Business- university collaboration review
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Thinkpiece series

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Reflections on knowledge and skills

In 1997, Dearing identified one of the four purposes of higher education as ensuring graduates were well-equipped for work as well as the key skills they needed for success in their careers. Since then, Governments of all hues have reinforced the message that universities have a vital role in preparing students for employment within a wider remit to contribute to economic health and competitiveness. Universities have responded to this policy direction in different ways according to mission: some emphasising a curiosity-driven research environment to enhance intellectual capacities; others work experience or project-based approaches to focus on the application of knowledge to relevant problems; many a blend of both these approaches. Despite this engagement with what can be termed the employability agenda, a certain cultural aversion to the idea of skills and to the prominence of skills in policy thinking can find expression in some parts of the sector.

A concern that the focus in higher education on skills development for employment has displaced or undermined traditional commitments to 'learning for learning's sake' is one dimension to this aversion. Another is a belief that that focus has led to a degraded, mechanistic form of learning, particularly in areas such as the humanities (with history being the subject most open to controversy). A debate will be conducted in the broadsheet domain every so often about the adverse impact of teaching pupils 'skills' dissociated from 'knowledge', with the latter often conceived as knowledge of a broad sweep of national history, providing vital contextual anchoring without which skills are meaningless.

It is worth putting some pressure on both these critiques of skills. Skills are at the heart of university-business collaboration from commercialisation of IP to vocational education, but they are far more than that. Developing and using them is what we do in higher education, and certainly as much as 'knowledge'; we should care about skills as scholars, teachers, researchers and innovators, not just because we are ostensibly being directed to do so as part of the employability agenda.

The idea that university prepared the student for a career is not as new nor as policy-driven as we might think. There was a degree of comfort among many nineteenth-century academics that university study could and should equip the student for the discharge of public office. The civic institutions that emerged during the later century were founded with a sense of proud utilitarian purpose and commitment to local industry. More recently, others were established directly by business to secure the skills that were not being developed elsewhere.

It may well be the case that government policy from the late twentieth century has shifted the balance of priorities decisively towards employability and economic value, such that the workplace is seen as the primary context for the translation and application of what students learn. Some may believe that this shift is too radical, and that education has been devalued as a result, but does such a belief mean disengaging from the whole idea of skills and their application? What have we got to lose from taking employment intellectually

seriously, as an important domain in which graduates express the transformation that higher education has enabled them to undergo?

If we do so, we need to address the ideas of knowledge and skills and their relationship to each other. The moment we engage with knowledge we're using skills. We cannot approach anything - a historical document, a chemical equation, a piece of art or technology – without accessing and exercising skills. That process of access and exercise is not confined to the workplace; we do so in the purest of academic and the freest of leisure pursuits.

When you learn a subject, you're learning not only the 'content' but also the 'processes' of your discipline and the two are essentially interlinked. Using history again, teaching 'skills' need not mean decontextualised themes and 'gobbets' of historical text. When thinking about employability, it should be more a case of helping students to understand the relevance not just of their subject knowledge – which is often not clear with arts and humanities – but also of their subject skills: the processes, techniques and insights that studying it develops. We need a more nuanced way of thinking about knowledge and skills in higher education, rather than claiming a divide and a value differential between the two. This would help us really to think through what it is that degree programmes do and how they might articulate constructively with the careers students go on to have.

One concept cuts across the disciplines and can be seen as a vital component of 'graduateness': reflection. It is not just the *possession* of knowledge or skills that defines a graduate and the contribution he or she makes to the workplace. It is the capacity to articulate them, and to think about how they relate to other forms of knowledge and skills as well as to to the different contexts in which they may be applied. Being reflective also means using that thinking process to understand strengths and weaknesses and to seek out means for enhancement. It may be that reflectiveness is a mindset rather than a skill, or can even be understood as a habit that can be acquired. However we conceptualise it, it needs to be itself amenable to articulation and application, both to students and to employers.

In rethinking knowledge and skills, do we also need to start to consider the differences between degree programmes? While subject benchmarks define the foundational standard, the quality of the student experience will vary widely with the cultural emphases of the institution (and the department). A student doing history at a research-intensive university is likely to be exposed to certain differences in the academic environment, in teaching methodologies and in the type and mix of interactions both inside and outside the classroom, than one in a university with a different mission. In addition to the core skills that any undergraduate historian should develop, is there an overlay that is a corollary of the specific culture and delivery styles of the university in which they studied?

Going through the supervision system at Cambridge might, for example, equip a student particularly well to handle evidence to persuade and negotiate with their peers (which perhaps accounts for the number of historians in policy roles). A student at a university with a sense of local mission and purpose may well find their communication skills developed not in the supervision but in project work with heritage groups, county archives or museums, giving them a different skills profile and a good grounding for careers in other areas of employment.

These are crude characterisations; their purpose is not to map a fixed path from certain types of institution to certain types of careers – the skills gained by historians, and indeed, students of all disciplines, are more flexible than many like to assume – but rather to open up for discussion the possibility that there is a productive diversity in the sector from which employers and students can benefit.

The key is the recognition and then the translation of skills gained through the study of a particular subject at a particular institution. This is not always straightforward. It is often only on reflection after some time in employment that graduates come to identify how their university training helped them do their jobs, and particularly in fields such as arts and humanities. Some universities take an active role in supporting students with that process, either as part of their subject studies, or through careers services. In others, the focus is more on academic delivery and individuals (and their employers) have to take responsibility for the translation work.

Whatever the institution, it is likely that students' understanding of their particular skill-set is related to that of their lecturers. If students are taught by people who prize knowledge and its generation above other forms of self-development, it should not be surprising that they too focus on the acquisition of 'content' (and may struggle to articulate the skills, mindsets or intellectual habits they have gained in higher education). In this regard, placements may have as much value for staff as they do for students, giving the former a valuable opportunity for reflection on how their array of knowledge and skills can be put to use in various workplaces and thereby helping them to enhance students' ability to do that translation. The movement must be in both directions though – with employers seconded into universities as well as academics into business or the public and voluntary sectors - and involve staff of all kinds, not just those on the front line either developing or using graduate skills. This ongoing exchange should help bring currency to both parties' understandings of the others' needs, concerns and constraints, which could otherwise be formed on a less direct and relevant basis.

A further dimension of this exploration of skills is role and status of particular subjects with employers. Surveys of employers regularly reinforce the importance of science graduates to their success and the under-supply from UK universities and STEM provision has become a priority in many countries, with governments targeting investments to support supply. For some companies, the need is evident and the conversation with universities will focus more on the specifics of the fit between curriculum and application. But elsewhere it may be more a case of needing a level of scientific or technical literacy to allow graduates to operate effectively in the company and with suppliers and customers.

Perhaps we need to understand workplaces as interdisciplinary contexts, at least in the sense that teamwork often calls on different but complementary skills. One person, with his or her particular mindset, ways of thinking, prior experience and knowledge etc. is unlikely to have everything that a project or problem requires. Certainly, some businesses already do so in their recruitment, emphasising a mix of specialisms or generic graduate skills such as mental agility, adaptability and confidence. But in the interdisciplinary workplace, graduates' performance may be enhanced if they can identify *both* the generic and the subject-specific in their skill-set. What do they bring as a graduate, but also as a historian, mathematician or creative artist that articulates with and complements what an economist, physicist or engineer may offer? Would a greater awareness of the strengths and attributes a subject develops and the complementarities between disciplines help students engage with their subject in a new way, think through its relationship with employment and equip them to become a self-aware, effective member of a team? If we can align a greater understanding of workplace needs with a clearer articulation of graduate skills, we will advance university-industry collaboration significantly.

There will be no single framework as universities differ, and so do some of the skills their students develop. The diversity of the sector is a strength and those differences, often rooted in institutional histories, need to be recognised, even recovered, and promoted. Nor are the frameworks for universities to determine alone; a constructive dialogue and feedback loop is needed with employers (and with alumni now in the workplace) to

understand how graduate skills are translated and integrated into particular roles and work settings. Such frameworks may also help employers understand graduate skills much better, enabling them to see the fit between those skills and business needs, to recognise what graduates do bring rather than what they lack compared to existing staff or to pre-conceived ideas of what a good employee looks like. A quicker integration of the graduate into the workplace is surely worth the effort of collaborating with universities in this area.