Boyer's scholarships, the perspective changes and makes a joint scholarly enterprise possible to envision. It may be good to consider the extent to which the idea of a community of practice and a firm foundation in the SoTL as a means of academic development could help resolve questions that our chapter has shown to occupy the minds of colleagues who, through their engagement in TAs, are committed to enhancing institutional quality.

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Fostering Dialogue About Practices

Grahame T. Bilbow, Dai Hounsell, and Tracy Zou

1 Approaches to Enhancing Teaching and Learning in Universities

In the contemporary research-intensive university, there is a compelling need not simply to maintain the quality of teaching and learning but also to seek ways of enhancing it—what Trowler et al. (2009) have helpfully defined as 'purposeful attempts to change constellations of practices for the better'. Intrinsically, drivers towards enhancement are the strength of an institution's commitment to an ethos of excellence in teaching as well as in research and knowledge exchange; a desire to capitalise upon advances in pedagogical understanding as well as in technologies that can enable and

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boost learning; and the embrace of new strategic goals (greater inclusivity, increased emphasis on fostering specific graduate attributes institution-wide, enlargement of off-campus learning opportunities) that have implications for curriculum, teaching–learning and assessment practices. Extrinsic drivers commonly include heightened requirements for accountability through mechanisms such as national surveys, professional accreditation, quality assurance—regardless of scepticism about the significance of their impact (see, e.g., Mårtensson et al. 2014)—as well as, for instance, a sea change in the envelope of resources that underpin the teaching function (e.g., a reduction in state funding per student or sharp rises or falls in enrolments).

The strategies that have been deployed in the service of enhancement are remarkably diverse (see, e.g., Blackwell and Blackmore 2003; Hunt et al. 2006; Bamber et al. 2009; Land and Gordon 2013). Discussing universities' efforts over the last four decades to improve the provision of teaching and learning, Gibbs (2013) pinpoints 11 types of activities that can be seen as comprising four main groups:

- the development of individual teachers or groups of teachers (including communities of practice (CoPs)), or of students as learners, or more broadly, of teaching–learning environments or of the institution as a body;
- the identification of emergent change and diffusion of 'best practice' (or 'quality practices', to use the terminology of Mårtensson et al. (2014));
- the introduction of quality assurance systems, or of mechanisms—internal or external—to recognise, accredit and reward excellence in teaching;
- the undertaking of educational evaluation, or of educational research and scholarship.

Hounsell (2011), reviewing enhancement activities across the Scottish universities under the sector-wide theme of 'Graduates for the 21st Century', distinguishes seven types of strategies adopted by institutions in taking forward the theme (see Fig. 1), ranging from knowledge exchange to seed corn projects and surfacing and sharing good practices.

A third and more conceptually directed perspective on enhancement is provided by Trowler et al. (2005). They highlight three contrasting theories underlying enhancement initiatives and focus on three different levels of

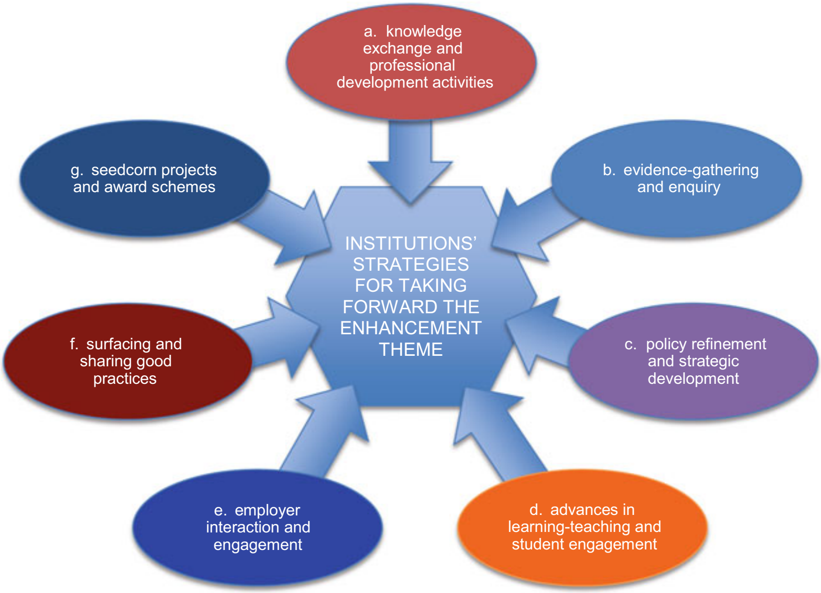
a. knowledge exchange and professional development activities
g. seedcorn projects and award schemes
b. evidence-gathering and enquiry
INSTITUTIONS' STRATEGIES FOR TAKING FORWARD THE ENHANCEMENT THEME
f. surfacing and sharing good practices
c. policy refinement and strategic development
e. employer interaction and engagement
d. advances in learning-teaching and student engagement

Fig. 1 Main types of institutional strategies adopted to take forward the G21C Theme

engagement. At the micro level is the concept of the reflective practitioner, viewed as a potential change agent, and broadly equivalent to Gibbs' individual teachers. At the macro level is the institution, conceived of as a learning organisation in which change 'stems from alterations in organisational routines, practices and values' (p. 427). The intermediate or meso level is argued by the authors as being currently missing in many teaching and learning enhancement initiatives in higher education. The meso level refers to the social processes at a departmental or sub-departmental and workgroup level, which is believed to be particularly essential for diffusion of innovations and culture changes. It is also argued that the meso level is where 'students and lecturers engage together in teaching and learning practices' and where 'changes actually take place' (Trowler et al. 2005, p. 435).

The discussion of the meso level further implies that any change strategies need to be tailored accordingly to suit the teaching and learning practices in specific disciplines stemming from the epistemological characteristics of the disciplines concerned. As Bucklow and Clark (2003) have argued:

> Teaching takes place within particular departmental and institutional contexts, each with its own particular culture, patterns of practice, regulations and resource constraints. However clever specific examples of 'good practice' may be, they need to be adapted and bent to the needs of particular contexts if they are to be used at all. (p. 70)

Bucklow and Clark's observation serves as a reminder that there are institutional as well as disciplinary cultures which enhancement initiatives have to address. Consideration of drivers and strategies therefore needs to go hand in glove with attention to a university's prevailing organisational ethos. In research-intensive universities, generally speaking, academic decision-making is to a significant extent devolved to faculties and departments (or their equivalents), rather than being hierarchically structured, and innovation cannot in consequence be imposed or centrally directed. Approaches to enhancement therefore have a much greater likelihood of success if they go with the grain of an organisational ethos and value 'creative scope to devise locally tailored solutions to institutional policy priorities and strategic plans' (Hounsell and Rigby 2013). Similarly, Knight and Trowler (2000), discussing departmental cultures and the improvement of teaching and learning, argue that academic managers 'work in rather than on cultural contexts and their most important skills revolve around perceptiveness towards and analysis of these contexts', while Gordon and Land (2013) suggest that 'localised and locally-controlled contexts and actions' play a key role in approaches to enhancement. And for Bromage (2006), 'mutual education and learning within a collegiate approach' are the most likely ingredients of successful change management in higher education.

2 Scope and Rationale for an Approach Aiming to Promote Dialogue About Current and Evolving Practices

The above discussions have implied that many existing approaches on teaching and learning enhancement have not yet effectively integrated the initiatives at the individual level, the intermediate level, and the institutional level. In particular, the essential role of the social processes at the intermediate, or so-called meso, level is not carefully attended to (Trowler et al. 2005). As an attempt to tackle these issues, a unique approach adapted from the CoP framework (Lave and Wenger 1991; Wenger 1998; Wenger et al. 2002) is proposed at the University of Hong Kong (HKU) to fostering dialogue around teaching and learning. The paragraphs below explain what a common CoP approach is, and the following section discusses how the adaptation at HKU makes it a unique approach suitable for teaching and learning enhancement in research-intensive universities.

Since Lave and Wenger coined the term ‘communities of practice’ in 1991, the relevant body of theory has been continuously evolving. The initial conceptualisation described how newcomers observed and interacted with ‘old-timers’ in an unintervened setting through ‘legitimate peripheral participation’ (Lave and Wenger 1991, p. 29). In Wenger’s subsequent publications (e.g., Wenger et al. 2002), CoPs are described as an approach to facilitate the sharing of knowledge and practices. According to Wenger et al. (2002), CoPs are defined by three indispensable characteristics: a commonly shared subject of knowledge named as a domain; a community consisting of people who are engaged in developing knowledge in the domain through regular and ongoing interactions; and practice involving shared ways of doing things, common language, and resources. The most recent publication has also highlighted the role of convenors, which refer to people who actively facilitate the development of CoPs by bringing participants from different disciplines together and creating a suitable learning space (Wenger-Trayner and Wenger-Trayner 2015).

The CoP approach is not a new initiative in higher education. Buckley (2012) has advocated the need for supporting knowledge sharing among academics in the higher education environment through the establishment and cultivation of CoPs. A CoP, in the context of teaching and learning enhancement, typically means a group of people who share concerns about certain teaching challenges and meet to discuss teaching practices. CoPs show potential to provide a collaborative platform for sharing ideas and co-constructing knowledge by ‘identifying strengths, discussing challenges, and finding solutions’ (Golden 2016, p. 84). It is important to distinguish such a community from a ‘working group’, such as a co-teaching team. In a CoP, teaching practitioners carry out practices in their own contexts and venues while making use of the dialogue in the community to learn from each other in order to develop solutions to enhance teaching or tackle challenges in their particular contexts and venues. In a working group, on the other hand, members usually work together as one unit to accomplish a series of tasks, for example, teaching a particular course.

A number of examples of cultivating teaching and learning CoPs in the higher education environment are reported. Green and Ruutz (2008) present a case study of creating a teaching-oriented CoP to tackle specific teaching challenges within the business school in an Australian university. The main aim of the CoP is to provide a safe, authentic learning environment, in which academics can enhance teaching by sharing and developing their teaching practices. Pharo et al. (2014) report the successful experience of cultivating a CoP to facilitate interdisciplinary teaching of complex problems in four Australian universities. One key factor that contributes to the success is the provision for institutional autonomy in domesticating the model to fit local circumstances. In the UK, the study conducted by Keay et al. (2014) demonstrates that working towards a CoP may help provide a framework for improving communication and creating more effective transnational education partnerships.

3 A New Approach Within the Teaching and Learning Context at HKU

At HKU, teaching and learning quality assurance and quality enhancement mechanisms have been in place for a number of years. Institutional quality is assured mainly through the vehicle of the Senate Teaching and Learning Quality Committee (TLQC), the membership of which consists mainly of the Chairpersons of Faculty TLQCs. These Chairpersons are typically Associate Deans with responsibility for teaching and learning in their respective Faculties. Teaching and Learning Quality Committees at both levels (institutional and faculty) meet regularly to take forward teaching and learning policy and strategy, discuss teaching and learning quality issues in relation to academic programmes, and consider applications for teaching development grant project funding. Institutional quality enhancement services are provided in part by the University's Centre for the Enhancement of Teaching and Learning (CETL). CETL supports the university in achieving its teaching and learning aims through the provision of professional development programmes, and continuing professional development opportunities, including workshops and seminars, consultation services, and special events, for example, international conferences.

Although these two mechanisms for quality assurance and quality enhancement have by and large been effective in achieving their respective purposes, there may be more the University can do to foster a vibrant teaching and learning culture that facilitates professional conversations in relation to teaching and learning enhancement at and across different levels and within and between disciplinary boundaries. The TLQCs at both university and faculty levels have, in the past, tended to be chiefly administrative in their focus, and the practices and values associated with excellent teaching and learning have not traditionally been the subject of widespread conversation. While the services provided by CETL have been quite effective in disseminating 'good', research-informed, practices, they have not necessarily created a collective group of reflective individual practitioners at the meso level, which, according to Trowler et al. (2005), can facilitate changes and infuse innovations.

A new approach based on CoP theory has been developed in order to address the opportunities and challenges at HKU. The notion of 'fostering dialogue' emphasised in HKU can be seen as an extension and adaptation of the evolving theory and application of CoPs, as illustrated in the previous section. Such an approach may even be regarded as a deviation from the original meaning (implying a naturally emerging phenomenon), but is relatively closer to the later conceptualisations (e.g., Wenger et al. 2002; Wenger-Trayner and Wenger-Trayner 2015). The unique characteristics in the HKU's adapted CoP approach can be represented by its four major components: themes, processes, audience, and outputs (see Table 1).

Specifically, themes refer to the main areas in teaching and learning that interest teachers, which are similar to the domain in the original CoP framework. In our approach, themes are also defined as strategically important matters as reflected in the University's vision statement. The processes in conventional CoPs refer to the process of learning from each other and developing shared routines and resources. In our approach, the processes include the intervention by the CoP convenors such as identifying specific opportunities and challenges, interviewing key stakeholders, collecting practices from the ground, systematically documenting and analysing the practices, and compiling teaching and learning resources. The role of convenors has therefore been expanded to intentionally promoting exemplary practices and diffusing innovations. Audiences not only refer largely to the community but also involve a range of other key stakeholders, for example, occasional participants, students, subject matter experts, and decision-makers (such as faculty deans and associate deans of teaching and learning).

Table 1 The original and the adapted CoP approach at HKU

Essential component	*The adapted CoP approach at HKU*	*The original CoP approach*
Themes (Domains)	Themes—main areas in teaching and learning that are both interesting to teachers and strategically important to the University	Domains—main subject or knowledge areas in which people are interested
Processes (Part of the Practice)	Processes—knowledge sharing among community members and the intervention from the convenor (including identifying specific opportunities and challenges, interviewing key stakeholders, collecting practices from the ground, systematically documenting and analysing the practices, and compiling teaching and learning resources)	Practice—a set of frameworks, ideas, stories, and language that the community members share
Audiences (Community)	Audiences—a group of people who have on-going communication and interaction in order to develop their expertise around the themes and a range of other stakeholders, including occasional participants, students, subject matter experts, and decision-makers	Community—a group of people who have on-going communication and interaction in order to develop their expertise in the domain
Outputs (Part of the Practice)	Outputs—teaching and learning resources that are collectively developed by the convenor and the community members and are widely shared across the University to promote exemplary practices	As shown in Practice above

These people may not be part of the community per se, but they are involved through the convenor at a certain point of the processes to provide input and sometimes enable changes. The outputs form part of the practice which becomes the shared ways of doing things within the CoP. However, the outputs in our approach carry more functions than documenting shared practices and involve promoting exemplary practices and driving changes across faculties. Shown in a variety of formats, the outputs are shared widely among all faculties across the University as teaching and learning resources and from time to time used as stimuli for further discussion.

Among the four major components in our approach, the most essential and core component is the process that involves the collection of practices on the ground, followed by a systematic, research-directed approach to data analysis and dissemination. Such a process is one of the unique features of the CoP approach we have developed in the context of teaching and learning enhancement at HKU, which is a strongly research-intensive university. The rationale for collecting practices on the ground relates to our earlier discussion regarding the contextual nature of teaching and learning practices. Although there are general principles of good strategies, for example, for assessment for learning, or culturally responsive teaching, their implementation needs to take into consideration the student population and their learning preferences, class size, and other contextual factors and dynamics (Bucklow and Clark 2003). The concept of 'teaching and learning regimes' (Trowler and Cooper 2002) aptly encapsulates the power of local practices. Teaching and learning regimes are the implicit theories and assumptions held by academics about teaching and learning. Trowler and Cooper (2002) argue that a professional development programme is more likely to succeed if the practices promoted are compatible with the participants' teaching and learning regimes. Furthermore, a research-directed approach has been employed to data analysis in order to identify patterns in these grounded practices and, more importantly, enable us to convey the patterns to academics using their familiar format and language. Being systematic and rigorous in the data analysis is also helpful in generating high-quality resources and benchmarking best practices internationally.

With a number of new additions, the CoP approach at HKU still contains important features identified in the CoP literature. First, CoPs are largely built on the existing culture and ethos of an institution, rather than being a revolutionary transformation of it (Wenger et al. 2002). The intention to promote exemplary practices and drive changes shown in our adapted approach is effectively based on the existing culture and ethos through surfacing and acknowledging current practices from the ground. The changes we aim for are gradually facilitated through the sharing and celebration of good practices as part of the teaching and learning resources. This grassroots approach fits particularly well in a university environment in which effective change is often initiated through departments. Another feature that aligns with the existing CoP literature is that CoPs build a safe, collegial environment in which teachers feel comfortable talking to one another. In research-intensive universities, academics typically assign a high priority to research and actively engage in a range of academic activities, such as conference presentations, journal publications, and seminars, in order to develop their expertise through interactions with scholars with similar research interests: they effectively constitute a research-oriented CoP. However, there may be very few equivalent spaces suitable for the development of professionalism in teaching and learning. An academic who wishes to explore the opportunities of a specific improvement in their approach to, for example, assessing students or designing group work may not easily identify relevant venues within their discipline.

Based on CoP theories, the approach at HKU has incorporated unique features that help create opportunities to drive changes and diffuse innovations at a collective level (or a meso level), which was not a typical emphasis in the original CoP approach. However, this adaptation fits particularly well into the teaching and learning context of HKU. A case study is presented below to illustrate how this approach fosters dialogue about practices across the University.

4 A Case Study in Fostering Dialogue: A Tale of Two Themes

In the period 2014–2016, two initiatives have been pursued at HKU using the adapted CoP approach, focussing on 'assessment and feedback' and 'internationalisation in teaching and learning', respectively. The following sections describe how dialogue around teaching and learning on these two initiatives has been fostered through the four major components: themes, processes, audiences, and outputs. As part of the case study, semi-structured interviews were conducted with 15 faculty members who had been involved in the CoPs. The findings from the interviews will also be reported.

4.1 Theme

Both of the themes selected are key issues facing HKU as well as many other universities internationally. It has long been recognised that assessment and feedback have a significant 'backwash' effect on students' learning approaches and priorities (Biggs 1996). The University has therefore established an assessment policy to ensure that students are assessed in an appropriate, credible, fair, rigorous, and transparent manner. Some of the key principles promoted by the University include assessment for learning, alignment of student learning outcomes, diversity of assessment types, equitable assessment, and timely and professional feedback (University of Hong Kong 2015).

Under the theme of assessment and feedback, four strands have emerged as salient through the CoP: (i) assessment in the Common Core Curriculum; (ii) assessing experiential learning; (iii) understanding standards; and (iv) high-impact feedback. The first two of these strands sprang from major changes that came about as a result of the recent higher education curriculum reform in HKU: the introduction of a Common Core Curriculum into the formal programme structure in 2011–2012 and a commitment to providing all students with meaningful experiential learning opportunities. These changes to the curriculum have presented challenges in terms of the design of assessment. In the Common Core Curriculum, for example, assessment designs need to be aligned with the broader scope and multiple perspectives of Common Core courses. The assessment of experiential learning requires that its design recognise the assessment of processes and experiences largely outside the classroom and the possible involvement of external assessors.

The other two strands identified, understanding standards and high-impact feedback, are less the result of the new curriculum reform as the result of our growing understanding of the crucial role of assessment literacy and feedback. Assessment and feedback are often aspects of university study for which students report relatively lower levels of satisfaction (Carless 2015). An earlier study across higher education institutions in Hong Kong also pointed out that students perceive the lack of useful feedback as a problem in the assessment process that inhibits their learning (Carless 2006). Successive student surveys at HKU have provided confirmation that the quality of feedback, together with student uncertainty about assessment goals and standards, are recurring areas of concern. These were therefore identified as two strands upon which the work of the project would focus. Further details of how the assessment and feedback theme has been framed and undertaken can be found in Hounsell and Zou (in press). Internationalisation is one of the four key themes, alongside 'innovation', 'interdisciplinarity', and 'impact', in the university's strategy of becoming Asia's Global University, and HKU has already made great strides in this direction. Recently, the University was rated the world's third most international university (Times Higher Education 2016). Though this result is very encouraging, a closer examination of internationalisation raises deeper questions, such as what the impact of an 'internationalised' curriculum is on students' learning and how teaching and learning needs to be designed to facilitate intercultural engagement. The focus in the related literature over the years has shifted from topics such as the number of students studying abroad and the ratio of international staff and students, to more fundamental issues such as the learning benefits to students, internationalisation at home, and internationalisation of the curriculum (Leask 2015; Teekens 2007).

Unlike the assessment and feedback theme, where it was relatively easy to identify underlying strands, no specific strands stood out under the theme of 'internationalisation in teaching and learning'. A slightly different approach has therefore been adopted in this case for identifying the strands for discussion. Firstly, a number of challenges and opportunities associated with internationalising teaching and learning have been identified through literature review and consultation with stakeholders at HKU. These draft challenges and opportunities were presented in the first of a series of 'Join-the-Conversation' events (a signature event in the HKU approach to CoPs, referred to in Sect. 4.4). Comments and suggestions were then solicited from participants regarding the significance and relevance of each of these topics. Based on input from participants, the draft was then refined. This resulted in eight challenges and opportunities relating to internationalising teaching and learning at HKU. Each of these challenges and opportunities became one strand, namely 'learning outcomes and graduate attributes', 'student mobility and learning abroad', 'internationalisation in the HKU curriculum', 'language and intercultural competence', 'learning and intercultural interaction', 'digital and virtual learning', 'assessment and evaluation', and 'internationalisation and the postgraduate experience'.

4.2 Processes

The process follows a cycle of identification, surfacing, synthesising, and sharing of quality practices. Taking the theme of assessment and feedback as an example, the process started with a survey of the assessment practices in the Common Core Curriculum and experiential learning programmes within HKU. Subsequent interviews were then conducted with course or programme coordinators who were identified as having adopted innovative and effective assessment practices. The interviews surfaced practices and insights that were verified by the contributors, and then compiled as case examples. The data (i.e., practices) were analysed systematically following qualitative data analysis procedure (Strauss and Corbin 1990). Briefing notes were developed to synthesise and highlight the key findings across the case examples. Meanwhile, the project team working as convenors also identified, through a literature search, world-renowned experts in assessment who had published influential work of specific relevance to HKU's needs, and approached them to request that some of their representative work be edited and re-printed as briefing notes in a format that would be suitable for sharing among teachers at HKU. Finally, the sharing of quality practices was promoted through dissemination of the compiled resources, and the running of face-to-face events in the form of a series of 'Join-the-Conversation' events, as they were called.

The work with the theme of internationalisation of teaching and learning followed a similar process. One additional element was an international advisory panel that was formed to provide advice on the direction of the CoP. The panel comprised external and internal scholars with expertise in various aspects of internationalising teaching and learning in higher education. The rationale underlying this difference in the processes is that 'assessment and feedback' is a relatively focussed area in the literature, whereas 'internationalisation in teaching and learning' is a broader, more multifaceted and arguably more complex area of study. An international advisory panel not only provides expertise through the distinctive interests of its members but also reflects the importance we attach to internationalisation in our approach by soliciting multiple international perspectives on the issues in question. Specifically, the advisory panel members contributed to the CoP in three major ways. They each compiled one briefing note drawing on their experiences and expertise. They all provided advice to the convenors in relation to the framing of the issues and problems and possible strategies that may help address them. Finally, they all joined one Join-the-Conversation event, delivered a keynote speech, talked to community members, and convened a panel-led discussion.

4.3 Audiences

The audience for the CoP, although mostly HKU teachers and other academic staff with day-to-day curriculum, teaching–learning and assessment responsibilities, is actually quite broad. Some members have recognised expertise in the two areas, and have already undertaken various innovative initiatives and been engaged in the scholarship of teaching and learning in respect of assessment for learning and/or internationalisation of teaching and learning. Others are relatively new to the focal areas and are still exploring the key concepts. The audience also includes deans and associate deans of faculties in the University, who have formal organisational responsibility for promoting teaching and learning across the institution. Students are another important group of stakeholders, and they have contributed to the resource materials and participated in CoP events.

A number of centres and units outside the faculty structure within HKU are part of the audience, too. The list includes the Centre for Applied English Studies (CAES), the Centre for Development and Resources for Students (CEDARS), and the Gallant Ho Experiential Learning Centre (GHELC), among others. These centres are important stakeholders in the university's assessment and internationalisation activities, and play a pivotal role in facilitating intercultural engagement among undergraduate and postgraduate students, in particular, through co-curricular and experiential learning.

The heterogeneity of this audience has been an important characteristic of the community. CoPs are not about experts sharing their insights; rather, they are opportunities for learning and development for all participants through dialogue around effective practices in participants' respective contexts. Interestingly, we have found that the involvement of relatively senior formal stakeholders in the CoP has helped the CoP to provide system-level support and recognition, at the same time as more hands-on support for classroom teachers. The involvement of students on the CoP has also had an unanticipated benefit, in that some teachers have started to share the resource materials created through this project with their students as a pathway towards students developing an understanding about teaching and learning principles and academic standards.

4.4 Outputs

The outputs take a variety of formats, including written materials, digital videos, sharing events, and newsletters. Written materials comprise briefing notes as a synthesis of the key principles and points learnt, some of which are accompanied by case examples from HKU and elsewhere. Digital videos include 'vox pops' featuring HKU students' voices around the two strategic themes and a number of talking heads featuring the views of assessment experts. The production of the student 'vox pops' emphasised authenticity over other factors such as rigour and systematicity. Students in a learning commons (i.e., an indoor area where they read and study) were casually approached with no pre-selection and invited to take part in the filming on the spot. Approximately one in three students approached by our staff agreed to take part in the video filming. Each student had five minutes to read the interview questions before they answered the questions in front of the video camera. The instant and 'unprepared' nature of student voices in front of the camera has appealed to our audiences, especially to faculty members who are eager to know what students' views are. The assessment experts were selected based on their influence in the field and their areas of expertise. All five of the experts (i.e., Prof. John Biggs, Dr. Catherine Tang, Prof. Royce Sadler, Prof. David Boud, and Prof. Dai Hounsell) have instrumental influence in the field, and each possesses expertise in an area that is highly related to the four strands identified under the broad theme of assessment and feedback.

'Join-the-Conversation' events are sharing events to which all HKU colleagues are invited. Four Join-the-Conversation events were conducted under the theme of assessment and feedback and five under the theme of internationalisation of teaching and learning (Please refer to the Appendix for details). Unlike conventional seminars, in which one or two speakers talk to an audience, Join-the-Conversation events are typically led by panellists who are active members of the CoP and have contributed information about their assessment practices to the community. These panellists need not be 'experts' in the area; however, they have 'wise' practices that they wish to share and discuss. Such wise practices might not otherwise be surfaced in conventional seminar events, given that, in research-intensive universities in particular, academics are often fully occupied with research, teaching, and service activities. The flow of a typical Join-the-Conversation event starts with a facilitator introducing the topic of the discussion, followed by each panellist talking for around 5–7 minutes and joining other panellists to lead a discussion with the audience for around 45 minutes to one hour, and finally a wrap-up by the facilitator or sometimes a subject matter expert.

5 Findings from Interviews with Participants

Fifteen CoP participants were interviewed as part of the case study. The participants were recruited through a purposive sampling strategy. Fifteen invitations were sent to academics who have been involved as either panellists or participants in the Join-the-Conversation events. The invitations were intentionally directed at people from a range of disciplines (e.g., Architecture, Arts, Dentistry, Education, Law, Science, and Social Sciences) and at different stages of career development. All invitees agreed to participate and granted consent for their interview to be part of a case study. Among the interviewees, seven were relatively senior (e.g., professor, associate professor) and eight were relatively junior (e.g., assistant professor, lecturer). During one-to-one semi-structured interviews, they were asked about their experiences in the CoP, their perceptions of the concept of CoP, and its role in enhancing teaching and learning. The experiences described by the participants focussed on the following elements: learning, generating ideas, interdisciplinarity, and being connected. The learning element is to the fore in the sense that all of the participants interviewed valued the learning opportunities provided by the community, especially being able to learn from others from different disciplinary backgrounds. One participant said the following:

> I was a participant but also a learner of assessment practices. Besides, I would like to see what others do with assessment... It provided opportunities for me to explore, to know more about what other departments are doing. (A faculty member in Social Sciences)

Another participant emphasised the value of generating new ideas from talking to others and believed that the CoP helped break hierarchical and departmental boundaries:

> Some of the best ideas you just get from people, just you know, talking... talking to them. Um... and... you know sometimes it is quite frustrating in a sense that we all... kind of ... have our individual offices and we are working separately and yet... you know, there is so much potentially that we could learn from each other and this is why CoP exists, I think. (A faculty member in Arts)

As a senior member in the department, the above participant also shared that participating in the CoP activities helped her convey a message to other members that teaching and learning is important and enabled her to know what her colleagues are doing in a pleasant manner:

> And you know it is a form of support as well. I think... to a certain extent, I see my role as a kind of senior member in the department [A] to encourage people and to get involved... and to know what people are doing... so I think that community of practice has a kind of interpersonal value to it. (A faculty member in Arts (same as the above))

While the interaction among participants during the CoP events and activities seems to be fruitful, it is also noted that there are relatively fewer cases where participants follow up with one another about what they have discussed:

> After I shared our assessment practices, two people came immediately to ask me questions. We chatted for a while and left contact but there was nothing after that. You know. . .people are busy and I did not contact them. (A faculty member in Social Sciences)

A few participants have highlighted the usefulness of the briefing notes generated from the CoP process:

> Assessment and feedback is a universal concern to teachers in this university. The project briefings are very useful . . . especially the one with the Common Core . . . as it facilitates the long overdue interplay between the Common Core and the disciplinary curricular. (A faculty member in Law)

> . . .we can access valuable online resource repositories about best practices of teaching and learning. One example is the types of assessment in Common Core Courses at HKU. The research findings from CETL have facilitated us as coordinators to strengthen the curriculum of [Course name], a course for year 1 undergraduate students. (A faculty member in Arts)

Other than the learning aspect, another factor that a number of interviewees mentioned was the benefit of belonging to a group in order to avoid the danger of isolation. One participant who transited from being a practitioner in the field to becoming a member in academic faculty said that:

> I was completely new to the academic world. I knew very little about assessment or internationalisation or any of this stuff. Therefore I think I need to learn from others what all this is about. I like to talk to people who also care about teaching and learning. (A faculty member in Architecture)

When asked about the role of the CoP in the current higher education environment, all participants believed that it would be helpful to promote more CoPs and social learning opportunities. For example, one participant compared a teaching-oriented CoP to what happens in a research context, and commented:

> I think the community for research is pretty well established. . .it is systematic. But really, there has not been enough for teaching. I think more opportunities to have more discussions about teaching will be better. Perhaps you can have information sharing. I just . . . think research develops very fast but teaching does not change so much. (A faculty member in Science)

Another participant commented that the CoP needs to be linked to the university's aims and focusses on teaching and learning. The same participant raised an interesting point about the life cycle of CoPs:

> (Whether the CoP is needed) depends if the CoP is in harmony with the university aims and objectives like internationalisation. . .is certainly a major focus of the University. Another issue with CoP is that it may become redundant over time. Say we have got a CoP on international practices . . . or internationalisation of teaching and learning. After a period of time, that won't be of any use because everyone is doing it. (A faculty member in Dentistry)

The interviews have shown that opportunities to learn from others' practices, especially across disciplines, are highly valued by CoP members. This has to a certain extent demonstrated the usefulness of surfacing exemplary practices from different venues including the literature and the individual faculty members within the University. The value of the 'Join-the-Conversation' events consisting of people from different disciplines has also been affirmed from participants' responses. The interviews have, however, reflected that teaching-oriented CoPs were perceived as less mature and systematic than their research-oriented equivalents. This view is consistent with our earlier literature review, showing a lack of venues for faculty members to share and discuss their teaching and learning practices. Our adapted CoP approach offers a space for quality dialogue on teaching and learning. Such a space is, according to the literature as well as to the comments from participants, much needed in the current higher education environment.

6 CONCLUDING REFLECTIONS

The adapted CoP approach described in this chapter has responded to the strategic teaching and learning themes emphasised by the institution, undertaken a systematic process, involved a wide range of stakeholders as audiences, and generated substantial outputs. Taken together, these four major components have provided an effective response to the initial issue identified in the HKU's teaching and learning context regarding the two largely independent mechanisms of quality assurance and enhancement. The CoP approach, in its locally adapted form, has been found to connect these two mechanisms through bringing the strategic teaching and learning themes to the community's attention and simultaneously soliciting locally grounded practices from faculty members according to a systematic process. Furthermore, the approach has created a safe and collegial space bringing together people responsible for quality assurance and those who are working on quality enhancement. Finally, the substantial outputs consisting of student voices, expert advice, local practices, and the literature also help facilitate a more productive dialogue that is based on substance rather than on abstract or administrative concerns.

One useful framework that has helped us reflect on the impact of these two CoPs is Wenger et al. (2011) value framework, which describes five cycles of value: immediate, potential, applied, realised and reframing. In our specific context, immediate value refers to the immediate impact of participation and engagement of participants in community activities, such as the 'Join-the-Conversation' events. Potential value includes knowledge about the practices and approaches that our audiences have acquired through their activities. Applied value is a matter of the actual adoption of such practices and approaches in daily teaching work. Realised value refers to improvements that come as a result of adopting these new practices. Finally, reframing value refers to new theories, redefined successes and refined frameworks that emerge as a result of the improvements achieved.

In the case of our CoPs, the most observable aspects of impact that have been achieved are in terms of immediate, potential, and reframing value, while applied and realised value are still evolving and are thus less visible and yet to be documented. Immediate value can be most easily articulated through the participation records of and feedback forms from the Join-the-Conversation events, that is, the number of participants and their substantive comments. Potential value is evident in the interviews with participants who have emphasised their learning of exemplary practices, as shown in the previous section. Reframing value is shown in the gradual changes of academic development in the University. Prior to the case study, academic development at HKU relied on compulsory programmes and workshops, both of which regarded experts as the main source of knowledge. The case study has brought Join-the-Conversation events to the attention of both academics and institutional leaders, who have started to see the value of acknowledging and honouring local practices as well as the possible collaborative opportunities generated from a cross-disciplinary community. Though still at an experimental phase, we believe that Join-the-Conversation events, and our CoP work in general, will become part of the mainstream for academic development at HKU. This will signal a gradual shift of academic development from one-off programmes to ongoing and participatory involvement.

As for applied and realised value, our method for recording participants' reactions to most of our community activities has focussed on participant satisfaction, and so has not yielded particularly rich evidence of whether participants have adopted changed practices in their daily teaching. Although a number of participants have mentioned during interviews that they adopted some of the practices in their teaching (e.g., using the resources to strengthen the curriculum design), it is still not clear whether the changed practices have resulted in actual improvements in student learning. Thus, our evidence of applied and realised value is relatively weak.

There are two initiatives planned for the near future. The first is to develop a better understanding of the impact of our CoP approach through follow-up actions aimed at exploring the extent to which audiences adopt the approaches and practices to which they are exposed in CoPs and the extent of the impact of adoption on student learning enhancement. We anticipate that a better understanding of the impact of CoPs on the daily practices of academics will help us to refine the effectiveness of current and new CoPs, enhance the nature and effectiveness of administrative processes in relation to teaching and learning, and generate materials that will enhance professional development programmes offered through the CETL.

The second initiative that we are planning is to extend the scope of our second CoP. This new project will build on the existing CoP work on enhancing internationalisation in teaching and learning using a refined cross-institutional CoP approach (a so-called CoP2.0 approach), with a greater emphasis on achieving and documenting applied and realised value.

APPENDIX: DETAILS OF THE JOIN-THE-CONVERSATION EVENTS

Theme	*Topic/Strand*	*Time*	*No. of participants (including faculty members, support staff members, and students)*
Assessment and feedback	1. Assessment in the Common Core Curriculum http://www.cetl.hku.hk/workshop150512/	May 2015	40
	2. Wise assessment: Towards a community of practice (in conjunction with the International Conference of Assessment for Learning in Higher Education) http://www.cetl.hku.hk/conf2015/conference-programme/	May 2015	90[a]
	3. Assessing experiential learning http://www.cetl.hku.hk/workshop150616/	Jun 2015	90[a]
	4. Enhancing feedback http://www.cetl.hku.hk/workshop150618/	Jun 2015	39
Internationalisation of Teaching and Learning	5. Learning benefits of internationalisation http://www.cetl.hku.hk/conversation160129/	Jan 2016	32
	6. Curriculum Internationalisation in the Common Core http://www.cetl.hku.hk/conversation160322/	Mar 2016	28
	7. Enriching international learning experiences in your course: What can	Apr 2016	48

(*continued*)

Theme	*Topic/Strand*	*Time*	*No. of participants (including faculty members, support staff members, and students)*
	digital and virtual learning do for you? http://www.cetl.hku.hk/conversation160420/		
	8. Assessment and feedback in experiential learning http://www.cetl.hku.hk/conversation160608/	Jun 2016	47
	9. Community of practice – Aspects of internationalisation (one-day event) http://www.cetl.hku.hk/cop160624/	Jun 2016	71
Total number of participants			**485**

[a] *Join-the-Conversation events No. 3 and 4 were held in conjunction with other events so they attracted a particularly large group of audiences*

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The Importance of Evidence-Based Enhancement of the Quality of Learning and Teaching in Research-Intensive Universities

Sari Lindblom-Ylänne and Lori Breslow

1 The Problem at Hand

As the introduction to this book makes clear, universities are commonly seen as the jewel in the crown of nation states. This holds true for countries across a broad range of political and economic spectra, ideologies, and social systems. On the national level, higher education is considered to be one of the primary drivers of innovation, a robust economy, and a better standard of living. For the individual, an advanced degree leads to greater social mobility, material comfort, and higher social status—benefits that tend to extend generationally. In all geographic regions and for countries at all

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levels of development, higher education is seen as a pivotal institution in advancing the strength of the nation and improving the lives of the citizenry.

At the same time, in many places, higher education, as an institution, is being subjected to increased scrutiny. There is more pressure on colleges and universities to meet a variety of needs than any other time in the post–World War II era. The nature and degree of criticism may vary by region, but, in general, universities are expected to increase capacity and quality, often with fewer resources at their disposal. Although higher education has always been subject to economic, political, and social forces (Perkins 2007), heightened expectations married to dwindling economic support has become a common state of affairs for universities worldwide.

For example, in the USA, colleges and universities have been called upon to justify the high cost of tuition and the resulting debt that students have upon graduation. There is much discussion, as well, about accessibility, that is, that young people from disadvantaged social groups find it more difficult to gain entrance to university, and they graduate at much lower rates than their more advantaged counterparts. The selection process to get into top-tier institutions in the USA has also been criticized with calls for universities to do what they can to minimize the fierce competition that accompanies the admissions process. Conservative politicians disparage university faculty, who tend to be more liberal, and they fault norms that establish an atmosphere on campus in which there is heightened sensitivity to what may be said without impunity. In the USA, institutions of higher education are increasingly called upon to show that they have added value to their students' lives—that their graduates have gained the knowledge and abilities that will allow them to flourish professionally and personally as members of a democratic society.

In Europe, at the beginning of this millennium, countries underwent the so-called Bologna process to increase the comparability of university degrees and to enhance students' free movement between countries. Even though some European countries, such as the UK, collect high tuition fees, there is more variation in how university education is funded and organized. In Northern European countries, like in Finland, university education is tuition free. However, there are similar pressures in Europe as in the USA to develop selection procedures that are less onerous and to ensure the development of higher-order thinking skills and professional competences in graduates to smooth the transition from university to life after graduation. Many European universities are facing increased pressure for accountability from public authorities due to the resources spent on the sector. Hence, the stress on universities to demonstrate value is present on both sides of the Atlantic.

Universities have also had to accommodate new technologies that are challenging their role as institutions that signal who has the credentials that signify the person is educated, or, at least, has attained a certain skill set. Although massive open online courses (MOOCs), launched in 2012, never met the promise of "transforming" academia, technology is having a noticeable impact on the teaching and learning enterprise. Those concerned about the costs of a university education look to technology to help lift some of the economic burden. Instructors are experimenting with so-called blended learning models to strengthen how their students gain the knowledge and capabilities they should have upon graduation.

2 Progress Made

At the same time that universities are more vulnerable to outside criticism, there are a myriad of examples of those working inside the academy to improve programmes, policies, and pedagogies. Their aim is to design institutions that foster students' mastery of crucial knowledge and critical skills that are the foundation of the future success of those students. Many university administrators and faculty are examining their own practices to strengthen how they teach and support students so that they meet the goals society asks of them. We argue that these improvements have been the result, in large measure, of an increased respect for and interest in research into how college students learn and the pedagogical practices that foster that learning. We believe that at a time when universities are increasingly under attack and called upon to demonstrate their value, the role of evidence-based change cannot be minimized. As universities are being expected to respond to issues of cost, to validate their role as purveyors of knowledge, and to demonstrate their responsibility to create an informed citizenry, it is incumbent upon those institutions to develop an evidence-based culture around educational practice.

The idea that the improvement of university-level teaching and learning should be rooted in evidence is referred to in the literature in many different ways—sometimes the terms "research-based teaching" and "research-informed teaching" are used. We prefer to use the phrase *evidence-based development of teaching and learning* because it emphasizes the importance of relying on empirical studies from a wide range of fields. These disciplines can include cognitive psychology and neuroscience, which provide general insights into learning, as well as research into how students best master specific disciplines such as physics or history (Singer et al. 2012). We think it is important to draw upon findings from a wide variety of studies because university students are diverse both in their levels of ability and in the fields they choose to pursue. Evidence-based processes are also pivotal in strengthening the value of teaching in universities such as ours in which research is often considered as more important than teaching.

While learning and teaching processes are complicated in nature, research can help identify factors that contribute to high-quality, college-level teaching and learning. In particular, it is important that decisions concerning the enhancement of pedagogical processes, assessment practices, and student support programmes are based on empirical evidence derived from both general educational research and studies that are discipline specific. For example, research has systematically shown that students' intrinsic motivation, their interest in studying, as well as their metacognitive and self-regulation skills predict success at university (e.g., Entwistle 2009; Heikkilä et al. 2012; Hidi and Renninger 2006; Parpala et al. 2010; Pintrich 2004). The findings from educational research often make sense intuitively and can even sound self-evident, but it is important, particularly in the academy, to generate empirical evidence to confirm teachers' instincts. As another example, instructors know that inspiring and activity-based teaching practices maintain students' intrinsic motivation and interest in studying, but we have only just recently had the data to show a persuasive correlation between the use of active learning pedagogies and positive outcomes in the science, technology, engineering, mathematics (STEM) fields (Freeman et al. 2014). Research also confirms that to enhance high-quality learning outcomes, it is important to help students take responsibility for their own learning.

Another reason pedagogical activities cannot be based on previous experiences or on intuition of the faculty only is because empirical evidence often reveals complicated inter-relationships or even counter-intuitive aspects, which need to be taken into account. Research on university-level learning and teaching can very seldom give simple and straightforward answers because the phenomena are so complex. In this chapter, we provide examples of research that revealed unpredictable or counter-intuitive empirical evidence. We hope to show the necessity of research-informed development of educational practices by describing cases in which research led to improvements by both university faculty and academic developers, and those advances, in turn, resulted in stronger student learning.

Finally, we argue that research in teaching and learning should be undertaken systematically: this strategy follows the principle upon which the academy is founded, namely that we should build on existing knowledge to further develop and deepen our understanding of phenomena. As social scientists, we realize that data alone are not always convincing, but we believe that research can provide a solid foundation for improvement in the educational enterprise, and research-intensive universities are in an excellent position to demonstrate how this philosophy can be translated into action.

This chapter provides examples from two universities for how this work is taking place: one from Europe, the University of Helsinki, and one from the USA, the Massachusetts Institute of Technology (MIT). Although on two different continents, these institutions have used similar processes to explore how research in curriculum design, pedagogy, and support for learning can improve the very practices that are at the heart of research-intensive universities. Specifically, it describes how the University of Helsinki has used research to strengthen its curricula and teaching practices and the support it has put into place to help students learn how to learn. In the USA, MIT has been a leader in using technology to strengthen pedagogy, and the chapter describes a two-decade-long effort in this sphere.

3 THEORIES UNDERLYING AN EVIDENCE-BASED APPROACH

The theoretical framework that supports our argument for evidence-based strategies and practices connects teaching with student learning, research, and the academic community (Boyer 1990; Shulman 1993). According to Rice (1992), the scholarship of teaching and learning includes three aspects: first, a capacity to create a coherent picture of what is known in the field; second, pedagogical content knowledge, which serves as a bond between content and pedagogy (Shulman 1987); and third, expertise on student learning, in particular how students create meaning and master new knowledge, skills, and habits of mind.

The scholarship of teaching and learning is considered the property of the academic community and does not belong to one individual or research team. While research is often considered more of a collaborative process than teaching, which usually takes places in the isolation of the classroom between the individual instructor and students, this view has evolved as the scholarship of teaching and learning has taken hold, so that teaching activities are systematically documented and practices are shared. Kreber (2002, 2013), for example, writes persuasively about the scholarship of teaching and learning as a collaborative learning process that strengthens the teacher community. Instructors engaging in the scholarship of teaching and learning share their work with colleagues, communicate the results in relation to research literature, and publish it in peer-reviewed journals (Hutchings and Shulman 1999; Pyörälä et al. 2015; Shulman 1987). Teacher scholars can communicate their research in many different ways from peer-reviewed articles to scholarly teaching portfolios, academic developmental activities, or public presentations with peers.

The institution plays a role as it provides opportunities, in a variety of ways, for teachers to talk about their practice, critique one another, and strengthen the overall enterprise. As other chapters in this book describe in detail, these institution-wide activities can include building teaching academies, inviting experts in the scholarship of teaching and learning to speak, organizing and underwriting teaching awards, and/or developing incentive structures that reward scholarship and innovation in teaching and learning. The institution can go a long way to create and nurture a community of teachers who together identify future directions for evidence-based practices and put into place structures that will help the institution to achieve those goals.

The model created by Trigwell et al. (2000) created for the scholarship of teaching and learning is particularly compelling. Based on previous literature and teacher interviews, it comprises four dimensions: the *conception dimension* reflects teachers' conceptions of teaching and learning; the *informed dimension* describes the extent to which teachers engage with research on teaching and learning at the university, particularly that of their own disciplines; the *reflection dimension* illustrates the level of instructors' reflection on their teaching practices and on how well students learn in the context of their own disciplines; and the *communication dimension* involves the quality of communication and dissemination of both theory and practice. Findings can be shared with other scholars or, more generally, with other stakeholders in the educational enterprise, including senior leadership, parents, policy makers, and the students themselves.

We have built the research studies we describe in the following sections on these conceptions of the scholarship of teaching and learning. The processes we have used mimic applied research in the social sciences; that is, we begin by defining a question, and then we identify methods by which data are collected, undertake the analysis, and disseminate results. But one way in which the scholarship of teaching and learning differs is that it often springs from instructors' commitment to examine their own practice and the courage to disclose findings—whatever they are—with the larger community. This work also differs from other social science research in that the researchers are often studying their own institutions. Whether it is the individual instructor exploring his or her classroom or the institution looking at its practices and policies, we admire and are grateful to colleagues who are willing to explore their own efforts in order to improve how we educate university students.

4 Strengthening Curriculum Design and Learning Support at the University of Helsinki

The University of Helsinki in Finland is a multidisciplinary university of 36,000 bachelor, master, and doctoral students. As defined in the Bologna declaration, the target times for graduation are three years for bachelor, two for master, and four for doctorate. In the strategic plan for the years 2017–2020, the vision of the university for 2025 is "global impact in interaction", and the three main strategic aims are "a creative international environment for learning and top-level research", "focus on the student", and "resources for reform". The University of Helsinki is composed of 11 faculties: agriculture and forestry, bio- and environmental sciences, educational sciences, humanities, law, medicine, pharmacy, science, social sciences, theology, and veterinary medicine. In Finland, all university education from bachelor to PhD is tuition free. In addition, the students receive government-financed study grants if they earn 75% of the required yearly credits. Students are selected to programmes using their scores on discipline-specific entrance examinations and taking into account their national matriculation examination grades. Therefore, the average dropout rate of students at the University of Helsinki is low. However, study progress is not regulated and students on average take more than the expected three years for a bachelor's degree and two for a master's degree. There are no major consequences for the students if they take a longer than expected time to finish their degree until they are in their seventh year of study. In addition to the tuition-free education, a student status brings many advantages, such as healthcare and discounts on fares in the public transport system.

As mentioned previously, the University of Helsinki systematically uses research to strengthen its curricula and teaching practices and to enhance the quality of student learning. The Centre for University Teaching and Learning is responsible for carrying out research on teaching and learning in different disciplines and this research is used to inform the university in its strategic decision-making processes. The Centre also organizes different courses on teaching, learning, assessment, and academic supervision and supports programme leaders to enhance the quality of teaching and the learning outcomes of the students. The Centre is funded by the university's central funds. Sari Lindblom-Ylänne has been the director of the Centre since 2004. The two cases below provide examples of research-informed improvement in teaching and learning.

4.1 Case 1: Evidence-Based Curriculum Development in Veterinary Education

The first case explores the complex relationship between experiences of the teaching-learning environment, stress, and workload and describes the effect of empirical evidence on curriculum design and teaching. The Centre of University Teaching and Learning is responsible for systematically researching and developing a HowULearn questionnaire, under the direction of Dr Anna Parpala, beginning in 2005 (e.g., Hailikari and Parpala 2014; Parpala et al. 2010, 2013, in press). HowULearn is implemented through software that was developed specifically for its use so it also provides a way to collect and assess student feedback. The main idea is to enhance students', teachers', and administrators' awareness of the learning processes and how those processes are related to students' experiences of academic quality. Therefore, HowULearn is simultaneously a reflection tool for students and a way to collect data systematically for quality-enhancement processes (Parpala and Lindblom-Ylänne 2012). Moreover, because of the instrument's strong theoretical background, it can be used for research purposes.

The HowULearn questionnaire contains four sections: (1) students' engagement, operationalized by measuring time and effort management (i.e., how students invest time and effort in their studies in order to reach high-quality learning outcomes); (2) students' self-efficacy beliefs (i.e., their beliefs in their own ability to complete tasks and reach goals) (e.g., Bandura 1977); (3) study-related exhaustion (i.e., students' experiences of a lack of emotional energy and tiredness due to high demands and workload in studying) (Schaufeli et al. 2002); and (4) students' experiences of academic quality, for example, constructive alignment (Biggs 1996), peer support, feedback, and the development of academic thinking skills and work-life competences. Each university student fills in the HowULearn questionnaire using the software three to four times during their university studies: after the first study year, at the end of their bachelor studies and at the end of their master studies. Filling in the questionnaire is a requirement in the bachelor orientation studies and part of the personal study plan course (one for the bachelor studies and another one for the master studies). The same questionnaire is also used in doctoral education but with a slightly different set of scales.

After filling out the questionnaire, the students receive personal feedback and advice through the HowULearn software about how to develop their study skills and to enhance their academic success. The feedback includes the student's own scores and a group-level average score, as well as instructions about how to interpret scores. The feedback varies on the basis of the student's scores, and students with high, low, or average scores compared to the whole group will receive different interpretations of their answers and different kinds of advice. These interpretations are written by study psychologists and experts in student learning. Students are able to enter the feedback on the scores they received whenever they want using their own student portal.

For individual programmes, group-level data are used to enhance the quality of teaching and learning. The system allows the institution to follow up-to-date input from the students' own portals, and the institutions can also enter the group-level data whenever they need without, of course, the ability to identify individual students. Furthermore, there is an opportunity to filter and combine results to compare different study years and study programmes, for example. The system also provides reports, which can be used to share aggregated data, including histograms and bar graphs, illustrating student responses, with a variety of stakeholders. Finally, the data can be exported for research purposes and linked to the information regarding students' background information and study success. However, data will only be used for research with student's consent.

HowULearn data from all programmes at the University of Helsinki (N=2509) showed that veterinary students' experiences of academic quality were the most positive, but at the same time, they experienced high study-related burnout (Parpala et al. 2010). This was also clearly shown in student interviews during their second study year (Mikkonen et al. 2013). Students who were very interested in the field and motivated to study at the beginning of their programme had begun to doubt their enthusiasm for the field as a result of a hectic study schedule. Many students complained that the heavy workload did not give them enough time and opportunity to concentrate on their own areas of interest. One of the students even doubted whether her interest had disappeared altogether as the following quote shows:

> Now and then I feel horrible and I'm afraid that this does not interest me after all. I don't know why I feel like this. Maybe it's because there's no time to bury yourself in any subject, as the timetable forces you to read fast and makes you try to take in all that you have to read.

A detailed analysis of students' perceptions of the teaching-learning environment (Haarala-Muhonen et al. 2011) and of factors enhancing and impeding their studying showed that workload, study activities, and assignments were unevenly distributed across the academic year (Ruohoniemi and Lindblom-Ylänne 2009). In addition, veterinary students' engagement through time and effort management and their engagement in searching for understanding and creating meaning were explored (Ruohoniemi et al. 2010). These research results led to the reform and re-organization of the veterinary curriculum. In the new curriculum, courses were distributed more evenly across the academic years to avoid an extensive workload. The content of courses and assignments were also analysed to ensure that the number of credits from individual courses was aligned with actual work required to pass the courses.

On the basis of the group-level follow-up data of the HowULearn questionnaire, the veterinary school was able to monitor how the curriculum reform affected study-related burnout and how the students experienced the workload. There was a clear improvement in how the students experienced the workload, which demonstrated that the curriculum reform had indeed been successful. In 2014, the HowULearn data showed that more than two-thirds of all veterinary students found the workload appropriate. The faculty had worked for a decade to reach this goal (Faculty of Veterinary Medicine, the University of Helsinki, Annual Report 2014. http://blogs.helsinki.fi/vetmed-annualreport-2014/). In addition, the veterinary students were encouraged to reflect upon their HowULearn inventory results and the feedback they had received in their bachelor portfolios. The faculty also organized feedback sessions in which the students' HowULearn results were discussed among the students and teachers.

4.2 Case 2: Evidence-Based Development of Teaching Methods and Study Practices

The second case examines the relationship between how students experience challenge and the quality of the processes they use to study. The massification of higher education particularly in Europe during the last decades has increased the diversity of the student population (Guri-Rosenblit et al. 2007). While some students proceed and succeed in their studies without difficulty, some regularly confront problems in passing courses and fail to reach the expected learning outcomes. Large variation in students' knowledge and skills poses challenges for university teachers in designing courses and selecting effective teaching methods to help all students successfully complete their studies. Students need to be able to choose study strategies that will help them successfully pass their courses.

Postareff and colleagues (2014, 2015) explored the study processes of bachelor students representing a variety of disciplines at the University of Helsinki. In these studies, a mixed-method approach was applied: the students filled in the HowULearn inventory, measuring their study processes and experiences of the teaching and learning environment at the beginning and at the end of a course. In addition, students were interviewed after the course about their personal study aims, motivation and interest, study processes and practices, as well as their experiences studying in the course. The results showed that when students experience both a high level of challenge and a lack of challenge, they are pushed to superficial learning. When students are challenged too much, they start doubting their skills and knowledge, which weakens their self-efficacy beliefs and results in surface learning and fragmented knowledge. This, in turn, results in a vicious circle of procrastination in which students delay studying with harmful consequences (Lindblom-Ylänne et al. 2015). Further, Lindblom-Ylänne et al. (2015) showed that procrastinating students experienced more negative academic emotions, were less motivated to study, and showed weaker self-efficacy beliefs. For this study, slowly progressing bachelor students in humanities and law were interviewed after their first study year. (Here, slowly progressing students refer to those who failed to achieve the required number of credits during their first year. In the Finnish university system, these students can possibly continue their studies despite the slow beginning.) In the following quote, a procrastinating student explains how she studies and her experience of university:

> From primary to upper secondary school I was a really good student, but now I feel that I can't learn anything about any topic. This depresses me. I don't have enough time to really learn something, and that feels bad. Maybe I'm aiming too high, and when I can't reach my aims, I get depressed.

These results show that the students who experience a great deal of challenge need individual support and advice on how to develop their time-management and study skills, how to self-regulate their learning, and how to develop efficient study strategies.

However, a lack of academic challenge has as severe a consequence as too much challenge. Students who lack challenges lose their motivation to study, do the minimal amount of work, and invest their efforts where they are able to find interesting and inspiring assignments (Postareff et al. 2015). For example, one mathematics student felt that one compulsory course did not provide much new information, and, therefore, he decided not invest time and effort in studying the content, as the following quote shows:

> My aim was to pass the course; I wasn't aiming at high grades. I did not have the energy to overachieve. I attended the lectures and took notes. However, I did not do many exercises, maybe some—two, I think. Neither did I participate in the optional counselling sessions. This was maybe bit stupid; I could have learned there. I also could have been more active, but this was how it went. Let's say that my sleep cycle impeded studying.

Feedback from university teachers who take the extensive number of pedagogical courses that the University of Helsinki organizes (e.g., Postareff et al. 2007, 2008) shows that because of the increased variation in students' knowledge and skills, teachers often are concerned with students who struggle with their studies. In response, teachers are likely to design their course content and assignments to meet the knowledge and skills of the weaker students. In the courses on university teaching, the teachers are given support to select teaching methods and design learning activities that enable meaningful study experiences for students with different levels of knowledge and skills. In addition, the teachers are advised about using formative assessments as well as peer- and self-assessment to support the learning processes of the students. Furthermore, in these pedagogical courses, the teachers discuss how to design group activities and how to mark group work in heterogeneous groups.

On the basis of the empirical evidence, the University of Helsinki has developed student-support practices to better serve the diverse student population. For example, licensed study psychologists, that is, clinical psychologists, who are specialists in learning difficulties of university students, offer individual support for students who struggle with study-related problems. Study psychologists also organize group-level courses on various topics, such as academic writing, study skills, procrastination, and reducing study-related burnout and stress. The study psychologists collaborate closely with the Centre for Teaching and Learning in order to support the students' study processes in the best possible way. The close interaction between the study psychologists and the Centre enables the creation of a strong link between educational research and the development of learning and teaching practices at the university. In addition, study psychologists participate in many of the Centre's research projects (e.g., Lindblom-Ylänne et al. 2015; Mikkonen et al. 2013). It is important to explore the effects of support and counselling services provided by the study psychologists, because the development of the services the study-psychologists provide also needs to be based on empirical evidence.

5 Improving Conceptual Understanding and Reducing Failure in Physics at MIT

As its name implies, MIT is an institution devoted to science and engineering. Its motto, "Mens et Manus" (mind and hand), is meant to reflect its focus on both intellectual and practical education. Currently, it enrols approximately 4200 undergraduates and 6000 graduate students at both the master's and doctoral level. It is composed of five schools, including science; engineering; humanities, arts and social science, architecture and urban planning; and the Sloan School of Management. The School of Engineering has the largest number of undergraduate majors, where approximately 40% of students graduate from the Department of Electrical Engineering and Computer Science. As many top-tier universities in the USA, tuition and fees are extraordinarily expensive at US$48,452 for the 2016–2017 academic year. Adding room, board, and supplies, the average cost for an undergraduate per year at MIT is US$65,500. But MIT follows what is known as a needs-blind admissions policy, meaning that the staff who make selection decisions do not know the economic status of the students they are evaluating for admissions. MIT guarantees that upon admission, the Institute will find ways to underwrite a good portion of the fees. In 2015–2016, MIT undergraduates who did take out loans (28%) owed an average debt of under US$25,000. This was 15% less than the national average in 2014, which was just under US$29,000 (http://sfs.mit.edu/access-affordability/affordable-mit).

All undergraduates are admitted to MIT—not to an individual school or department. In order to graduate, all students must complete the General Institute Requirements (GIRs), which constitute about half of the curriculum over the four years. The GIRs include a very rigorous science core composed of two courses in physics, two courses in calculus, and one course each in biology and chemistry. Most, but not all, of the students complete the science core in their first year. The remainder of the GIRs comprise courses in the humanities and social sciences, restricted electives in the sciences, and a laboratory course. Additionally, students must complete two communication-intensive courses in the humanities (e.g., literature or history) and two communication-intensive courses in their majors.

5.1 *Case 3: Technology-Enabled Active Learning Phase I*

In 1999, faculty and instructors in the physics department at MIT made a decision to tackle what had been a long-standing problem: the failure rate in first-year physics. Historically, the two required physics courses, one in mechanics and one in electricity and magnetism, had been taught in a lecture/recitation format (as are all the courses in the science core). In this format, students typically went to two lectures a week with 800 of their classmates and then met once in a week in a smaller class of 15–20 students, on average. The recitation could be taught by a faculty member or a graduate student. Often, the recitation instructor solved problems for the students that resembled the problems that were on their homework assignments for that week.

While each of the science core courses was difficult, the failure rate for the two physics courses, mechanics (semester one, which is known by its course number 8.01) and electricity and magnetism (semester two, 8.02), was particularly high. On average, 10% of the students would fail but often the number was as high as 15%. The Department of Physics was concerned about that situation, as were members of the MIT senior administration.

Prior to 1999, several different pedagogical experiments had been tried, but they were not successful in decreasing the percentage of failures.

Then, a team led by physics faculty member John Belcher began to explore a more radical innovation in how first-year physics would be taught. That method, which was based on interactive instruction supported by various kinds of technology, would follow a set of reforms undertaken by other universities (most notably the Rochester Institute of Technology and North Carolina State University). The MIT version of studio physics was named TEAL; the acronym stands for Technology-Enabled Active Learning. The essence of TEAL is that students *do* something to help them understand a topic; the instructor does not lecture but only provides a short (10–15-minute) explanation. Then, the students might perform a desktop experiment, view an animation or simulation and answer questions, analyse data, or work out a problem. In the TEAL format, students work at round tables in groups of three on these activities with instructors and teaching assistants available to answer any questions the students may have. Students are sometimes asked to present the work they have done to the class as a whole. Much of the financial support for TEAL came from the d'Arbeloff Fund for Excellence in Education, a fund established at MIT by the then Chairman of the MIT Corporation and his wife, Alex and Brit d'Arbeloff, in 1999 (http://web.mit.edu/darbeloff/). This included building a classroom designed specifically for this pedagogy. Since the TEAL classrooms can accommodate between 80 and 110 students, video cameras, white boards, and screens have been placed around the room so all the students have access both to the instructors' materials as well as to their own work.

TEAL was piloted twice at MIT in 2000 and 2001. In academic year 2002–2003, students were taking electricity and magnetism (8.02) both in the traditional format (i.e., lecture/recitation, fall 2002) and in TEAL (spring 2003). This provided educational researchers with an excellent opportunity to compare the efficacy of the two pedagogical methods. A pre-test/post-test design was implemented with the faculty member teaching in the traditional format—a world-renowned lecturer—approving the tests and agreeing that they reflected the rigour of an MIT course. Results showed that students in the TEAL format made statistically significant learning gains in relation to the students who studied electricity and magnetism in the lecture/recitation mode.

The results were particularly striking because they countered a perception held by several physics faculty members (although it is probable this

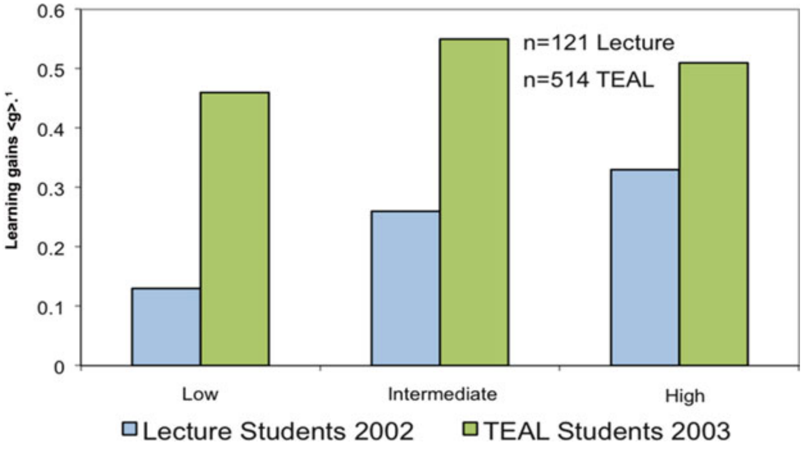

Fig. 1 Comparison of pre-test and post-test learning gains for students who took electricity and magnetism in a lecture/recitation format and those who studied in an interactive classroom model

$$1.\ \text{Learning gains} < g >= \frac{\%\text{Correct}_{\text{post-test}} - \%\text{Correct}_{\text{pre-test}}}{100\% - \%\text{Correct}_{\text{pre-test}}}$$

view was believed more widely within the faculty) that the TEAL pedagogy would be most beneficial for students who were less prepared or weaker in physics. In order to explore this belief, the researchers (Dori and Belcher 2005) split the group of students in both courses into three groups—low, intermediate, and high—based solely on their pre-test scores. As Fig. 1 indicates, each group of students in both TEAL and the lecture/recitation mode improved from the pre-test to the post-test, but all three groups of TEAL students showed higher learning gains than their counterparts who took the course in lecture mode.

Subsequently, the researchers followed a subgroup of this cohort of students (i.e., who took electricity and magnetism in both pedagogical models) to assess how much of their learning was retained (Dori et al. 2007); they wanted to know if the TEAL students continued to demonstrate stronger results. (Many educational theorists, researchers, and policy makers hold that the ability to transfer and retain conceptual knowledge is the most important outcome of higher education. See, for example, Halpern and Moskel 2003; Pellegrino and Hilton 2012.) The students

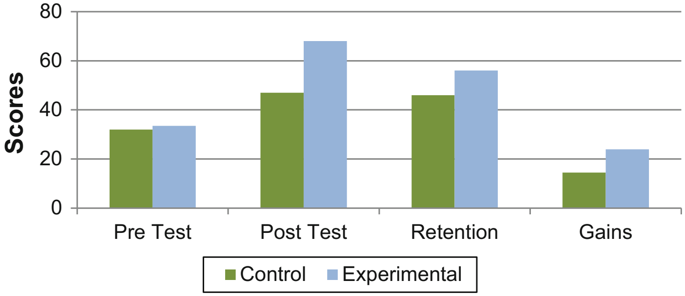

Fig. 2 Comparison of pre-test, post-test, and retention test learning gains for students who took electricity and magnetism in a lecture/recitation format and those who studied in a studio physics model

who took the retention test 12–18 months after completing electricity and magnetism were specifically selected because their major would require them to use E and M concepts. As Fig. 2 indicates, although the gap closed between the TEAL students and the students who took the course in lecture/recitation format, the TEAL students still scored higher on the retention test. Finally, a review of student success pre-TEAL and post-TEAL for the graduating classes 2006–2013 revealed that the percentage of students who received below a C grade in mechanics dropped from 7.5% to 6.3% (p=.042) (O'Leary 2010).

Although research showed better learning gains in TEAL, student criticism of the change in teaching began when TEAL went to full-scale implementation in 2003 and continued intermittently over the next several years. The major complaint was that in order to receive the highest possible grade in the course (an "A") students had to go to class since points were awarded for in-class exercises and activities. This countered the norms at MIT for the science core courses; although nominally students were to go to lectures, in fact, there were no overt penalties for not attending (Breslow 2010; Hastings and Breslow 2015). By necessity, MIT students are very good at optimizing their time, and they resented the fact that there was an expectation they would be in TEAL classes. The response was particularly surprising because in the first semester, student grades are only entered as either "Pass" or "No Record". In other words, whether students receive an A or a lower grade does not appear on their transcript as long as they pass the course.

Nonetheless, in response to the complaints, the Head of the Physics Department convened a committee to review TEAL in 2007, asking committee members to make a recommendation as to whether or not it should be continued. The committee met through the year, and, while there was a good deal of debate within the committee, it ultimately recommended continuing to teach first-year physics in the TEAL format. That continues to be the case as of this writing; almost all MIT students take both mechanics and electricity and magnetism in the TEAL format. The research that demonstrated learning gains for both first-year and upper-class students was important in making the case that the pedagogy and technology that TEAL employed were instrumental in its success.

5.2 *Case 4: TEAL Improved Through the Use of Additional Technology*

In 2012, several of the faculty and instructional staff who originally developed TEAL came together to develop two MOOCs, one in mechanics and one in electricity and magnetism, to be hosted on the edX platform. (MIT and Harvard had launched edX, in 2012.) It was assumed early in the organization of edX that introductory courses in physics from MIT could have a large following, and, in fact, the then Chair of the Physics Department appointed an ad hoc committee, the Physics X Planning Group, to identify and subsequently monitor departmental courses that would be developed for and hosted by edX. It took approximately nine months for the instructional team, along with developers and educational technology specialists from edX, to develop the first of the two MOOCs, electricity and magnetism (8.02x). The course went live in February 2013. It lasted for 14 weeks, mimicking the length of a semester at MIT and ended in June 2013. The course consisted of lectures, an e-textbook, recorded help sessions to aid students with the homework questions, a discussion forum, and simulations and visualizations. Students had to answer a set of questions after finishing a lecture before they were allowed to go on to the next. Homework was due after every three lectures, and grades were based on the homework, three exams, and a final. The mechanics course followed in September 2013 (Belcher 2013).

Over 43,000 people registered for 8.02x over the 14-week period, but only 1715 enrollees completed the course. This high attrition rate mirrors what had been seen in MOOCs courses published on both edX and Coursera in the first years after their launch (Breslow et al. 2013; MOOCs at Edinburgh Group 2013; Perna et al. 2013). In fact, it could be argued that by 2015, the rhetoric around MOOCs, which claimed they would transform education (Pappano 2012), had mellowed significantly. MOOCs providers began to focus attention on how online courses could best meet the professional needs of students primarily in computer science and business.

But as early as 2013, Belcher wrote, “We plan to experiment with completing ‘flipping’ 8.02 TEAL for two to three weeks in the coming academic year [spring 2014], using the capabilities of the edX platform to deliver the online content” (p. 14). He explained that the team would assess the class by getting feedback from both students and faculty and by assessing the gains in student learning. In this way, he was promising to explore the field’s understanding of flipped or blended classrooms in which both face-to-face pedagogy and technology are used in some proportion to teach. In fact, we know relatively little about what those proportions should be, or what each mode of delivery does best, depending on the students, the discipline, and the instructional goals (Lack 2013; Zhou and Breslow 2013; Bernard et al. 2014).

As it turned out, this plan was not implemented exactly as Belcher had planned. For a variety of reasons, including capacity of the staff, capability of the technology, and the learning objectives the instructors felt were most important, a different plan emerged. In the spring semester 2014, in the electricity and magnetism course (8.02), the instructional team, again working with developers and educational technologists, put most of the course resources, including recorded lectures, tutorials, and an e-textbook, on MITx, the Institute’s local instantiation of the edX platform. The course retained the same on-campus format that TEAL had used since 2003: students attended two, two-hour classes per week and a one-hour session on Friday in which they worked together in teams on their homework.

But two features were added. First, students were given pre-class assignments that were due immediately before class. Links to chapters in the textbook were provided for the students, who then had to answer questions online that asked them to apply concepts from the material they had read. Questions were graded automatically and students could see the answers after they submitted theirs so they knew right away if their answer was correct. Credit for completing these assignments was based solely on effort, and so as long as students submitted an answer, they got full credit.

Second, all the homework problems were put on the MITx platform, and the students could check their answers to each part of the problem with the checkable answer feature (CAF) on the course website. If the student’s answer was correct, they would see a green check mark, but if it was wrong, a red X would appear on the screen. Thus, they received immediate feedback, a practice that educational research cites as strengthening learning. Finally, students were asked to submit one or two homework problems online each week, which guaranteed their use of the CAF. (They could use the CAF for the handwritten problems, but they were not required to do so.) As the course developers wrote, "We hoped the checker would encourage students to focus on the process of solving the problems rather than getting the final answer" (Rayyan and Belcher 2014, p. 12). The effort to put all course materials on the MITx platform and add the CAF was called 8.02 TEAL + x.

Students were surveyed to get their feedback on the migration of 8.02 to the MITx platform, and over 95% told the course instructors that they should continue to use the platform for 8.02; 92% reported it should be implemented in other physics courses. Similarly, the response to the CAF was overwhelmingly positive with over 90% of the students saying it was "extremely helpful" or "very helpful" (Rayyan and Belcher 2014). As Fig. 3 shows, students liked it for a variety of reasons, including that it reduced their stress and increased their self-confidence when working on their homework assignments. With these encouraging results, the mechanics course (8.01) migrated to the MITx platform in fall 2014.

Incorporating the MITx platform into the fall course was complemented by a research effort to analyse all the clickstream data that was generated by its use. In other words, researchers were able to capture, and then analyse, every interaction the students had with the platform. For the 474 students who were enrolled in mechanics in fall 2014, this could include whether they accessed an online resource, used the CAF, got the right answer to the homework on the first try, did their homework over the course of days, as well as a host of other behaviours. The result was more than 30 million browser-side and server-side interactive events, which constitute more than 8 GB of raw log data. This study also included a survey that asked students about their self-efficacy for studying mechanics, interviews with a sample of them, and think-aloud observations as student volunteers worked the online problems both individually and in groups. The analysis of these data is ongoing although we have been able to categorize, descriptively, student behaviours with the platform (DeBoer and Breslow 2016). We have also identified those behaviours that correlate with achievement in the course, defined as grades in the final exam and overall course grade.

Perhaps what is more applicable to the theme of this chapter is that the research team collaborates closely with the instructional and development

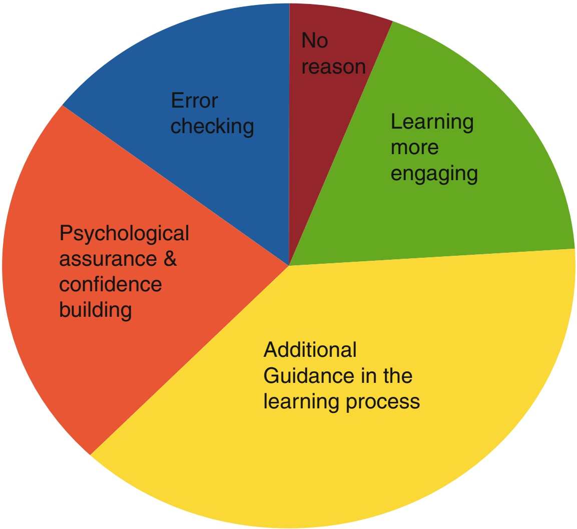

Fig. 3 Reasons student cited for positive response to the CAF (Graph courtesy of Dr Saif Rayyan)

team so that the latter can use research results to strengthen course materials, pedagogy, technology, and, ultimately, the student experience. Educational researchers have never been able to observe student learning at the fine-grained level that an interactive platform allows, and we want to make sure that we take as much advantage of this capability as possible. In order to do that, the research team, under the leadership of Professor Jennifer DeBoer of Purdue University, have developed several "products" for use in the class. For the fall 2015 students, they wrote a "study guide" that summarized what they have seen as useful study strategies. Next, they designed an online guide to be incorporated into the website that tells students the resources that are available to them. At the same time, they created a slide-based video that describes for students ways in which they can interact with the platform that seems to lead to more success in the course. As of this writing, the course instructional team has been so busy teaching the course and making improvements on the website that they have not had time to use either product. Such is the reality of educational innovation, particularly when it involves technology: good ideas flow more quickly than can be implemented. The goal is to make both the online guide and the video available to students in the spring semester 2017.

6 CONCLUSION

This book is organized around three major challenges that research-intensive universities face when attempting to strengthen the education they provide their students. The normative challenge relates to the practices and policies university administrators and faculty have put in place that sustain—or perhaps constrain—how teaching and learning is carried out at the institution. The normative challenge defines how the education and research functions of the university relate to one another, how each is practised, and how each is valued. Established policies and norms are intertwined with the second challenge, practice, which asks how faculty can be encouraged to implement pedagogical methods and assessment techniques that foster learning. How can these methods become the accepted standard? What policies around faculty promotion and compensation lead to the institutionalization of best practices in teaching and learning? Finally, the organizational challenge requires that we accept that if teaching and learning are to be strengthened at research-intensive universities, decisions must be made at the organizational level about how this change is to infiltrate the entire institution and who will be responsible for driving it forward. As these cases describe, research projects are instigated by different people, groups, and levels of seniority at both institutions. We believe this practice has been beneficial and should continue as a way forward.

We believe that research on teaching and learning and the empirical evidence that is the result can make a substantial contribution to meeting each of these three challenges. We might even go so far as to say that decisions about how to overcome these challenges need to be based *primarily* on the empirical evidence. Experts in the disciplines that are showcased in this chapter—researchers in veterinary medicine and physics, for example—would never begin a line of research in their laboratories without being aware of current findings in their field. They take as a given that their job is to push the boundaries of knowledge, building on what is already known. Why should the academy approach the educational enterprise in any other way?

The cases described in this chapter show that empirical evidence on teaching and learning leads to a broader and deeper picture of the complex interaction between learning, teaching, and the teaching-learning environment. Rigorously derived findings can point to strengths and weaknesses in teaching and learning practices and processes. In becoming aware of what is working and what is not, we can more effectively tailor development activities to overcome current weaknesses and build on current strengths. Research can unpack reasons for educational problems that may seem intractable, but with careful exploration, solutions to those problems can be found.

We believe that the cases presented in this book are examples of the approach and processes that lead to findings that can be used to make informed decisions about best practices in teaching and learning at the university level. There are now thousands of these studies done in universities worldwide. These efforts, which depend on the partnership of faculty and administrators with educational researchers, are the products of faculty and staff who have the courage to look at current practices and ask the important question—can we do this better? The findings that come from well-designed, well-implemented studies do not have to be accepted wholesale because scepticism is an important part of the process. But neither should those findings be dismissed if they counter-prevail wisdom or political interests. As has been the case for centuries in the university, advances will be achieved by taking the results of scholarship and using them wisely. The quality of university-level teaching and learning can never be taken for granted, so there is always the need for continuous research-informed development.

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REFLECTIONS

Graham Gibbs

INTRODUCTION

After thirty years working in educational development in mainly teaching-oriented universities, I moved to the University of Oxford. Although I had been warned, and I had undertaken many consultancies in research-intensive universities, it was still a huge shock. It felt as though most of what I had learnt about how to develop teaching was of little use to me and I had to completely re-think my approach. Several of the most prestigious research universities in the UK, such as Imperial College London and the London School of Economics, are currently languishing in the bottom quartile in national teaching rankings. The assumption that teaching is inevitably better where research is undertaken to the greatest extent has been exposed as never before. Some of these research-intensive universities have reacted by hurriedly head-hunting experienced educational developers from teaching-intensive universities to try and address the problems they face. These developers are likely to find that many of the change processes that had worked for them in the past are no longer appropriate, just as I had found at Oxford. As national educational systems around the world increase the use of valid metrics and produce national rankings of teaching quality,

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more research universities may find themselves presented with similar difficulties. Their competitors have improved faster than they have, and they are not all very good at change.

One of my tactics at Oxford was to try and establish more dialogue with leading research-intensive universities around the world that Oxford would take seriously but that had interestingly different approaches to developing their teaching. Where possible, I invited institutions to join Oxford that had already worked out how to be very good indeed at teaching despite their research priorities. I wanted Oxford to raise its eyes a little and take a look around and see what they were up against. I set up the network that, still meeting sixteen years later, has produced this book, and it is a timely contribution. It is enormously more sophisticated and describes more varied and more interesting change practices than our discussions sixteen years ago, and all chapters have involved collaboration across several institutions. It illustrates ways of going about the improvement of teaching that are felt to be appropriate in their very distinctive organisational cultures: more collegial, less managerial and often less corporate, than others. It sets these change processes in theoretical contexts and sometimes demonstrates their effectiveness in improving teaching and learning. In these final reflections, I make some observations about some of these change processes and on their rationales.

FOCUSSING ON INDIVIDUAL TEACHERS

Kobayashi et al. state: '*pedagogical development of teaching staff is probably the most efficient way to enhancing a continuous improvement of the quality of teaching and education*' (see chapter "Building Academic Staff Teaching Competencies: How Pedagogic Continuous Professional Development for Academic Staff Can Be Organised and Developed in Research-Intensive Universities"). Gibbs (2013) lists this as one of twenty possible change strategies for improving a university's teaching. Trying to improve the teaching practice of individual teachers is often the approach that institutions start with but move on once they become more sophisticated about change processes. The chapter by Stensaker et al. illustrates a whole range of interconnecting strategies and tactics used at Utrecht. There is no evidence I am aware of that developing individual teachers' practice is the most efficient way to bring about productive change, though it is likely to be a useful tactic as part of overall strategies. Universities in the UK that top the national teaching rankings have not focussed all their efforts on individual teachers. Those that have, even those with very long-standing efforts and spectacular funding, are not doing very well. The appropriate focus of attention for improvement efforts is often the department, especially in research contexts where departments are so autonomous and so varied. Change processes that achieve lasting embedded change are often rooted in collaborative effort and much discussion within departments. Very different kinds of teaching improvement practices in engineering at Lund grew out of disillusion with efforts that relied on trying to change individual teachers.

Choice of Change Processes

One of the interesting features of this book is that it addresses some change processes but not others. Whether this is because some of them are unsuited to research-intensive environments or because teaching improvement is still in its infancy in research-intensive environments is not clear. One of the more important decisions educational developers have to make is which of these strategies to adopt, given the impossibility of adopting them all. In some universities, the educational developers invent their own change strategies and in others, they do what they are told. Academic autonomy does not always extend to educational developers, perhaps because they are sometimes not full academics.

One feature of research-intensive environments that seems often to be overlooked (and not just in this book) is that they have much the brightest and hardest-working students. It is possibly their most important educational resource. The educational interventions with the largest effect sizes in terms of improving student learning involve improving students as learners, rather than improving teachers. Research-intensive universities often seem to treat their students as fully formed learners, which they are not, or as only requiring remedial action if they are failing. If any efforts are focussed on developing the effectiveness of students as learners, these tend not to be led, or undertaken, by educational developers, and because these efforts are often organised centrally by people who are not academics, they are often focussed on individual learners rather than on developing their (departmental) learning environment. I have seen curricula completely redesigned with the explicit aim of making students more sophisticated, autonomous and flexible learners—but never in a research-intensive environment in which the primacy of subject matter makes process goals difficult to pursue. It is still rare to see curriculum development focus on developing students as learners. The way the educational development cake is divided up, where it is located and who feels they have the responsibility for what matter a good deal.

LINKING MANAGEMENT AND DEVELOPERS

The network that has produced this book was set up a dozen or so years ago to bring together professional teaching developers, whose job it was to actually produce change in teaching, with the senior centrally located administrators whose job it was to manage teaching quality assurance and develop educational policy. Usually this was, respectively, the head of the institution's teaching development unit and the Pro-Vice Chancellor (Teaching) (in the UK and Australasia), the Director of Undergraduate Study (in the USA) or the Vice Rector (Education) in mainland Europe. It was initially a requirement of the involvement of institutions in the network that one developer and one manager would attend network meetings together. One world-class university that did not bring a manager to either of the first two meetings was promptly dropped from the network. Without the involvement of senior management, it would have become just another discussion between educational developers for which there were already several forums.

A difficulty facing this intention to increase the sophistication of educational policy was always that professional educational developers tended to remain in post for quite a few years, and came to every meeting, while the senior centrally located academic managers tended to have short tenures of office before returning to their faculty or being promoted to even more senior positions, and they tended to turn up to one or two meetings before never being seen again. The same kind of arrangement blights government in the UK. Ministers of Education responsible for universities are usually professional politicians but amateur educationalists, with little previous relevant experience or expertise, and they come and go at an alarming rate. Even the brilliant and well-informed ones depart before they have hardly got going. Their permanent professional civil servants struggle to bring them up to speed before they are whisked on to another portfolio, and the civil servants have to start all over again with whoever is next told that they are now the Minister for Higher Education. The early meetings of the network were characterised by a marked difference in discourse between those senior managers who had been in post for several years, and who had many conversations with professional educational developers, and those who were brand new. It was sometimes a frustrating struggle to make progress.

Few of the authors of this book are senior managers. The discourse of educational developers is often different from that of the senior academics they report to. This is not the fault of the educational developers, but it does highlight a problem facing the improvement of teaching in research-intensive universities. The senior academics responsible for it do not always have much time to develop their sophistication and expertise, let alone contribute to scholarly books about the nature of their work, though this happens more often than it used to. When I think about myself just three years into my career as an educational developer, I am not very impressed. The exceptions seem to be when the organisational structure changes so as to create the opportunity for more permanent incumbents in senior positions or when educational developers are promoted into these senior positions. Occasionally, the links are made well within institutions. I have visited institutions in the network where the senior academics and the educational developers were close colleagues (or one was the line manager of the other) and who collaborated all the time and found it valuable to do so, while in some other institutions they had never even met. But it is a characteristic of research-intensive university cultures that they are highly suspicious of, the idea of permanent professional managers. Almost all are drawn from among the academic research community and almost all return to it two or three years later, and this is deliberate and considered a good thing. It is almost as if governance were designed to make change difficult. If so, it succeeds. A joke at Oxford asked: ‘How many academics does it take to change a light bulb?’ The answer was ‘Change?’

DISCIPLINARY DIFFERENCES

It is another defining characteristic of research-intensive universities that academic departments differ and have the autonomy to do so. It is usually assumed that the main characteristics of these differences are disciplinary in nature. Much is made of differences in pedagogy that can frequently be observed between departments that are often attributed to inherent characteristics of the discipline itself. If developers are to make any progress working with disciplines, it is often argued that they have to understand and work with these disciplinary inevitabilities and work with the grain rather than across it.

However, it is also the case that departments differ in their educational quality—often markedly. There are research-intensive universities in the UK where one department is ranked nationally on top in its discipline for its teaching while another department is ranked at the bottom. And this is within the same institutional and national funding and quality assurance framework. Such differences are seldom anything to do with discipline. Departments differ in their organisational culture and priorities and in their ability, and desire, to bring about improvements in teaching. When departments talk to each other about how they improve teaching (which is not often), they can be amazed what others get up to. The Quinlan et al. chapter is diplomatic about such realities (chapter "Educational Enhancement in the Disciplines: Models, Lessons and Challenges from Three Research-Intensive Universities").

Not only do research and teaching differ between disciplines but what is likely to be an appropriate style of change also differs. Arts are frequently unimpressed by quantitative evaluation data and measurement but happy with personal reflection and idiosyncratic perspectives. Social sciences (especially sociology) are often happy with abstract theorising. Technology and science (and medicine) are happy with empirical data even if there is no theory underlying it. MIT's learning lab writes teaching evaluation reports the way engineers do, including using statistical methods, and reporting, in the way that engineers do (rather than in the rather different way that social scientists do). It is telling that the case studies of evidence-based enhancement in the chapter by Lindblom-Ylänne and Breslow (chapter "The Importance of Evidence-Based Enhancement of the Quality of Learning and Teaching in Research-Intensive Universities") are almost all located in 'hard' disciplines that are comfortable with 'hard data'.

Most of the 'comprehensive strategic change' examples in the network's early research on departmental teaching excellence took place in science and technology (and veterinary science) departments, while humanities examples tended to involve idiosyncratic change among individual teachers. Teachers in science departments often have to cooperate with each other because the curriculum is cumulative; teachers of later modules have to rely on teachers of earlier modules covering ground that has been specified for them, in detail, and labs often cut across modules and commonly require multiple teachers who 'team teach'. Science teachers are often asked to teach a wide range of content, to help out (not just their specialism). So when it comes to change, they are more used to not having that much autonomy in their teaching and may subsume their own notions about how teaching should be for the good of the overall programme. I often found arts and social science teachers were much less accommodating, less collaborative and even more selfish, than that, and so it was much harder to get them to agree to any kind of coordinated change. This is about differing activity systems within departments, rather than about disciplinary pedagogy.

I am sceptical about the importance attributed to disciplines' 'signature pedagogies'. I have consulted with an engineering department that told me that they were unable to take up any of my ideas because engineering had to be taught the way they currently taught it—it was an inherent characteristic of engineering. I then explained to them a dozen entirely different pedagogies I had encountered, all implemented by engineering departments around the world: work-based, lab-based, problem-based, group-based, project-based, the 'design-build-test' cycle used at MIT and so on. They had no idea such approaches were possible or even existed. Most disciplines are capable of being taught in a very wide variety of ways. Many so-called 'signatures' seem to me to be little more than convenient local traditions, perpetuated out of laziness and ignorance of the alternatives. Even Lee Shulman describes the 'signature pedagogy' of law in the USA differing to a considerable extent from that employed in Britain to teach law. These are national conventions, visible inside a discipline. As a developer, you need to understand how a department currently goes about things, and preferably why (if anyone actually knows), but you should not assume that this way of doing things is necessary or inevitable. Insiders will usually be sceptical about outsiders telling them what to do but accepting everything the insiders tell you also has downsides.

STRATEGIC PLANNING OF TEACHING AND COMMUNITIES OF PRACTICE

Twenty-five years ago in the UK, there was almost no strategic institutional element to teaching development in research universities (in contrast to more teaching-oriented institutions where it was already common). The few people involved in teaching development in research universities at that time worked in an organisational limbo trying desperately to engage those few teachers who were enthusiastic enough with almost anything that might interest them. There was no institutional direction involved or even an institutional conversation about what direction that might be, let alone someone whose job it was to lead that effort. Today, every research university in the UK, even Oxford with its medieval organisational structure and extreme forms of local autonomy, has a 'Pro Vice Chancellor' with overall responsibility for improving teaching quality and a teaching and learning strategy (or at least a document claiming that it is such a strategy). Even research-intensive universities make efforts to move teaching in a particular direction, and teaching development units are expected to orient their efforts towards these strategic goals. The national context in the UK has framed this change, with ever more interventionist policies, leading to the situation today of fee levels for students being determined not by institutions but by nationally specified and interpreted teaching metrics in a way that has focussed everybody's eyes on the same goals. The crucial point about these changes is that the directions of change, and the change processes themselves, have not emerged out of the culture or interests of 'communities of practice' within academic departments.

The challenge is then whether naturally occurring disciplinary communities of practice can be realigned or re-energised, or can new communities be created that will go about change and improvement in a way that aligns with institutional goals (see also chapter "Teaching Academies as a Means of Developing Institutional Quality: Academic Identities, Levels of Engagement and Organizational Cultures"). There is the danger that any such external efforts will be perceived as simply yet another managerial mechanism that is outside of, and competitive with, the academic's own community of practice, which is their disciplinary community that undertakes research. The chapter by Bilbow et al. cites an observation from an academic about this (chapter "Fostering Dialogue About Practices"):

> *Another issue with CoP (community of practice) is that it may become redundant over time. Say we have got a CoP on ....internationalisation of teaching and learning. After a period of time, that won't be of any use because everyone is doing it.*

The fact that everybody is already doing disciplinary research does not obviate the existence of research communities of practice. Communities of practice are about what everybody does. The communities that Wenger wrote about were permanent features of local culture that grew out of shared interests. They did not just pop up and then disappear in response to managerial imperatives but were integrated with everyday practices of each community. It seems to me that not until strategic priorities are owned by local communities or perhaps even generated by them as a way to further their own interests, can they be incorporated into the existing community and its priorities. Anything else seems somewhat artificial.

It is clear that talking about teaching is both essential and uncommon. So mechanisms that provide spaces in which talking about teaching is more valued and becomes more sophisticated are likely to play an important role. If they cannot be fostered within departments, then centrally organised mechanisms may be very useful, as Geertsema et al. elaborate (chapter "Teaching Academies as a Means of Developing Institutional Quality: Academic Identities, Levels of Engagement and Organizational Cultures"). It is the strength of this chapter that it describes a wide range of versions of 'teaching academies' that operate in research-intensive institutions. This is clearly a mechanism with wider cultural acceptability than some.

Leadership of Teaching

The chapter by Grunefeld et al. on educational leadership fills me with hope (chapter "Faculty Development for Educational Leadership"). The network's second meeting took place at the University of Utrecht, and over lunch one day we had the privilege of meeting participants in Utrecht's leadership of teaching programme. They were inspiring. One thing that fascinated me about those I met was that none of them had perceived themselves as a possible future leader of teaching until someone, who had spotted their potential, proposed that they join the programme. There was no special career path for such individuals and no special rewards. Indeed, most non-research roles are widely perceived as obstructions to careers in research-intensive universities. At Oxford, we found substantial blocks to progress in graduate education because a good proportion of those academics who held the post of 'Director of Graduate Studies' in their department treated the task as equivalent to any administrative chore such as membership of the Car Parks Committee. They did the minimum necessary to avoid embarrassing administrative foul-ups on their watch and then fell back into their research with a sigh of relief. The notion that it might be rewarding and useful to allocate your time to any administrative or management role, let alone allocate even more time to actually improve anything, was outside their view of the world. There was a strong culture of service at Oxford, so everyone did their bit, but this did not often involve enhancement of any kind. So offering 'training' was a non-starter. Also, by the time individuals had senior-level responsibilities for educational programmes, they were usually buried in additional work and did not have time to think, let alone time to commit themselves to self-improvement.

The chapter by Grunefeld et al. paints a much more positive picture and makes my observations seem unnecessarily pessimistic. Many of those who have been through the Utrecht programme have moved into senior positions at Utrecht or have been head-hunted by other research universities elsewhere in the Netherlands, and it has changed their lives. And Utrecht moved to being top of the teaching rankings in the Netherlands. The programme did not simply train a few leaders for the future—it transformed, over time, academics' conceptions of what an academic career might consist of and released new ambitions. In a similar way, many 'training' programmes are not really about competence. Probably the biggest organisational impact of training new teachers well is that when some of them become the head of department fifteen years later, they come back and ask for help to improve their department's teaching. Many efforts are perhaps best seen as 'growing change agents', whatever their stated purpose.

It is interesting that there are no US institutions contributing to this chapter on educational leadership. The difficulties we associate with improving a research university may sometimes be more a feature of a national higher education culture or of local (traditional) activity systems, than an inevitable correlation of research intensiveness. This is one of many illustrations in this book of how scanning across very different kinds of research universities reveals important truths, and useful ways forward, that local contexts, in isolation, had not previously illuminated.

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