



UCL



2022 – 2027
Strategic plan

Discussion Paper Two
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UCL Now

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Introduction

UCL is now a comprehensive, large and highly successful research-intensive university of global standing. UCL is also now a very large, polycentric, complex and often fragmented institution. The purpose of this paper is to tease out the relationships between these two statements so we can begin to understand how we might collectively approach the next important phase of UCL's development as a world-leading university.

The analysis presented here does not represent the specific ideas and initiatives that will come forward for our strategic plan. These ideas and initiatives will be set out in further documents and discussed in the next phase of the consultation. This document is intended to identify some important aspects of UCL now that might shape and inspire such thoughts and reactions.

The success of UCL, as an academic community with an overwhelmingly positive impact on the world, is evident from a wide variety of metrics. For example, UCL is consistently ranked on average in the top ten universities globally (Figure 1) with parts of our institution such as the UCL Institute of Education being repeatedly ranked first globally. Our diverse community of more than 48,000 committed, engaged and intellectually curious students represents over 150 different nationalities, with almost a third studying abroad for part of their time at UCL. Like other UK universities, our students bring economic as well as cultural and intellectual value. For example, every 14 EU students and every 10 non-EU students generate £1m worth of net economic impact.¹ Between 2017 and 2020, our

staff published 56,710 research outputs: this placed us fourth in the world by volume, and third for the top 1% most cited (a total of 2,198 publications). UCL has the largest health innovation portfolio in the UK, and five of our spinout companies raised a collective USD795.7m when they were floated on the NASDAQ in the last five years.

Examples of our impact range widely, from successfully challenging organisations to confront their links to slavery² to helping farmers save rice in south-East Asia.³

Underpinning our impact are significant and impactful research partnerships in science and technology (e.g. Cisco, Google, Turing), health and life sciences (e.g. Francis Crick Institute, six major NHS Trusts) and the arts and humanities/social sciences (e.g. British Museum, British Library, National Trust, V&A). Our values and our impact underpinned our 2016-2020 philanthropic campaign, working with 15,884 donors in 84 countries to raise £624 million and inspire over 263,000 volunteering hours that help UCL, our students and our alumni community.

UCL has retained a distinctive character, reflecting an abiding emphasis on our founding values. We have been a pioneer in open science practices. For example, our Open Access university press has published⁴ over 190 books, attracting almost 5 million downloads from 244 countries and territories. Our Grand Challenges initiative began in 2009. Rare then, but commonplace in our sector now, this initiative has transformed our approach to cross-disciplinarity. And by major capital investment in UCL East, we have built on our progressive history, positive impact and disruptive spirit to bring together UCL academics and students from nine faculties with local communities to create transformational change in Phase 1 of our new campus in East London.

1 <https://london-economics.co.uk/blog/publication/the-costs-and-benefits-of-international-higher-education-students-to-the-uk-economy-september-2021/>

2 <https://www.ucl.ac.uk/lbs/>

3 <https://www.ucl.ac.uk/enterprise/news/2018/sep/ucl-students-win-hult-prize-2018-claiming-1-million-seed-funding-their-social>

4 source: <https://www.uclpress.co.uk/pages/statistics>

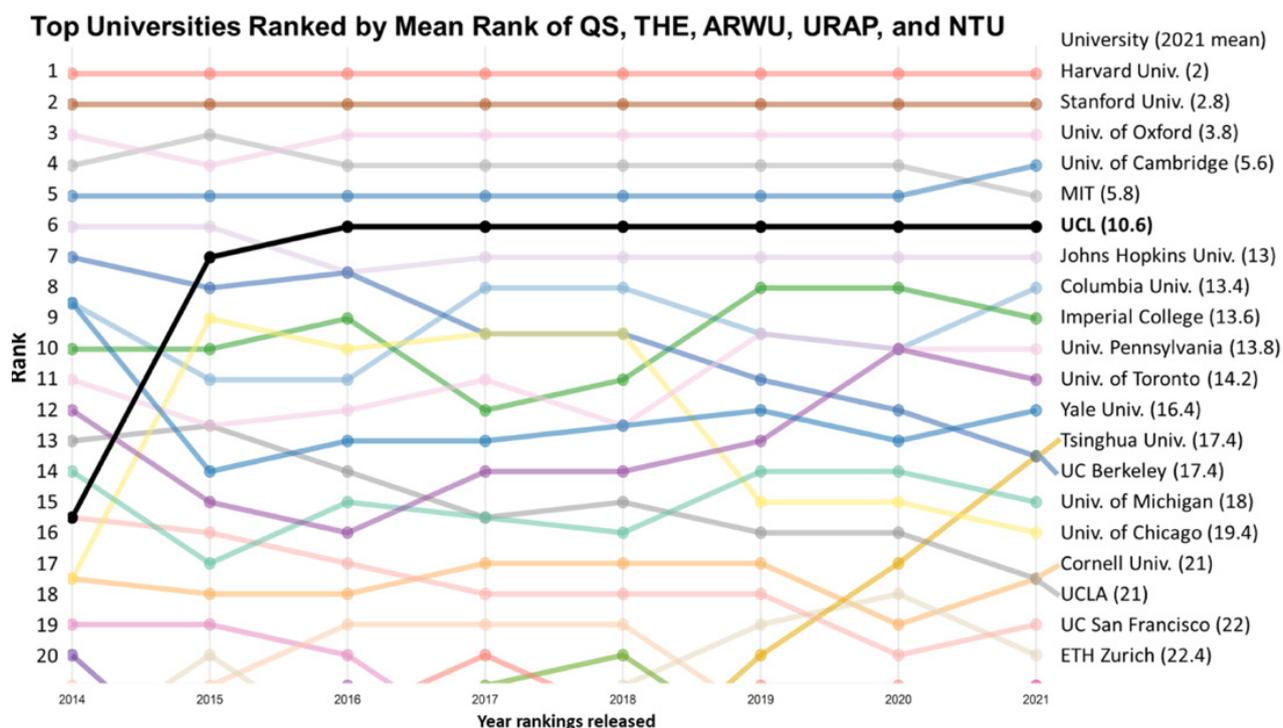


Figure 1. Mean rank of a selection of global universities over time, averaging across the five global rankings described. UCL is highlighted in black.

With a strong culture of cross-disciplinary work and a location in one of the world's greatest global cities with a diverse and vibrant population, we see high demand from around the world from students wanting to study at UCL, staff wanting to work here and entrepreneurs and philanthropists wanting to partner with us. All of these achievements, reflecting our history, come together in our collective emphasis as a community (discussed in the paper *'Our Vision, Mission and values'*) on partnership for change, change for the better and fitness to bring change. Such an ability to demonstrate change will contribute to further establishing for external audiences our capacity to deliver a diverse range of positive global impacts.

In this paper, we will critically examine our current size, shape and organisation with respect to these collective goals. But before that, we first need to consider the COVID-19 pandemic and external factors as important constraints (and opportunities) that affect UCL now.

The COVID-19 pandemic

The pandemic that has swept the world since January 2020 has been far-reaching in its impact on staff and students.

While vaccination levels of the adult UK population are now high and we are in a transition to an endemic state, the operational challenges of delivering this academic year remain considerable. However, in developing our future strategic plans, it is important to distinguish the transitory and persistent impacts of the pandemic on UCL.

The most obvious transitory impact has been the very significant cost, in both time and money, of operating largely remotely for a whole academic year while implementing COVID-secure provisions for staff and students. But as the pandemic wanes, these costs will diminish, and persistent impacts will come to the fore. These include important long-term impacts on the physical and mental health of our staff and students, long term disruption of international travel, changes in the pattern of work, and exacerbation of inequalities of opportunity. All these factors should be considered in our strategic plan.

But perhaps the most relevant factor for this paper is the significant increase in student intake (particularly undergraduate) for academic years 20/21 and 21/22 that arose due to changes in the awarding of A level grades. This has increased our undergraduate student numbers by 23%, creating a larger group of students in specific subject areas moving through our teaching programmes over the next few years. In addition to the operational demands, which require short-term investment to address, the compression of several years of student growth into a very short period brings into sharp focus the impact of previous growth and existing complexity on our administrative processes and systems and our student experience. In the light

of the analysis presented here, it provides a compelling reason to address these challenges with greater urgency.

There are also opportunities that we must consider. For example, through unprecedented effort by professional services and academic staff throughout the institution, our entire community has acquired new skills in (and experienced the limitations of) digital and blended learning. These provide an opportunity for future development, capitalising on the world-leading experience in our Institute of Education. And the contribution of UCL and other UK universities to delivering vaccines, transformational clinical trials and viral genetic sequencing at scale have reinforced the UK government's commitment to life sciences and industrial strategies, where universities are a key component of this national and international translational ecosystem. Finally, the continuation of national and international academic collaborations through now ubiquitous video platforms brings new opportunities to re-examine the sustainability of international travel for research.

Finally, we must recognise that UCL is part of a higher education sector that is one of the UK's largest and most successful export industries. Almost half a million international students are studying for qualifications at higher education institutions across the UK, with a net economic impact on the UK economy of £25.9bn annually. The higher education sector is the second largest research sector in the UK (behind business), performing 23% (£8.2bn) of total UK research and development (R&D) in 2017. Universities are key to the success of the UK research base, and therefore to the UK punching above its weight in research: the UK accounts for 14% of the world's most highly cited publications, despite representing just 0.9% of the global population and 2.3% of R&D spending.

A changing global context

The pandemic has also brought into sharp focus the existence of three other crises; in the environment, geopolitics and trust in government. These not only inform and inspire our research, teaching and innovation, but also alter the environment in which we operate, the attitudes and aspirations of the students we recruit, and our social license to operate as an academic community.

Global loss of biodiversity and anthropogenic climate heating are now a critical challenge for the world, and a topic that is increasingly important to our students and staff. UCL has a track record of addressing our own sustainability and has committed to net zero carbon buildings by 2024 and net zero as a university by 2030. But reaching such goals will require our strategic plan to link to local, regional and global efforts to combat climate change, and also to our sustainability bond issue in May 2021.

A global threat such as the pandemic, which does not discriminate between peoples and nations, might be expected to encourage different nations and rival great powers to work together. But this does not seem to have happened. Networks that bring the world together are increasingly set in the context of sharpening geopolitical rivalry, particularly between the USA and China. The exit of the UK from the European Union in 2020 has also further complicated geopolitical rivalries and impacted on our research and education. These are major changes that affect some of our most important student markets and research and innovation partners. How we respond to these global trends will therefore affect our student body and our ability to conduct research partnerships throughout the world.

Trust in governments across the world is in decline, and polarisation of views in many societies, including our own, is affecting political discourse and the role of citizens in society. UCL, like many universities, has been founded on strong principles of freedom of speech that have endured to this day. But the way in which such freedom is or should be exercised, and how to debate and disagree well, are important contemporary issues for UCL to consider, and that affect all of our students and staff.

Finally, our modern world is one of apparently inexorable and rapid technological change. The exponential growth of computing technologies is obvious and has delivered a cheap ubiquitous technology embedded throughout everyday life. But there are also other varied sectors undergoing such rapid change – for example, the rise of social network platforms, robotic automation in logistics, distributed manufacturing, and photovoltaic technologies. The capacity of our social norms, regulatory processes and Government legislation to address the activities of social networks, internet and technology companies and dramatic changes in retail habits has not grown in capability at the same rate. This creates an important and growing gap between societies and their technologies. Comprehensive universities such as UCL have the capability to bring forward social sciences, legal scholarship, the influence of the creative industries and many more disciplines to help bridge this gap.

The influence of external context on UCL

UCL exists in local, regional, national and international contexts. Such contexts provide rich subject matter and motivation for, and reaction to, our academic work, but that is not the focus of this paper. Rather, here we are interested in understanding how the external context might constrain and affect UCL now. Two factors – financial and situational – predominate.

The most obvious way in which the financial context constrains UCL now is the structure of higher education funding in the UK. Three factors are directly relevant – the withdrawal of capital funding for universities in the 1990s, the systematic underfunding of the indirect costs of publicly funded research and the transition of student funding since 2010 to a system dominated by tuition fees that do not change as the cost of providing education

increases. Collectively, these factors, which are comparatively recent in UCL's history, mean that all publicly funded research now makes a loss, and almost all UK undergraduate education costs more to deliver than we receive in income. This is not a situation unique to UCL - national comparative data confirms that these statements hold true throughout the sector⁵.

These external financial factors have three profound implications. The first is that they make a system of internal cross-subsidies between academic activities inevitable. This is because the cost of delivery of different types of education and research varies, even though the proportion of the indirect costs of research recovered is (roughly) constant and the tuition fee income is the same for every UK student. Some – perhaps most – of this variability is due to the fixed costs; for example, the costs of providing laboratory or studio-based education exceed those of classroom-based education. But other variability may be due to historical variations in staffing or organisation that are not immediately relevant to the delivery of education and research.

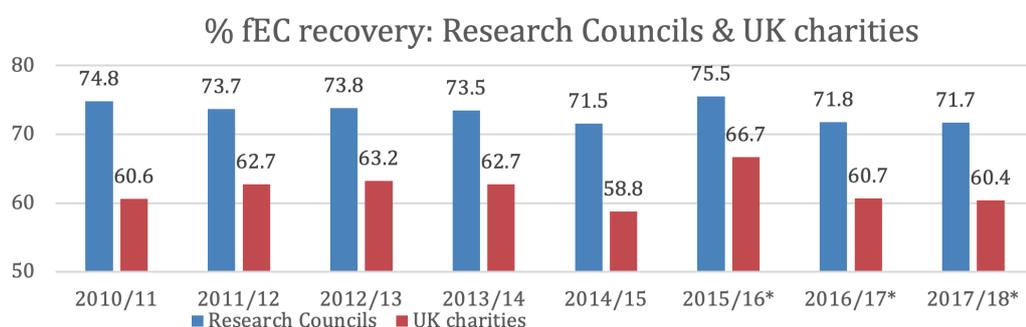


Figure 2. The graph shows the percentage of the full economic costs (fec) recovered by universities in England for Research Council and UK charity grants 2010/11–2017/18. * Figures for 2015/16, 2016/17 and 2017/18 are aggregates for England and Northern Ireland. Figures for earlier years are for England only. It is apparent that only a proportion of the actual costs of research are recovered by universities such as UCL, and this proportion is lower for UK charities compared to research councils while also declining over time.

⁵ <https://wonkhe.com/blogs/tracing-the-pandemic/> and <https://publications.parliament.uk/pa/ld201719/ldselect/ldsctech/409/409.pdf>

A second implication is that greater emphasis needs to be placed on additional sources of income for research, teaching and innovation activities that come from commercial partnerships, technology transfer or philanthropic s, translation and technology transfer.

Finally, financial constraints mean that our disciplinary size and shape is no longer solely constrained by academic discretion, preference and opportunity. Academic decision-making should always drive such decisions – although there is ample scope for such decision making to be better joined up – but their financial outcome is no longer neutral, as different academic areas have different costs relative to income. Consequently, only some aggregate combinations of student numbers, mix of academic activities and capital investment will be possible. Other combinations will be unstable. For example, although increasing student numbers or research volume will increase income, it will also require capital investment and increased operational expenditure that may be unaffordable without an appropriate surplus for investment. Similarly, reducing student numbers may reduce the need for capital investment in teaching estate, but may result in a significantly decreased ability to cross-subsidise the unfunded indirect costs of a large research portfolio. Thus, the financial context matters as it helps us understand what is possible for a given mixture of activities.

External context provides not only constraints, but also opportunities. Most notable perhaps is our location in London. London is a highly ethnically, socially and intellectually ‘super-diverse’⁶ city with several globally important features. As a capital it is home to national, regional and local government, international organisations, foreign embassies, many company headquarters and a vibrant third sector. It has unrivalled internal and international accessibility, is a preferred location for transnational corporations and a key node of the global network of major financial centres. Our location, scale and impact provide us with an opportunity to shape agendas in London, nationally and globally; influence in London can be connected to influence beyond London.

Together these factors create opportunities that are directly relevant to our Vision and Mission. For example, London is by a large margin⁷ the leading European city for venture capital investment, unicorns (privately held startup companies with

a valuation of more than \$1bn) and startups. This provides commercialisation opportunities for our staff and students and enables our academic research to have a positive impact on the world.

A second example is that London is world leading in the creative and cultural industries. London accounts for more than 40% of all UK employment in this sector with the majority in small and medium size enterprises⁸. Our School for the Cultural and Creative Industries at UCL East provides an opportunity to build upon our disciplinary excellence and increase engagement with this sector. Yet London is also a polycentric city⁹, which can cause incoherence and difficulty navigating such opportunities, as can UCL’s difficulty in presenting itself as a coherent set of external identities. In our strategy we should attempt to be clear about how we will identify and facilitate the engagement of our staff and students with such opportunities afforded by London.

Finally, we also need to consider how others outside our UCL community see us. Quantitative and qualitative research carried out with our supporters, advocates and alumni suggest that UCL is not always front of mind for, or even well known to, many respondents. Furthermore, respondents report that UCL does not communicate its position in a clear and memorable way. There is thus a significant contrast between how we think of our academic excellence internally, and how others perceive this externally. This has consequences for external investment, philanthropy, student applications, our political influence and many other areas. If we are to capitalize on our success, then a much greater focus on external affairs and communication of our position and activities will be required.

6 Steven Vertovec (2007) Super-diversity and its implications, *Ethnic and Racial Studies*, 30:6, 1024-1054, DOI: 10.1080/01419870701599465

7 <https://bit.ly/3h3jsdN>

8 <https://bit.ly/3kusUHS>

9 <https://www.britannica.com/place/London/Character-of-the-city>

UCL's growth

While the success that UCL has recently enjoyed is undoubted, the way this success has been achieved merits close consideration. As we have become comprehensive, we have also become very large.

While all our peer universities in the UK have grown as higher education (and access to it) has expanded, UCL has grown particularly large, and rapidly so. This has on occasion been a source of debate and tension within the UCL community.

With 48,168 students and 14,587 staff (2020 numbers¹⁰), we are now the largest university in the UK, aside from the Open University. It is interesting to note that globally, highly successful institutions cluster in two groups. First, a cluster of smaller (~20,000 student FTE) institutions that are distinguished by very large endowments or, more rarely, income streams derived from commercial enterprises (for example, the Oxford University Press). A second group of publicly funded research universities is characterised by a greater number of students (and staff) and historically much smaller endowments and an absence of income streams from wholly owned commercial enterprises.

Average League Table Position and Student FTE 2019

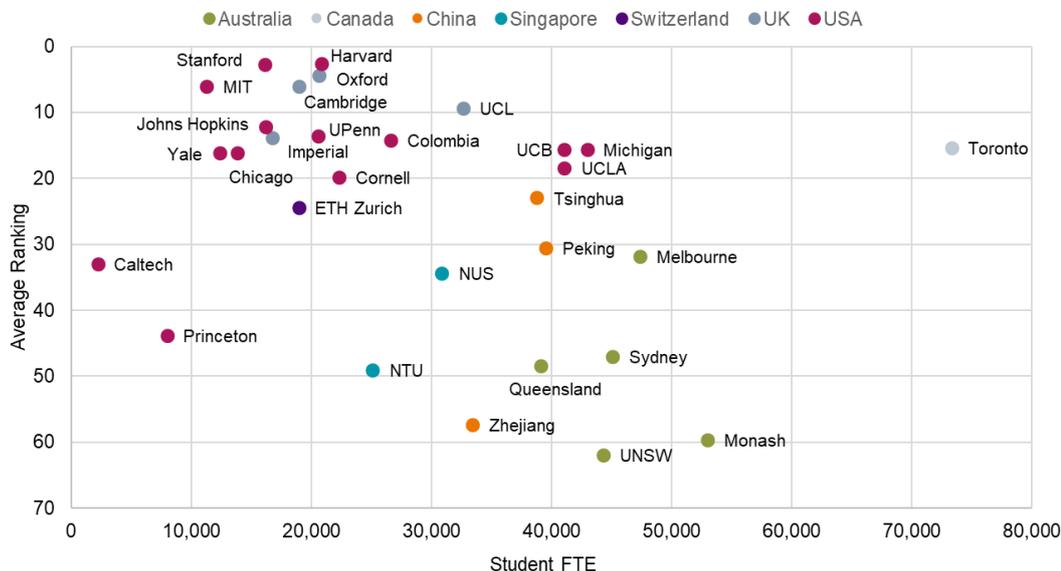


Figure 3. Success and size of UCL. UCL's league table position has improved since 2016 and it is now the highest ranked medium-sized university in this comparator group. There is a cluster of small universities (<25,000 students) which are consistently in the world top ten. Average of five global league tables: Academic Ranking of World Universities, THE World University Rankings, QS World University Rankings, University Ranking by Academic Performance, National Taiwan University Ranking. Note that UCL's FTE is lower than reported earlier in this paper as all data in this figure are sourced from THE World Rankings to provide consistent comparisons.

¹⁰ <https://www.ucl.ac.uk/human-resources/policies-advice/workforce-reporting-and-analytics> and <https://www.ucl.ac.uk/srs/student-statistics>

Both groups are successful on a wide range of metrics, but they have become successful with different characteristics. A common theme of all our global peers is that most are comprehensive, offer excellent student experience and high-quality world leading research and innovation. All also – like us – require significant financial cross-subsidies between different activities and between different disciplines. Some, such as Caltech, MIT, Imperial and LSE, have a more focused disciplinary approach but share the common features of excellence identified above.

Closer inspection of the way UCL has become large reveals a distinctive pattern where growth has occurred through adding complexity. This has occurred primarily through a long series of mergers, in addition to the more typical organic

growth of individual departments. This has added many departments and in some cases faculties. Examples include the merger with the Institute of Ophthalmology (in 1995), the Institute of Neurology (in 1997), the Royal Free Hospital Medical School (in 1998), the Eastman Dental Institute (in 1999), the School of Slavonic and East European Studies (in 1999), the School of Pharmacy (2012), and the Institute of Education (2014). Success in some areas (for example, neuroscience) has also led to the creation of independent units such as the Sainsbury-Wellcome Centre for Neural Circuits and Behaviour (officially opened in May 2016). We are also now creating an additional campus at UCL East, with the first students enrolling in September 2022 and plans for 4,000 students and 260 academic staff.

Absolute difference in total student population since 2007/08

Source: Heidi Plus FPE data at 2 September 2021

Legend: UCL | Russell Group | Other HEIs

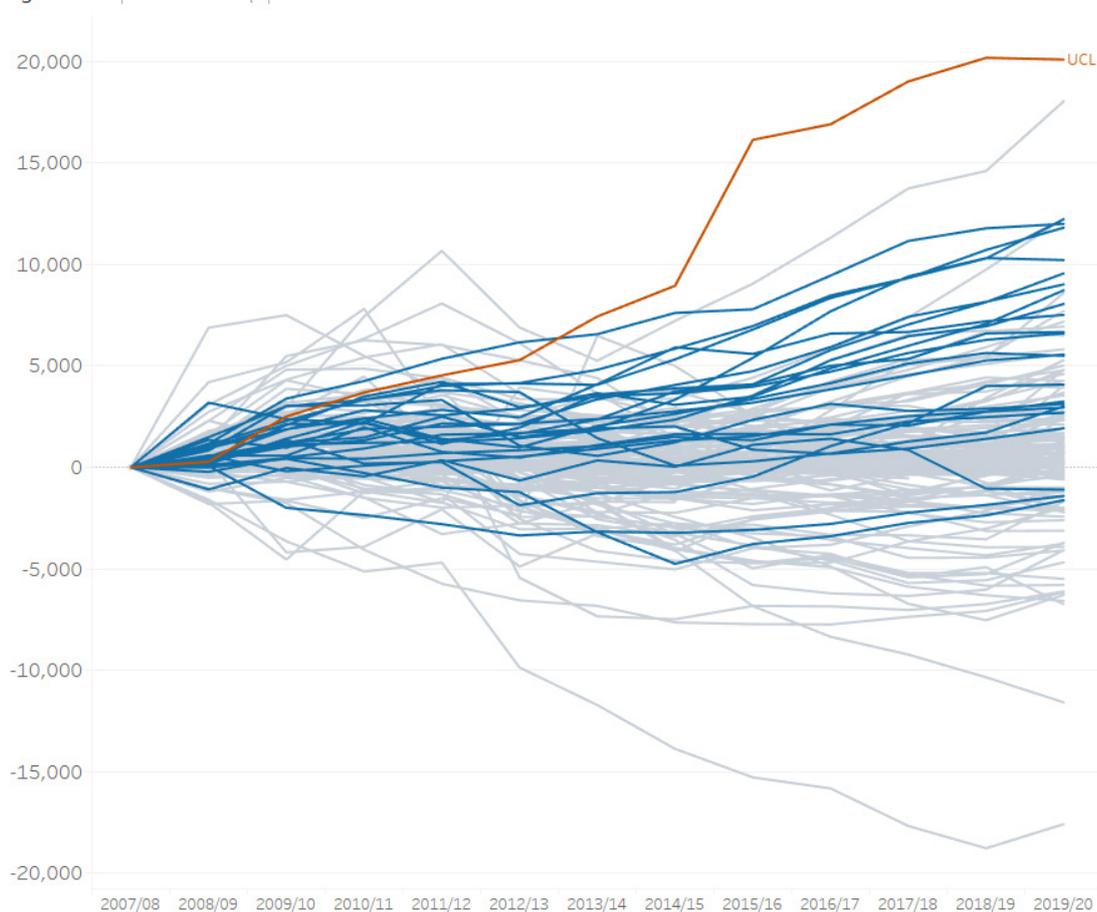


Figure 4. UCL has grown relative to its UK peers. The change in total student population (undergraduate and postgraduate) is plotted for UCL (red line), Russell Group universities (blue lines) and other UK HEIs (grey lines) relative to a 2007/2008 baseline. Data from HESA(<https://www.hesa.ac.uk/>)

Collectively this approach has led to a significant expansion of the number of departments, faculties and other academic units accompanying growth in students and staff (Figure 5). Student numbers increased (Figure 4) 75% between 2009 and 2019, outpacing other Russell Group universities in London, which increased by 35%. This growth, as well as adding complexity, has also changed the balance of the university from undergraduate-dominant to postgraduate-dominant; and has changed the disciplinary mix with significant increases in the size of our Main Panel C (Social Sciences) REF submission between 2014 and 2021. This will continue to change, as UCL East will comprise almost one-third of staff and students affiliated with the Faculty of Engineering Sciences, just one of UCL's eleven Faculties.

Growth has also been accompanied by some progress on equality, diversity and inclusion, one of our founding values. UCL is now comprised

overall of exactly 50:50 women and men staff, 18% Black and Minority Ethnic (BAME) staff and 3.1% disabled staff. Yet at senior grades the picture is very different: the percentage of women drops to 33% and the percentage of BAME staff falls to 11%; in other words, the diversity in these posts is reduced by approximately a third. Different groups experience different obstacles to their career progression that are complex and far-reaching, and range from the gendered impact of having a family to whether members of underrepresented groups are being mentored and included in professional and social networks to the same extent as their peers. Discriminatory and marginalising processes can also further prevent progression on equality, diversity and inclusion. Tackling a problem as complex as this requires coordination of appropriate bold actions and transparency of information sharing that may address particular and diverse barriers to progression.

UCL Faculties and Departments by total number of students, 1980 and 2020

Source: UCL College Calendar for 1980 and Portico at 31 August 2021

Legend: Bubbles scale with student number. One bubble per dept/div. Colours are Faculties.

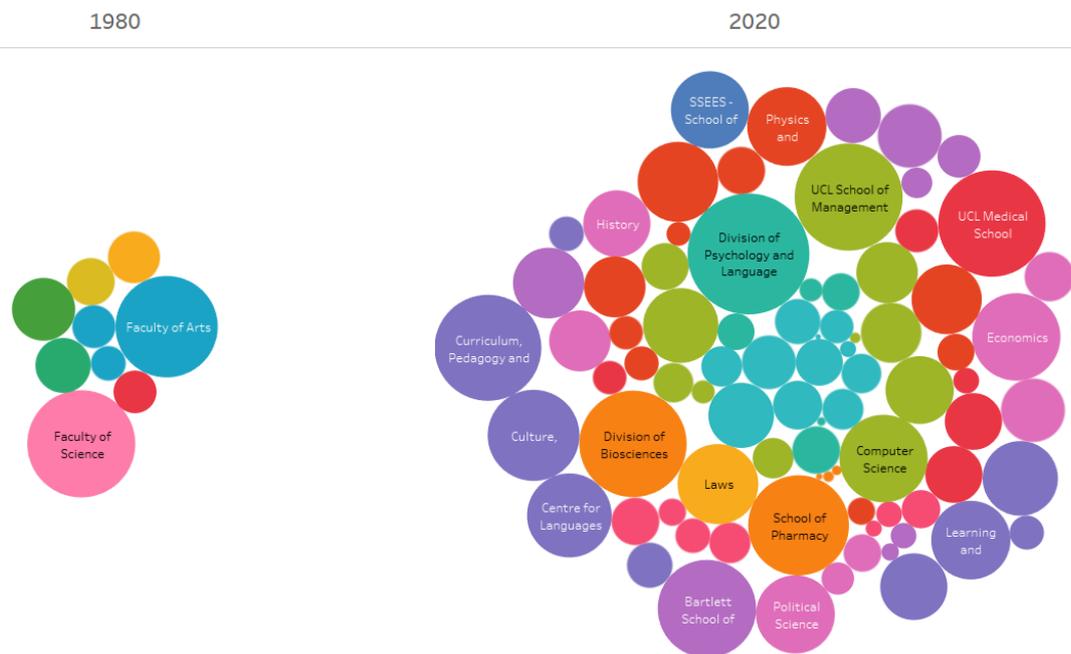


Figure 5. UCL has become very complex. UCL Faculties and Departments are shown in 1980 (left panel) and 2020 (right panel) where each colour indicates membership of a Faculty, and each circle represents a Department. The size of each circle represents the total number of students associated with that Department. The growth in size overall is accompanied by a growth in complexity with many more individual Departments.

Polycentric complexity

The nature of UCL's successful increase in size – adding new departments, institutes and faculties – combined with its excellence, has created a second key feature of UCL: polycentricity. UCL is often described as a strongly 'bottom up' university with a high degree of autonomy, diversity and creativity ascribed to academic staff. However, the term polycentricity may be a more useful characterisation.

The term was introduced by Polanyi¹¹, who argued that the success of scientific institutions was due to what he called polycentric organisation. In such an organisation, individuals are free to make their own contributions, creating and structuring research activities as they think fit, rather than being constrained to do so by management. Such efforts do not lead to chaos because they share a common ideal, which benefits from open debate among scientists, to search for truth (or perhaps, in a Benthamite formulation, we might prefer *wisdom*) as an end goal.

Polanyi argued that such a characterisation also applied to disciplines such as art and law, because these activities are also polycentric and driven by abstract ideals (for example, beauty, truth and justice). Further, such abstract ideals and common purpose cannot simply be imposed on individuals by some overarching authority; they emerge in a complex system through the collective and polycentric pursuit of academic ideals. While Polanyi's claims have not been without their critics, the notion that creativity flourishes best

in a university when academics and their colleagues are left to 'get on with it' and to operate with a certain degree of independence is intuitively appealing to many in a community such as UCL.

Indeed, Polanyi's characterisation of a successful scientific institution seems readily to apply to UCL, when we observe a plethora of departments, institutes, centres, domains and other forms of academic organisation, both synchronically and diachronically, all directed to the generation and dissemination of new knowledge. This type of organisation draws out the potential for positive interactions between these independent groups, promotes creativity and encourages debate (albeit not always productive). Such a decentralised system may function effectively because its diversity allows room for experimentation and enquiry, out of which successful endeavours are selected, disseminated or scaled up. Of course, the mechanisms by which such selection and dissemination may occur are not always clear or effective, and a chaotic process of natural selection may prove quite costly. Nevertheless, the polycentricity of creativity seems to be a characteristic of UCL that is closely associated with its success.

If we believe that polycentricity is central to UCL's success, then we should retain it. This may mean retaining our current complement of faculties and departments which are central to the academic endeavour. But we should nevertheless not ignore the challenges that this plethora of organisational forms has thrown up. These may inhibit the benefits of such diversity as we move into the next important phase of our development, and so merit attention in our strategy. Here, we identify two potential challenges arising from complexity: fragmentation and incoherence.

11 Polanyi, Michael. 1951. *The Logic of Liberty*. Chicago, IL: University of Chicago Press

Fragmented complexity

Polycentricity has been important for our academic success. But the growth we have experienced can lead to duplication, overlap and lack of coordination of key services and processes that underpin our academic success.

If unchecked, this will increasingly inhibit delivery of our academic mission in a distributed system. Cost, complexity, inefficiency and duplication of expertise and effort will result if we are not able to operate in a truly joined up fashion. Academic polycentricity can only hold if the framework that supports it is more than a set of norms.

For example, in contrast to the diversity and creativity of academic life, diversity and heterogeneity may be less useful, or positively harmful, for the administrative processes that support our academic endeavours. If every part of the organisation used a different email service, or a different expenses system, then chaos would result and gross inefficiencies arise from the failure to coordinate a unified system. These examples are perhaps fanciful; but we can also observe that individual departments have huge variability in critical university-wide areas such as the handling of student admissions. Removing fragmentation – or improving connection and coherence – may therefore be highly desirable in the administrative processes that accompany and support a polycentric academic mission, permitting a diversity of academic forms to flourish.

While academic polycentricity and integrated professional services are in tension, it is also important to appreciate there may be some academic disadvantages to polycentricity. For example, there may be merit in considering how we might foster the alignment of parts of disciplines that have found homes in multiple departments or faculties.

Fragmentation also affects the journey of external stakeholders and philanthropic donors in navigating the constellation of opportunities that UCL offers. If we do not present a coherent set of external identities, then these opportunities are diminished. While our scholars are celebrated on an individual (and increasingly team) basis worldwide, this cornucopia of individual excellence can obscure rather than complement our collective identity as a university. These external identities will be increasingly important for emphasising our distinctive culture and values, contributing to making us a destination of choice for the diverse staff and students we seek to attract.

Incoherent complexity

Complexity at scale also brings a second challenge, one of coherence.

Take an example from our educational offerings. Our polycentric academic world has led, in 2021, to the creation of 465 undergraduate programmes, 592 postgraduate taught programmes, 179 postgraduate research programmes and 41 affiliate programmes. Underlying this is a veritable cornucopia of 5,779 modules – one for every seven students. This combines to create an overwhelming level of complexity in the potential choices and streams that students can make. Consequently, almost half of our students – 47% in 2020 – are studying a combination of modules that is entirely unique to them.

Our complexity across undergraduate and postgraduate programmes is the highest in our sector. It not only creates a lack of coherence to student choices and student communities, but also significantly increases academic and professional staff workload. For example, it creates huge difficulty in timetabling an exponential range of combinations, major challenges in processing our ever-increasing number of high-quality applications from prospective students, and significant staff workload in assessment and feedback for each individual module. Our modules are often individually excellent but, collectively, programmes can sometimes be incoherent and difficult to navigate. And our overall offer to students can be incoherent because of the huge variety we can marshal and the lack of signposting through a comprehensible number of programmes.

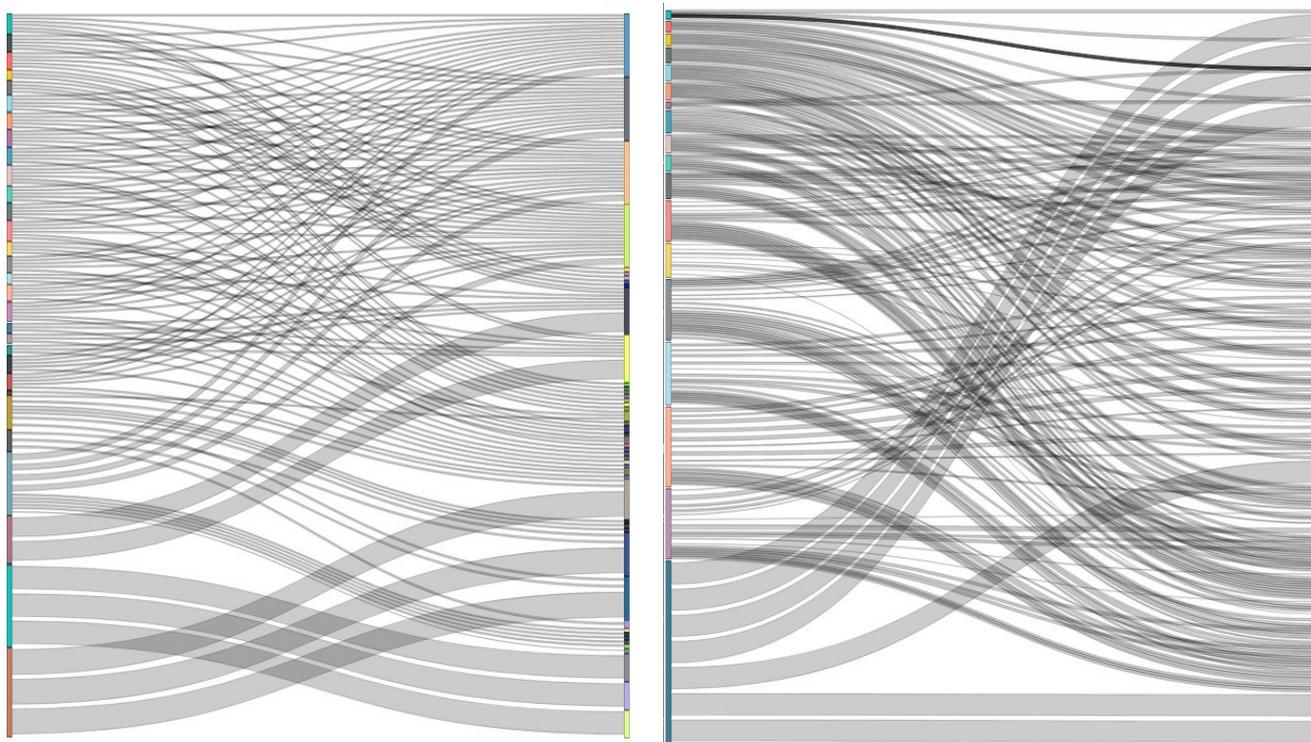


Figure 7. Complexity of UG degree pathways. Two example UG degrees, with individual pathways (left side of each panel) linked to the modules (right side of each panel) scaled by student numbers. The left panel represents 101 students taking 86 modules via 38 pathways. 33% of students on this degree took unique pathways in 2020. In the right panel, 103 students take 117 modules via 60 pathways. 52% of students took unique pathways on this degree in 2020.

This complexity is likely to contribute to our – in some places disappointing – student evaluations at both undergraduate and postgraduate levels of study. It significantly increases the cost of delivery, diverting resources to administrative processes that could otherwise underpin academic work. It also has pedagogical consequences for creating a distinctive UCL education, one that might marry elements such as electives or distinctive co-curricular experiences to a disciplinary core. This is because complexity and overwhelming choice make it extraordinarily difficult to make space in the curriculum for such enhancements, making it difficult or impossible to introduce new elements to broaden the curriculum or create a distinctive co-curricular experience.

Difficulty in navigating our complex system is not confined to our students. While a great deal of important work is still carried out by lone scholars or their individual research groups, an increasing amount of academic work now requires a ‘team science’ or highly collaborative approach. And across disciplines, the desire for university communities to tackle complex ‘wicked problems’ facing society such as climate heating requires a cross-disciplinary approach. To deliver ‘team science’ within a discipline, or cross-disciplinary research across disciplines, requires individuals to be able to find each other and coordinate their activities, which in a large and polycentric institution can be particularly challenging. Consequently, opportunities can be missed, and teamwork is unnecessarily hard work.

2020 Modules by keyword

Source: Portico at 1 September 2021

Legend: One rectangle per module. They scale with headcount. Colours are departments.

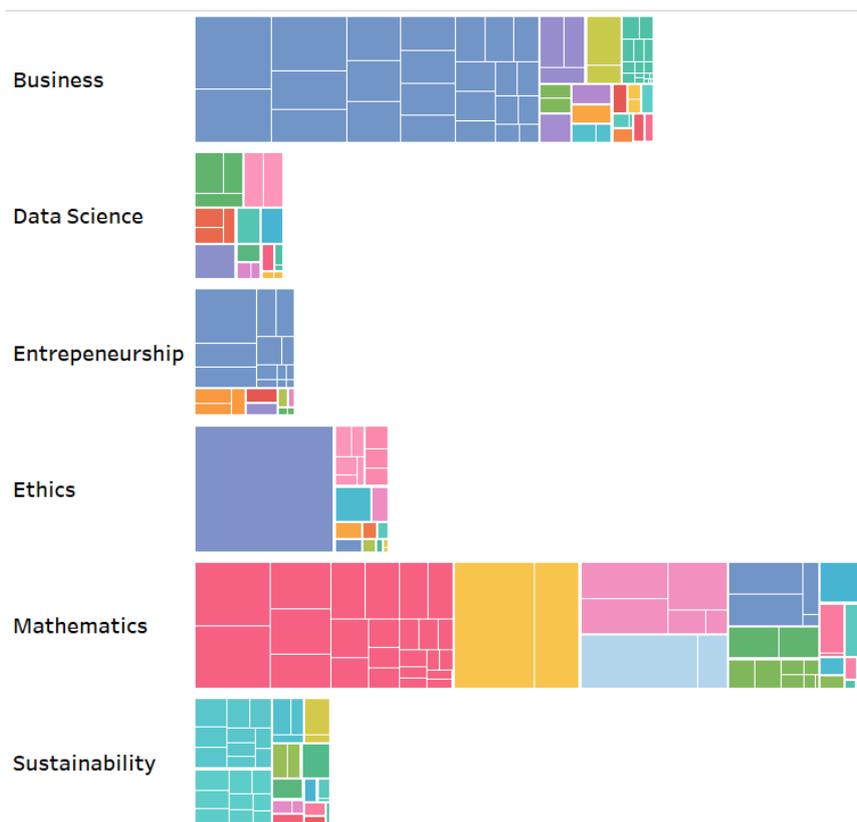


Figure 7. Examples of modules at UCL with similar titles, illustrated by the keywords on the left of the figure. Each rectangle in a panel represents a different module with that keyword, whose size is scaled with the number of students registered for that module. The different colours represent modules associated with different UCL Departments.

Addressing complexity through academic leadership

UCL took an initial approach to this challenge by developing mechanisms to create cross-disciplinary clusters or support ‘team science’ initiatives.

For example, the Grand Challenges initiative started in 2009 and has been successful in catalysing research interactions between colleagues in different parts of the institution. Its primary mechanism for doing this has been the distribution of small seed grants under dedicated leadership in the Office of the Vice Provost (Research), accompanied by a series of policy events and roundtables. However, the budget for such initiatives has been relatively small compared to our research income in the same period, and we have seen very few large initiatives coming forward at the scale of departments or centres. An open question is therefore whether such an approach is now ready to scale up to larger investments of time and financial resources, and how such an approach should be undertaken.

Complexity and fragmentation also make it difficult to secure appropriate focused investments of time and resource for individual disciplines. This is for two reasons. The first, and most obvious, is that such investments are increasingly required at a financial or organisational scale that cannot be borne within departmental (or even faculty) financial resources. This is particularly the case for new buildings, but also for other major investments that could make a transformational impact. Without a mechanism to allow coordination and prioritisation of such investments led by faculties and departments, we risk either incoherent and uncoordinated decision making or missing the opportunity to deliver such transformation. We may wish to prioritise evaluating those disciplinary opportunities where there is a confluence of external opportunity, internal capability and excellent local leadership.

Increasingly, however, important academic initiatives, even when focused on a single discipline, span multiple departmental boundaries. Examples might include (but are not restricted to): doctoral training centres or programmes, drug discovery, cancer, business studies, mathematics and statistics, area studies and many other areas of inquiry. In UCL’s polycentric system, even when significant investment might be collectively desirable, our approach requires many departments individually to make decisions about what support they might offer. As each department is inevitably in a slightly different financial, educational and research situation, this can make it extremely difficult to secure investment at a sufficient scale to create a transformative opportunity. We therefore may wish to consider how to create mechanisms to coordinate larger scale investment across departmental and faculty boundaries where there is an opportunity to create critical mass.

UCL East Phase 1 provides an interesting example of how polycentricity and collegiate-but-directed academic leadership can be combined. While the disciplinary mix that makes up UCL East was conceived of and initially developed in many departments in a strongly ‘bottom up’ fashion, the way in which these elements were subsequently combined and organised to produce the current plans reflected ‘top-down’ academic leadership directing iterative and collegiate conversations among different disciplines and groups. This materially changed the design of UCL East (for example, increasing the number of participating faculties and altering the disciplinary mix) and preserved academic polycentricity, while designing an integrated shared professional services programme. We may wish to reflect upon the effectiveness of such an integrated and iterative academically led process as we develop our strategic plan.

The transparency of complexity

Finally, complexity and fragmentation bring challenges of visibility and transparency across disciplines, departments and faculties. A successful polycentric organisation allows experimentation and creativity where successful endeavours are selected, disseminated or scaled up. But to do this requires that successful endeavours are recognised as such.

This is easy in a smaller organisation where there are fewer individual units and consequently all staff can be aware of all activities. But in a large organisation, such visibility is much more challenging, and people can more readily work within ‘silos’, sometimes without even appreciating their situation. Thus, the

experience of individuals in different parts of UCL can now be very different, and this heterogeneity of experience is not always apparent.

We can identify two components that contribute to these differences of experience: variability of information and variability of voice. The first of these relates to UCL’s difficulty in articulating and disseminating consistent information about its operation and performance. For example, we do not routinely report and compare metrics such as staff-student ratios across departments to understand why these might vary and whether such variability is desirable or undesirable. Similarly, we do not attempt to understand whether the workload of academic or professional services staff is the same or different in different parts of the institution.

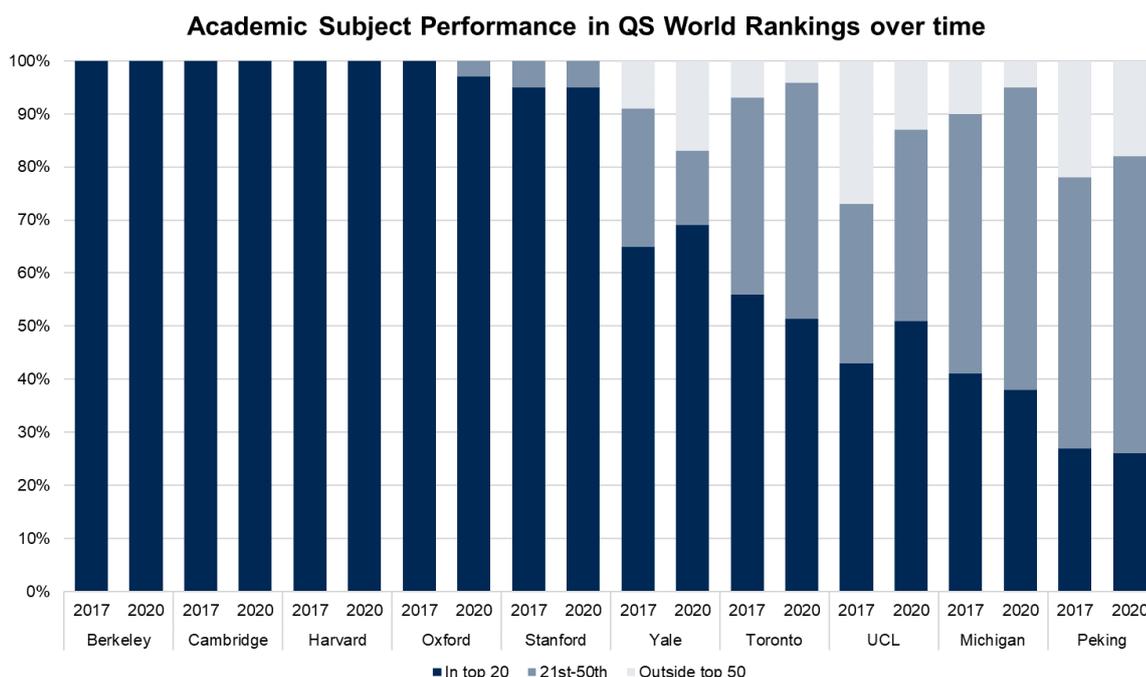


Figure 8. One measure of academic performance for various global universities taken from one global ranking system (QS World Rankings) for 2017 and 2020. Plotted in each bar graph are the proportion of subjects ranked in the global top 20 (dark blue), 21st-50th ranking (light blue) or outside the top 50 (grey).

Variability in how we share information also extends to information about how others see us. To take the QS World Rankings as one example (and being mindful of the shortcomings of any individual ranking), while nine of our subjects are in the global top 10 and 26 in the global top 30, six disciplines are instead ranked between 50 and 100. Before we can ask the question of whether such heterogeneity is desirable, it must be visible to all – internally as well as externally – so we can have a conversation about its relevance, importance and what (if anything) we might want to do about it. In a large and complex organisation, this might require particular attention to mechanisms that reveal such polycentric heterogeneity and share information.

A second challenge that arises from our non-transparent polycentricity is inequality of voice across our community. Effectively and constructively to debate and decide the right course for our academic institution requires hearing from a diversity of voices in fora that encourage such deliberation. Diverse organisations make better decisions, and the diversity of voice we might seek includes not only underrepresented groups in our community but also the different types and seniority of staff and students. But our mechanisms for surfacing and hearing the views of different groups date from a time when UCL was a much smaller and less organisationally complex institution. Consequently, the voices of some groups are perhaps better represented than others in our conversations and decision making. And even within such groups, the nature of their organisation often rewards those with the loudest or most persistent voices rather than those with the most persuasive arguments. This lack of diversity of voice, coupled with a lack of transparency of information, makes it difficult to agree, and even more difficult to disagree well, on the complex decisions that as a community we need to make for the future. We can legitimately ask how we might improve such diversity of voice in our future strategy. Some of our initial work in developing a more inclusive management decision-making structure are steps in this direction, as is a commitment to working more collaboratively with our Academic Board.

Conclusions

This paper has argued that UCL is now a large, successful and academically polycentric university. Some of these highly desirable academic characteristics – and the faculties and departments that support them – should be retained.

But polycentricity has also brought significant costs and challenges, and these will increasingly impede future success. These are not just financial. Fragmentation of administrative processes now do not effectively support academic creativity and agility. Our external identities neither cohere nor always accurately reflect our culture and values. Complexity does not help us make effective decisions about how best to focus investment in transformative disciplinary or cross-disciplinary work. And all of this creates significant challenges for students attempting to navigate a cornucopia of module combinations, and staff attempting to deliver a suite of such complexity.

Addressing these challenges will require us to retain academic diversity and our polycentric organisation while also making some hard choices so we can lower barriers to making the connections that create cross-disciplinary work; reduce complexity and increase coherence of our educational programmes; and reduce fragmentation and increase coherence of professional services. These decisions will lower the cost, intellectually and financially, of complexity. It is this challenge that our strategic plan should now address.

Endnotes

ⁱ <https://population.un.org/wpp/Download/Standard/Population/>
(data for 2018)



UCL

