The Teaching-Research Nexus

Project summary

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Executive summary

Developments across the global higher education sector and in the UK in the last 5 to 10 years have seen an increasing financial and structural separation of teaching and research. This goes against what has been a long-standing ideal of European academia, stemming from the Humboldtian idea of teacher and student in common pursuit of knowledge and the integral relationship between teaching and research as a distinguishing feature of higher education. The ideal is what we are calling here a 'nexus' - an extensive, visible, and institutionally supported series of productive, interlocking and often bidirectional connections between teaching and research within and across all subjects.

The project began from a sense that the relationship between teaching and research in higher education was fluid and that the ideal of a nexus did not preclude changes in the nature of the relationship between teaching and research or in those two activities. We therefore took a longitudinal and comparative approach, using commissioned research drawing on both qualitative and quantitative data, to investigate the teaching-research nexus, including in light of recent changes and challenges resulting from the COVID-19 pandemic. This report presents the findings of this research and aims to contribute to wider debate about the nature and value of the teaching-research nexus in higher education.

The current higher education environment in the UK, and in England in particular, presents several challenges for a productive and close relationship between teaching and research. This includes the continued prioritisation of research in governmental policy, the highly competitive nature of the higher education sector, continuing trends towards monocultural contracts focused on either teaching or research, and an increasing precarity of employment for certain groups in academia. A lack of targeted funding to improve the relationship between teaching and research also presents a barrier to the successful operation of the nexus, something exacerbated by the sector's separation of funding streams and incentives for research has also seen at governmental level in the splitting of the Minister of State for Universities, Science, Research and Innovation into two very separate roles; something replicated in a more practical way in many instances in senior management roles and responsibilities.

The majority of both academic staff and students interviewed or surveyed as part of the projects' investigations nonetheless viewed the relationship between teaching and research in a positive light, particularly in the way that research can influence teaching. Academics agreed on the ideal of a nexus but did not see it as realistic given the increasing and competing pressures on their time and in light of the financial and structural separation of the two activities at institutional, sector, and governmental level. A number of student survey responses also perceived the greater emphasis on research having a negative impact on academics' ability to devote time to teaching and to teach more varied material. In this report we highlight evidence of positive impacts that a relationship between teaching and research more akin to a nexus could have, including on issues of quality, diversity, and inclusion in higher education, as well as maximising opportunities and outcomes for students.

A close positive relationship between teaching and research will be essential to the future sustainability of higher education and to the prospects of achieving publicised Government targets to increase research innovation and skills in the UK over the coming years. It is possible to overcome entrenched positions about the separation and relative values of teaching and research in a way that allows students, academics, institutions, and the sector as a whole to thrive. The evidence given in this report highlights the opportunities for a closer and more positive relationship between teaching and research and the role that all members of the sector, from students through to policymakers, can play in facilitating this; offering an example of good practice to the higher education sector globally.

Our research identified the following sets of opportunities, summarised here.

Student-focused opportunities:

• Institutions could develop more effective strategies for effectively communicating the reciprocal relationship between teaching and research to their students, at all levels of study, indicating a productive means of working in partnership with students. This would also help students to appreciate how research helps to shape their curricula, and how this in turn helps to shape research before the advanced stage of study when they are expected to conduct first-hand research themselves.

Academic-focused opportunities:

- Sector agencies, such as Advance HE (formerly the Higher Education Academy) or other organisations as appropriate, could work to promote the value of the interrelationship between teaching and research and increase recognition of the reciprocal relationship between the two through the UK Professional Standards Framework (UKPSF), Vitae's Researcher Development Framework, the Concordat to Support the Career Development of Researchers, and the Concordat on Research Integrity.
- Fellows and Associate Fellows of Advance HE and accredited members of other appropriate sector agencies and institutions, could encourage the development of a culture of greater reflective practice and of pedagogical practices which enhance the relationship between teaching and research.
- Institutions could support academics by giving them time to undertake both teaching and research (or scholarship), as well as to explore how their teaching and research could be integrated to the benefit of both activities not just in terms of research-led teaching, but also teaching-led research. Institutions can foster an open dialogue on workforce planning and the rationale for supporting teaching and research specialists as well as academics on balanced teaching and research contracts, the reason for this division of labour, how it relates to the nexus, and whether the nexus would work on a community level rather than necessarily with an individual.
- Post-pandemic, institutions and the sector more broadly could recognise and address the workload pressures faced by academics. The nexus may provide a more neutral means by which all parties can approach and contextualise this issue by means of discussion of the nexus and the ideal of the academic endeavour as fundamentally connecting research and teaching.

Institution-focused opportunities:

- Sector agencies, such as Advance HE or other organisations as appropriate, could support institutions to explore more broadly the relationships between teaching and research. This could in part be achieved through greater communication between institutions on approaches to teaching and research in order to share best practice and raise awareness of the variability that exists across teaching and research practices.
- Government and the higher education sector could take a broader, sector-wide approach to policy development, engaging with teaching and research balanced and teaching-focused universities to provide a more balanced and realistic picture of the teaching-research nexus, rather than relying on the view from research-focused institutions.
- Institutions could develop or clarify promotion systems and criteria to have greater parity between teaching and research, in order to incentivise and reward academics for bringing research into their teaching, letting teaching influence their research, or for teaching outside of their area of specialism.

Sector-focused opportunities:

- Government and its agencies could look to achieve greater parity between teaching and research at a policy level. REF, TEF, and KEF could all be considered in terms of whether they could adopt a more holistic approach in their reporting and criteria, to better represent the function of higher education and the benefits of excellent teaching and research for institutions, for students, and for society.
- Research funding bodies could consider making impact on teaching a criterion in the evaluation of research grants, both at the application and reporting stages.
- The higher education sector could provide case studies and examples which would help to enhance data on the nexus across the different disciplines and better make the case for other changes and developments. The sector could also help re-frame the narrative which the public receives about the role of higher education through promoting public-facing academic activities which celebrate the interrelationship between teaching and research.

Background

Why the teaching-research nexus?

Higher education is distinguished from other sectors of education by the integral relationship between teaching and research on which it is assumed to be based. This idea of the two activities co-existing in a symbiotic relationship or 'nexus' is a longstanding ideal of European academia, stemming from the nineteenth century and Wilhelm von Humboldt's idea of teacher and student in common pursuit of knowledge.¹ The terms 'research-led', 'research-based' and 'researchinformed' have become pervasive in descriptions of teaching, as a proxy for quality. Moreover, the concept of a nexus implies a bi-directional relationship, where teaching also influences research. While historically this connection has never been straightforward nor easy to define, it has been taken for granted as a fundamental aspect of the nature of higher education. As recently as 2018, vice-chancellor of Australian National University and Nobel Prize winner Brian Schmidt was arguing for the importance of this Humboldtian tradition for the future of higher education.²

But this Humboldtian ideal of a holistic approach to higher education is coming under intensified scrutiny around the world. Research into the symbiotic nature of the relationship is inconclusive and has even questioned the relevance of a nexus between teaching and research in such a marketized sector.³ The global pandemic has also necessitated rapid shifts in the way that teaching is delivered and the longerterm impacts on the structure and delivery of higher education teaching and research are still to be fully understood.⁴ We may be at a point where the concept of a nexus no longer carries any meaning for academics or students and may not represent the reality of contemporary higher education. Or it may just be becoming more complex and multifaceted.

What does this mean for the quality of teaching, the quality of research and the quality of students' learning? The British Academy's Teaching-Research Nexus project sought to investigate the relationship between teaching and research; identify whether it is beneficial for either of these activities; and offer some comparison of the relationship in policy approaches in the UK and internationally in order to explore opportunities and challenges in current practice. The term 'nexus' is used throughout this report in the sense of an ideal close bi-directional and mutually supportive relationship between teaching and research as outlined above; an extensive, visible, and institutionally supported series of productive and interlocking connections between teaching and research within and across all subjects. This report pulls together and summarises the findings of the project and its commissioned research and is intended to help advance discussions on the relationship between teaching and research in higher education.

McKinley, J., Harris, A., Jones, M., McIntosh, S. and Okpevba Milligan, L. (2018), An Exploration of the Teaching-Research Nexus in Humanities and Social Sciences in Higher Education, p. 4. 2

Ross, J. (September 2018), 'Brian Schmidt: separating teaching from research "unsustainable"', Times Higher Education.

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See for example Elken, M. and Wollsceid, S. (2016), The Relationship between research and education: Typologies and indicators. A literature review. Oslo: Nordic Institute for Studies in Innovation, Research and Education (NIFU); Hattie, J. and March, H.E. (1996), 'The relationship between research and teaching: a meta-analysis', Review of Educational Research, 66(4), pp. 507-542; Malcom, M. (2014), 'A critical evaluation of recent progress in understanding the role of the research-teaching link in higher education', Higher Education, 67(8), pp. 289-301; Tight, M. (2016), 'Examining the research/teaching nexus', European Journal of Higher Education, 6(4), pp. 293-311; all cited in McKinley, J., McIntosh, S., Milligan, L., and Mikołajewska, A. (2021), 'Eyes on the enterprise: problematising the concept of a teachingresearch nexus in UK higher education', Higher Education, 91, pp. 1023-1041, at pp. 1023-1024.

See in particular 'Knowledge, employment and skills', in The British Academy (2021), The Covid Decade: Understanding the long-term societal impacts of COVID-19, pp. 92-122 and The British Academy (2021), Shaping the Covid Decade: Addressing the long-term societal impacts of COVID-19

Why look at this issue now?

In the UK, and especially in England, current policy issues, including the evolution and review of the Research Excellence Framework (REF), of the Teaching Excellence Framework (TEF), and the introduction of the Knowledge Exchange Framework (KEF), as well as the new architecture brought about by the Higher Education and Research Act (HERA), make the teaching-research nexus a topic which requires fresh attention. The nexus must also be considered in light of the COVID-19 pandemic, its hugely disruptive impact on both teaching and research, and its renewed focus on the sustainability of workloads for many in academia.

Universities regularly make choices about their priorities in pursuit of excellence and in the face of limited resources. Specifications for both the TEF and REF aspire to integrate teaching and research, but the current trajectory seems to be leading to further polarisation.⁵ Data from the Higher Education Statistics Agency (HESA) shows that, whilst there has been an overall increase in the number of contracts, including those combining teaching and research, the trend for academic staff, particularly those who are women or from minority ethnic backgrounds, to be recruited on teaching-only contracts has continued.⁶

Between 2006/07 and 2015/16, the number of teaching-only and research-only contracts increased by 92% and 30% respectively, while there was only a 15% increase in joint teaching and research contracts.⁷ Balanced teaching and research contracts now make up a smaller proportion of overall academic contracts than was the case in 2012/13 (from 51% in 2012/13 to 44% in 2019/20, for all subjects), whilst the proportion of teaching-only contracts has increased (from 25% in 2012/13 to 32% in 2019/20, for all subjects).⁸ This increase in teaching-only contracts has been particularly pronounced in Russell Group institutions.⁹ The change has also been more marked for humanities and social science subjects, with the proportion of teaching-only contracts increasing from 25% in 2012/13 to 43% in 2019/20, compared to a reduction from 58% to almost 50% for balanced teaching and research contracts has been much smaller.

Student views have seemed to reinforce this approach. The 2017 Higher Education Academy and Higher Education Policy Institute survey on student academic experience found that being an active researcher was viewed as less critical to students as a characteristic of teaching staff than engagement with continuous professional development and training in teaching.¹¹ Questions about staff characteristics have not featured in subsequent iterations of the survey.

As part of its assessment criteria for aspects of quality in the learning environment, the current TEF guidelines state that, for Scholarship, Research and Professional Practice (LE2) that 'The learning environment is enriched by student exposure to and involvement in provision at the forefront of scholarship, research and/or professional practice', Department for Education (October 2017), *Teaching Excellence and Student Outcomes Framework Specification*, p. 25; The Panel criteria and working methods for 2019/20 for REF do take into account impacts on or through teaching, both within and outwith the submitting institution, Research Excellence Framework (2020), REF 2021: Index of revisions to the 'Panel criteria and working methods (2019/20), p. 54, no. 301.

⁶ McIntosh, S., McKinley, J. and Mikołajewska, A. (2021), Critical examination of the teaching-research nexus: academic contracts in UK universities, A report for the British Academy, pp. 12-18.

⁷ https://www.hesa.ac.uk/data-and-analysis/staff/employment-conditions

⁸ McIntosh et al, Critical examination of the teaching-research nexus, p. 14. Percentages have been rounded to the nearest whole number. The data compared for the purposes of this report starts at 2013/13 due to changes in the Standard Occupation Classification (SOC) which occurred in this year and meant that it was no longer possible to group staff in the Higher Education sector into thirteen broad occupational activities, as had been the case previously. For a fuller explanation of this change, see Higher Education Statistics Agency, 'Definitions: Staff. Activity (2012/13 onwards)'.

⁹ Wolf, A. and Jenkins, A. (2021), Managers and academics in a centralising sector. The new staffing patterns of UK higher education, The Policy Institute, King's College London and the Nuffield Foundation, pp. 52-54.

McIntosh et al, Critical examination of the teaching-research nexus, p. 14. Percentages have been rounded to the nearest whole number
 Neves, J. and Hillman, N. (2017), 2017 Student Academic Experience Survey, Higher Education Academy and Higher Education Policy Institute, p. 44.

This increasing split between teaching and research is underscored by the separation between the governance and funding arrangements for research and teaching between the Department for Business, Energy and Industrial Strategy (BEIS) and the Department for Education (DfE), and their agencies UK Research and Innovation (UKRI) and the Office for Students (OfS) (for England). While the Higher Education and Research Act requires the agencies to work together on areas of overlap, for example in relation to postgraduate research (PGR) students, to date there has been limited evidence of the creation of mechanisms to facilitate this. More recent developments have served to underline this separation, with the splitting of the former role of Minister of State for Universities, Science, Research and Innovation between two Ministers and across two Government departments in February 2020.12

The pandemic has brought to the surface longstanding issues and stresses both from the precarity of contracts and from the competitiveness that currently characterises the higher education sector.¹³ A 2021 survey of the wellbeing of staff in higher education institutions revealed a deeply concerning picture of their mental health,¹⁴ whilst the pandemic has also exacerbated financial stresses for some institutions with as yet unknown longer-term implications, which may or may not be alleviated by future governmental policy.

More broadly, current discourse around higher education has raised questions about what higher education is for and the nature of academic work. It is timely to investigate and reflect upon longstanding, and sometimes simplistic, understandings of the academic endeavour.

What does this project look at?

This project began from a sense that the relationship between teaching and research was fluid and that, while there was recognition of the existence of a nexus, this did not preclude changes in the nature of the relationship or its components. It was therefore necessary to take a longitudinal and comparative approach to interrogating the teaching-research nexus. Part-way through the project, when it became apparent that the world was entering a global pandemic with potentially significant consequences for both teaching and research, the decision was made to revisit the topic in light of newly available data and to conduct further interviews, in order to try and draw some initial conclusions from the emerging trends and evidence after months of sector upheaval.

The project objectives were:

- To help stimulate a wide-ranging debate among the academic community about the national and international trend towards greater polarisation between teaching and research.
- To inform the practices of higher education institutions reacting to and accommodating this trend.
- To inform the broader policy context in view of significant developments in the higher education sector, such as the potential polarisation of UK Research Innovation and the Office for Students and concern about equivalent polarisation of the research versus teaching components of the academic endeavour, as well as the unprecedented challenges of the pandemic.

¹² Havergal, C. (February 2020), 'Michelle Donelan named universities minister as science split off', Times Higher Education McIntosh et al, Critical examination of the teaching-research nexus, p. 32, also citing O'Neill, M. (2021), 'Pace, Space and Well-being, 13

Containing Anxiety in the University', in Vostal, F. (ed.), Inquiring into Academic Timescapes, pp. 165-182. 14

Wray, S. and Kinman, G. (2021), Supporting Staff Wellbeing in Higher Education, Education Support, see especially pp. 35-41.

• To identify the risks this potentially greater polarisation between teaching and research poses for the humanities and social sciences in particular.

Project approach

The project commissioned five pieces of original research which form the main evidence base for this report. These were:

- A literature review by McKinley, Harris, Jones, McIntosh and Okpevba Milligan, which updated the published review carried out by the Nordic Institute for Studies in Innovation, Research and Education, *The relationship between research and education: typologies and indicators* (2016), by Elken and Wollscheid.¹⁵ This was updated in the 2021 report by McIntosh et al, to cover relevant policy and academic literature published between 2015 and 2021, with additional focus on contracts and inequalities.¹⁶
- Evidence collected in 2018 via interviews with senior academic staff and 213 questionnaire responses from academic staff at 10 higher education institutions in England and Wales, about perceptions of and structures to support the relationship between teaching and research. The institutions were selected to be geographically representative as well as having relative strengths in teaching, research, or a balance of both teaching and research. This is a distinct contribution to previous research where the focus has been on research-intensive institutions or single institutions.¹⁷
- A comparative analysis of international higher education policy and funding structures that do or do not sustain a mutually supportive relationship between teaching and research. Fourteen countries were included, categorised into three groups: New World, Europe, and East and Southeast Asia. Data was collected via a desk-based policy scan, supported by interviews with higher education senior management in ten of the countries.¹⁸
- A survey of student attitudes towards the relationship between teaching and research, using similar questions to the staff survey but adjusted for a student audience. This survey was produced by a team at NUS Insights, with subsequent analysis by the British Academy Higher Education and Skills Policy Team. The survey attracted 1311 respondents, from higher education institutions across the UK, across all undergraduate and postgraduate stages and across the full range of disciplines.¹⁹
- An analysis of longitudinal, quantitative, secondary data focusing on academic contracts between 2012/13 and 2019/20, and the ways in which they responded to policy shifts in the higher education sector and its economic landscape. This data was organised by Russell Group and post-1992 institutions, as the available data sets did not make it possible to offer a category for pre-92, non-Russell Group institutions.²⁰ This was supplemented by qualitative evidence collected from semi-structured interviews held in 2021 with 13 senior staff from 12 higher

¹⁵ McKinley et al, An Exploration of the Teaching-Research Nexus, pp. 4-12. For the original review conducted by the Nordic Institute for Studies in Innovation, Research and Education see Elken, M. and Wollscheid, S. (2016), The relationship between research and education: typology and indicators. A literature review. Nordic Institute for Studies in Innovation, Research and Education (NIFU).

¹⁶ McIntosh et al, Critical examination of the teaching-research nexus, pp. 5-8.

¹⁷ McKinley et al, An Exploration of the Teaching-Research Nexus, pp. 34-53. Scotland and Northern Ireland were not included in the survey as the team were unable to secure contacts in higher education institutions in these nations. Conditions that differ in Scotland and Northern Ireland, such as funding, were therefore left out of the interviews.

¹⁸ McKinley et al, An Exploration of the Teaching-Research Nexus, pp. 12-34.

¹⁹ The British Academy (2022), The Teaching-Research Nexus: NUS Insights Student Survey – Quantitative and qualitative findings.

²⁰ See the 'Methodology' in McIntosh et al, Critical examination of the teaching-research nexus, p. 8.

education institutions in England, Scotland and Wales, about their perceptions of trends in the awarding of academic contracts and the impact of the COVID-19 pandemic.²¹

The outputs from this research are published alongside this report in three separate documents. The first of these, McKinley et al's An Exploration of the Teaching-Research Nexus, brings together the initial literature review as well as the evidence collected from academic staff in 2018, alongside comparative analysis of international higher education structures.²² Quantitative and qualitative data from the student attitude survey, produced by the team at NUS Insights in 2018, was analysed by the British Academy team and the write-up is presented in the accompanying The Teaching-Research Nexus: NUS Insights Student Survey - Quantitative and qualitative findings.23 These two pieces of research and analysis formed the main source material on which the original project report was based. In addition to these two commissioned pieces of research, a workshop was held in November 2018 to explore and test recommendations which were emerging at the time, with members of the working group, academic staff, representatives of professional bodies, and policy makers.

At the time the report was originally planned for publication, the first COVID-19 lockdown came into force, and it became apparent that the pandemic would also have significant impact on teaching and research in higher education. It was therefore decided to pause this work and revisit it when evidence of the potential longer-term implications became available and the report could be updated to reflect this new reality. McIntosh et al's Critical examination of the teaching-research nexus: academic contracts in UK universities updated the initial literature review and provided additional analyses of data on academic contracts between 2012/13 and 2019/20 alongside semi-structured interviews conducted with senior academics in Summer 2021.24

The commissioned research for this project and this report also make use of a range of quantitative data sources. Unless stated otherwise, the quantitative data cited is derived from the Higher Education Statistics Agency (HESA) and has been extracted from multiple sources including HESA open data releases, Heidi Plus data, and HESA tailored datasets.²⁵ Where percentage figures derived from the data are cited in this report, they have been rounded to the nearest whole number.

Where HESA data is used, neither the Higher Education Statistics Agency Limited nor HESA Services Limited can accept responsibility for any inferences or conclusions derived by third parties from HESA Data or other information supplied by the Higher Education Statistics Agency Limited or HESA Services Limited through Heidi Plus.

In writing up the findings that follow, we refer to subjects in the arts, humanities and social sciences using the acronym SHAPE (Social Sciences, Humanities and the Arts for People and the Economy).²⁶ The pieces of research commissioned for this report and any other sources cited, however, may refer to them variously as humanities and social sciences (HSS) or arts, humanities and social sciences (AHSS). Where these have been quoted from directly, this usage has been retained.

- 22 McKinley et al, An Exploration of the Teaching-Research Nexus.
- 23 The British Academy, NUS Insights Student Survey. 24
- McIntosh et al, Critical examination of the teaching-research nexus. 25 The tailored datasets made use of HESA staff records for 2012/13 - 2019/20.

²¹ McIntosh et al, Critical examination of the teaching-research nexus. It was not possible to secure interviews with senior staff at any higher education institutions in Northern Ireland.

See https://thisisshape.org.uk/.

Institutions are referred to throughout as either 'teaching-focused', 'researchfocused' or 'teaching and research balanced', this is contrast to their classification in the research undertaken by McKinley *et al* and McIntosh *et al* where 'teaching strong' and 'research strong' is used alongside 'balanced'.²⁷ Contracts are referred throughout as either 'teaching-only', 'research-only' or 'balanced teaching and research', in accordance with their definition in the HESA data.²⁸

This project summary report draws on the findings of the commissioned research. It is not a comprehensive summary of the research and readers are encouraged to consult the full reports on the Academy's website for further information.²⁹

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- Dr Saranne Weller, Reader in Higher Education Practice and Development, St George's, University of London

British Academy staff:³¹

- Dr Joanna Thornborough, Senior Policy Adviser (HE and Skills)
- Harriet Barnes, then Head of Policy (HE and Skills)

As noted in McIntosh et al, Critical examination of the teaching-research nexus, p. 5, their typology was developed using published information evaluating institutions' teaching and research, including the Teaching Excellence and Student Outcomes Framework (also known simply as the Teaching Excellence Framework). It was not possible to replicate this methodology for the 2021 study as the Teaching Excellence and Student Outcomes Framework was suspended following the outbreak of the pandemic and the move to remote teaching provision in early 2020. See also the 'Methodology' in McIntosh et al, Critical examination of the teaching-research nexus, p. 8. See HE5A Open Data on Staff at https://www.hesa.ac.uk/data-and-analysis/staff/employment-conditions

See HESA Open Data on Staff at https://www.hesa.ac.uk/data-and-analysis/staff/employment-conditions.
 https://www.thebritishacademv.ac.uk/publications/teaching-research-nexus/.

Research England were also consulted as part of the project.

³¹ Jonathan Matthews, Policy Manager, and Chinara Rustamova, Policy Adviser, were also involved in the early stages of the project.

Findings

Summary

Research conducted for this report has demonstrated a picture of both concord and discord when it comes to the teaching-research nexus. The value of the nexus and the positive impact that teaching and research can have on each other is widely appreciated. However, various pressures and expectations on both activities, at institutional and sector level, and increasing competition and internationalisation across the higher education sector is straining the relationship and polarising the two activities.

The two surveys conducted in 2018 showed that the majority of both students and academics perceived a relationship between teaching and research. 94% of student responses identified some form of connection between the teaching and research, as did 90-94% of academics.³² Just 5% of student responses either saw no relationship between teaching and research or commented that they did not know. Similarly, the staff survey found only a minority of academics doubting either the value or the existence of a nexus.33

One academic highlighted the value of a reciprocal relationship between teaching and research to their practice in this way:

'For me they are always connected. I have been thinking about a very new research topic recently and have designed a third-year module according [sic] so that I can study it at the same time as teaching students. In fact, I am hoping that students will open up new avenues of research.'34

What is apparent from the studies and surveys conducted for this project, however, is the extent to which the nexus is challenged in practice by higher education policy, funding priorities, and increasing workload burdens placed on academics.

The initial staff survey found that, in practice, institutional structures tended to separate teaching and research, something which was furthered by the separation of funding streams and incentives for research from those for teaching.³⁵ This division was also seen reflected in academic hiring and promotion practices.³⁶ Responses from across institutions make it apparent that the perceived inequality in esteem with which institutions hold teaching and research, combined with concurrent pressures on academics to achieve excellence in both activities, is resulting in increasingly unfair expectations being placed on individuals.³⁷

³² McKinley et al, An Exploration of the Teaching-Research Nexus, p. 43.

³³ Ibid pp 42-45 34

Ibid, p. 43. This academic's type of institution was not listed. 35 Ibid, pp. 48-49 and see pp. 27-28 for an international perspective

³⁶ Ibid, pp. 49-50

Ibid, pp. 50-52 37

A lack of targeted funding to improve the relationship between teaching and research was identified as the primary barrier to the successful operation of the nexus in practice, particularly in those international higher education policy structures analysed by McKinley *et al.*³⁸ Since the global financial crisis of 2008 there has been a decline in state funding for higher education across the world and a more intense competition for resources has combined with increased focus on research in higher education funding models.³⁹ Whilst the move to remote provision and a greater focus on teaching during the pandemic may seem to be beneficial to the nexus, the corresponding impact on academic contracts – particularly those fixed-term or teaching-only – has been quite varied across different institutions and, in some cases, quite contradictory.⁴⁰

Within the UK's higher education sector, the continued focus on research assessment, through the REF and the current Future Research Assessment Programme (FRAP), has emphasised the importance of research output, including for some aspects of institutional funding. In doing so, it has increased pressures on academics to produce and publish their research in a timely and impactful manner. Whilst the introduction and continued development of the TEF may go some way to redressing the balance, a lack of connection between this framework and established funding models and management of the TEF by the Office for Students and of the REF by UKRI may continue to make the sharing of best practice around the connected activities of teaching and research more difficult.⁴¹

Responses to the student survey indicated the value that students place on tutors and lecturers using research to ensure that teaching materials and content are up to date and relevant, something which suggests the importance of a relationship between teaching and research. One PGR student commented that:

'Research informs teaching, and brings new insights and new thoughts to allow teaching to reflect the latest thinking on a topic... it can seed the idea of challenging what that research tells us – laying the groundwork for the student, at any level, to hone critical skills. Teaching enables researchers to understand how research is received ...'⁴²

Notably, some students also highlighted the importance of integrating teaching and research for training a new generation of researchers, as well as academics developing and maintaining effective and innovative teaching practices.⁴³

Our research shows that understanding of the ways the nexus of teaching and research may work and the benefits it may bring varies between individuals and their responses to the various institutional and sector pressures and priorities. The nexus may also manifest differently in different disciplines and at different grades within institutions. It was noted that research and researchers may be less visible in SHAPE subjects than they are in STEM subjects. An academic in a lab coat or working in a lab may be more recognisable to students and the general public as a researcher than an academic in a library or archive. This could be made beneficial to the nexus, however, as it could emphasise the close relationship between teaching and research in SHAPE subjects.

³⁸ McKinley et al, An Exploration of the Teaching-Research Nexus, pp. 30-34.

³⁹ Ibid, pp. 28, 30-32, 49 and 53.

⁴⁰ McIntosh et al, Critical examination of the teaching-research nexus, pp. 27-28.

⁴¹ See for example the British Academy's responses to two recent consultations on the future of the TEF, The British Academy (2019), Response to the Independent Review of the Teaching Excellence and Student Outcomes Framework; The British Academy (2022), British Academy response to the Office for Students' consultation on the Teaching Excellence Framework (TEF), p. 3.

⁴² The British Academy, NUS Insights Student Survey, p. 11. The student listed their subject area as 'Other'

⁴³ Responses to the survey conducted by NUS Insights team for the British Academy.

It may be the case that the nexus is not as universal as once thought and is in fact more subject specific, or that the relationship between teaching and research is more one-way across the part of the subject spectrum than has hitherto been appreciated. More research may need to be conducted into the relationship between teaching and research in different subjects, to ascertain whether the idea of a nexus always reflects current reality.

Overall, this project shows that whilst the nexus itself is not dead, the complex, multi-faceted, and multi-directional nature of the relationship between teaching and research that emerges in both theory and practice may mean that a simplified idea of the nexus – where research and teaching are mutually supportive – may no longer accurately reflect, or appropriately represent the contemporary reality of UK and international higher education.⁴⁴

The research commissioned for this project indicates that the teaching-research nexus should not be oversimplified, nor should it be taken for granted as just 'being', rather it is something which needs to be actively engaged with if it is to have any meaning at all in practice. There are recognised benefits to having a mutually supportive relationship between teaching and research and this view was shared by a majority of those students and staff surveyed for this project.⁴⁵ In reality, however, it seems that this is more difficult to achieve.

The evidence suggests opportunities for change and the development of a closer and more beneficial relationship between teaching and research in higher education, more akin to a nexus; it also highlights some challenges. This is set out below for different groups of stakeholders at all levels of the UK's higher education sector along with some suggestions for what might help improve the teaching-research nexus in each case. Evidence from the NUS Insights Survey focuses primarily on students but also offers the dual perspective of postgraduate research students who may also be engaged in teaching activity. The research conducted by McKinley *et al* and McIntosh *et al* offers qualitative and quantitative evidence related to academics and higher education institutions. Taken together and combined with wider discourse and policy, this research ultimately offers some thoughts and suggestions for the sector as a whole and its governance.

The International Dimension

The UK, and England in particular, is not unique in its emphasis on research assessment and output through measures such as the REF, nor in its higher education environment increasing the separation of teaching and research. Australia, the United States and Malaysia all have research-focused funding models, as does New Zealand which has also had separate funding for teaching and research since 2000.⁴⁶ Policy developments favouring research in the Netherlands have, however, demonstrated how a separation of teaching and research can have gender equality implications, as female academics do proportionately more teaching than their male colleagues.⁴⁷

⁴⁴ McKinley et al, An Exploration of the Teaching-Research Nexus, p. 54.

⁴⁵ See McKinley et al, An Exploration of the Teaching-Research Nexus, especially pp. 34-53 and The British Academy, NUS Insights Student Survey, pp. 9-11.

⁴⁶ McKinley et al, An Exploration of the Teaching-Research Nexus, pp. 13-15 and p. 25.

⁴⁷ Ibid, p. 21

There is evidence from international examples, too, of the nexus being put to positive use in higher education policy. Singapore has used the relationship between teaching and research to support advances in design and technology-assisted learning, with financial support from its Ministry of Education.⁴⁸ Developments in Irish higher education policy have also shown signs of moving towards a closer relationship between teaching and research.⁴⁹ In Norway, policy balances a broader emphasis on research with the importance of teaching quality in its higher education institutions.⁵⁰ Although a product of the country's specific historical and political context, South African policy provides an example of how the relationship between teaching and research can be used to address concerns around inequality, growth, and social mobility. A focus of its Quality Enhancement Project, established in 2014, has been to enhance the teaching proficiency and practice of academics, to support better student completion rates in a country with one of the lowest enrolment rates in education amongst 15-19 and 20-29-year-olds amongst OECD countries.⁵¹

Students

Understanding teaching and research

The students surveyed for this project came from all subject areas and overwhelmingly identified a connection between teaching and research, at least in a general sense, and with no discernible difference of opinion between those studying STEM subjects and those studying SHAPE subjects. Of these, however, 92%, across all disciplines, understood this as a one-way relationship, with research influencing teaching.⁵² Lack of awareness of a bidirectional nexus suggests that the potential for teaching to influence research, and thus the potential for students themselves to have some agency in the research process, is not being effectively communicated or demonstrated – a missed opportunity. One postgraduate taught (PGT) student in Creative Arts and Design responded that:

'I feel that research is something that is undertaken separately from the dayto-day work of teaching, but the result of the research should be something that ultimately ends up enriching the teaching that is given at that university.'53

The way in which students understand 'research' appears different to an academic's or university leader's interpretation and may be linked to a lack of exposure to a 'research culture' before reaching university. A lack of research visibility for some subjects and a lack of understanding of student agency in the learning process at higher education-level, particularly for undergraduate students, may also compound the issue. Linking the relationship between teaching and research to the visibility of these two activities is important for a student's understanding of and belief in what higher education is for. It is also important for institutional reputations and broader conceptions of the value of higher education in society.

53 This student response was sourced as part of the NUS Insights survey commissioned for this project

⁴⁸ *Ibid*, pp. 26-27.49 *Ibid*, p. 20.

⁵⁰ *Ibid*, pp. 21-22

⁵¹ Ibid, pp, 16-17.

⁵² The British Academy, NUS Insights Student Survey, p. 11.

Recognition of a reciprocal relationship between teaching and research was only reported by a small number of students surveyed, though of these, the majority were SHAPE students, with an even split across undergraduate and postgraduate taught and research. One undergraduate student studying Languages responded that:

'Both are essential elements of the university environment – research allows for more innovative teaching and teaching inspires ideas for further research, as well as training future researchers.'⁵⁴

Another undergraduate student, this time studying Law, responded that:

'I always understood that they are intrinsically linked'.55

Some students also noted the different skills required for teaching and research, with both undergraduate and postgraduate responses suggesting that people who are successful researchers are not always perceived to be the best teachers.

Of the 1311 responses to the survey, only 5% either saw no relationship between teaching and research or commented that they did not know. Of these, 68% were undergraduates, suggesting that understanding of a relationship may become more apparent as engagement with both teaching and research develops during postgraduate study. Research undertaken by Clark and Hordósy has also demonstrated that undergraduates' experiences of the nexus develops over the course of their studies.⁵⁶

Students and research

Clark and Hordósy's research looked across a range of subjects and identified issues such as a perceived distance between students and researchers and a link with participation issues – including ethnic and class-related identities – potentially forming barriers to an individual student's understanding of the relationship between teaching and research.⁵⁷ Greater acknowledgement of the contributions of students from various backgrounds may help to break down these barriers and help all students to be able to envisage themselves as researchers. This is especially important given the acknowledged lack of racial and ethnic diversity and inequality of attainment which exists across higher education and across subjects, as evidenced by reports published by the Royal Historical Society and the Royal Geographical Society, for example, and research undertaken by Advance HE, and Universities UK with the National Union of Students.⁵⁸

⁵⁴ The British Academy, NUS Insights Student Survey, p. 11.

⁵⁵ *Ibid*, p. 10.

⁵⁶ Clark, T., and Hordósy, R. (February 2019), 'Undergraduate experiences of the research/teaching nexus across the whole student lifecycle', Teaching in Higher Education, 24.3, pp. 412-427.

⁵⁷ Clark and Hordósy, 'Undergraduate experiences of research/teaching nexus'.

⁵⁸ Atkinson, H., Bardgett, S., Budd, A., Finn, M., Kissane, C., Qureshi, S., Saha, J., Siblon, J., and Sivasundaram, S. (October, 2018), Race, Ethnicity & Equality in UK History: A Report and Resource for Change, Royal Historical Society; Thomas, D., Ashworth, P., Neild, J., and Souch, C. (August 2017), International Benchmarking Review of UK Physical Geography, Royal Geographical Society with IBG; Royal Geographical Society with IBG, Economic and Social Research Council and Arts and Humanities Research Council (February 2013), International Benchmarking Review of UK Human Geography; Advance HE (2020), Equality and higher education: staff statistical report 2020; Advance HE (2020), Equality in higher education: students statistical report 2020; Universities UK and National Union of Students (2019), Black, Asian and Minority Ethnic Student Attainment at UK Universities: #closingthegap.

Postgraduate students often bridge the gap between teaching and research. Time pressures and funding requirements can, however, limit the amount of time that postgraduate research students can devote to teaching and make it difficult for them to make the most of the potential value of the nexus. There is also great potential value in the increasing popularity of undergraduate research conferences.

Student responses to the NUS Insights survey also suggest a perception that greater emphasis and pressure on the importance of research could be a hindrance to good teaching and negatively affect the connection and relationship between the activities. A PGT student in Business and Administrative Studies commented that:

'It seems that academics are highly pressured to research and publish and that this detracts from their ability to teach new and interesting material and to give attention to students.'59

70% of such comments came from undergraduates and 53% of the comments from SHAPE students. This may reflect the conflict between the ideal of the teachingresearch nexus and the perception of this relationship in practice. This supports the suggestion in our commissioned research that we need to consider whether institutional structures support academics in the practical negotiation of research and teaching priorities.

The impact of the COVID-19 pandemic and resultant restrictions on the way in which higher education institutions delivered teaching to their students is now being reflected in student satisfaction. Responses to sector-level Covid questions in the most recent iteration of the National Student Survey show that, alongside support for mental wellbeing, students were least content with the delivery of learning and teaching of their course.⁶⁰. Whether this decrease in satisfaction has come from the fact that teaching provision during much of the pandemic has been delivered remotely or in a hybrid format rather than face-to-face, or whether dissatisfaction has been with the quality of the teaching itself is not fully clear. Academics have certainly commented on the additional pressures of delivering learning online and being expected to deliver 'business as usual' levels of provision when circumstances have been anything but.⁶¹ Whether or not teaching practices have seen a permanent shift as a result of the pandemic cannot yet be known. Greater support for academics to deliver newer forms of teaching, however, are likely to result in better outcomes and better satisfaction, as well as greater accessibility, for students.

Students and the teaching-research nexus

The evidence above suggests the following opportunities for strengthening the nexus between teaching and research for students:

Institutions could develop more effective strategies for effectively communicating the reciprocal relationship between teaching and research to their students, at all levels of study, indicating a productive means of working in partnership with students. This would also help students to appreciate how research helps to shape their curricula, and how this in turn helps to shape research before the advanced stage of study when they are expected to conduct first-hand research themselves.

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⁵⁹ The British Academy, NUS Insights Student Survey, p. 13

⁶⁰ Tableau analysis of 2021 National Student Survey data in Kernohan, D. (July 2021), 'What can we see in the 2021 National Student Survey?', WonkHE, Only those students who completed the survey online were offered the additional. Covid-focused questions, and so the responses represent 38.6% of eligible students' views in the cohort.

Wray and Kinman, Supporting Staff Wellbeing in Higher Education, especially pp. 36-39

Academics

The impact of competing roles and priorities

As with students, most academics surveyed perceived some form of relationship between teaching and research. Given the wide variety of activities that academics across institutional and contract types engage with, and the different balances between teaching and research that they entail, this would seem encouraging; however, this relationship was not always viewed in terms of a nexus.

In order to fulfil the various aspects of their role, the research confirmed that academics frequently work beyond normal contract hours, and this can have a negative impact upon mental health and productivity. It may also make individual academics more reluctant to try new and innovative teaching practices due to the potential extra work involved alongside increasing numbers of students. This can be seen in the responses from those academics who reported little correlation between their teaching and research activities, which they saw as primarily resulting from increased teaching loads, requiring them to teach outside their own areas of research and specialism.⁶² One early career academic from a research-focused institution commented that:

'Sadly, if this [the integration of teaching and research] was ever routinely the case, I do not think it is now. The numbers of students are so great and the staff numbers too few that we all have to do a lot of teaching, which translates into a lot of teaching which is not related in any way to my research area.'⁶³

The swift re-focus on teaching necessitated by the pandemic seems to have exacerbated these pressures, as it has not been accompanied by a lessening of focus on or pressures to research. One senior academic at a teaching-focused institution in Wales noting that the prioritisation of teaching had not been accompanied by a lessening in research pressures:

"... there was an email that I think possibly is regretted in retrospect, coming round saying we know you're going to have to focus on your teaching, not your research at the moment. But then, of course, the targets remained the same for research." ⁶⁴

This leads to questions about the usefulness of the nexus as an ideal. Academics who are not themselves able to engage in a nexus between teaching and research are less likely to be able to demonstrate its value to their students. This is especially the case for those teaching-focused staff who are not afforded time to conduct their own research. The impact of competing pressures on academics has also not gone unnoticed by students, as one taught postgraduate student in Historical and Philosophical Studies commented:

'The popular conception is that teaching and research often pull in different directions and that career academics resent having to teach because it takes them away from research. I think this is largely true, though not because of over disinclination on the part of academics. Rather it is a response to limited time and a heavy work schedule. Research is stressful and demanding, and there is no great inducement to teach beyond acceptance that it is expected as a source of employment.'⁶⁵

⁶² McKinley et al, An Exploration of the Teaching-Research Nexus, pp. 44-45.

⁶³ Ibid, p. 44.

⁶⁴ McIntosh et al, Critical examination of the teaching-research nexus, p. 27.

⁶⁵ This student response was sourced as part of the NUS Insights survey commissioned for this project.

Institutional priorities were also seen to have an impact on the way in which individual academics viewed the relationship between teaching and research. Those at teaching-focused institutions viewed the main motivation for their academic work as the teaching and welfare of their students; something that was expressed by academics at all career stages.⁶⁶ Those at institutions with a balance between teaching and research, or at research-focused institutions, viewed personal fulfilment as their primary academic motivator, though research motivations and the interlinking of teaching and research were also mentioned.⁶⁷

Concerns about students were also a feature of teaching and research balanced and teaching-focused institutions in the way they articulated their purpose. This supports the findings of a study by Abbas *et al*, which concluded that excellent teaching in SHAPE subjects is associated with developing critical thinking and social responsibility in students.⁶⁸ By contrast, senior managers at research-focused institutions were lacking this narrative in their institutional view and they made no mention of the role of higher education institutions in fostering citizenship through their teaching and research.⁶⁹ This suggests a disconnect between managers and academics over the role of higher education and of teaching at some institutions.

The current trend towards monocultural contracts, particularly for early career researchers, and the division of labour within institutions which tends to exacerbate the trend towards the separation of teaching and research, has potential lasting impacts for both activities. This is seen echoed in opportunities for professional development noted in the research conducted for this report which, while there were some examples of a more blended approach, tended to be focused on either teaching or research within strictly delineated career pathways.⁷⁰ Where teaching is mentioned in Vitae's Researcher Development Framework, for example, the relationship with research activity and researcher development is framed as research influencing teaching, with no suggestion of a reciprocal relationship.⁷¹ The Concordat to Support the Career Development of Researchers, while it does acknowledge the researcher community in its wider sense to include postgraduate researchers, those on teaching-only contracts or other types of contract who may still engage in research activity, as well as teaching forming part of a research identity, does not otherwise link the practices of teaching and research.⁷² While there are concordats such as this to support researchers, there is no concordat with a similar remit for teaching or teachers.

Early career academics on a more balanced teaching and research contract must often meet certain criteria across research, teaching and management/ administration in order to progress to more contractual security. Failure to do so or a need to prioritise teaching may impact their ability to conduct research and thus to remain on a permanent balanced teaching and research contract.⁷³ Not only does this have implications for their ability to explore and engage with a nexus in their careers, but it also impacts on their personal lives, such as in the ability to get a mortgage, and thus risks perpetuating the cycle of pressure. With the greater

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⁶⁶ McKinley et al, An Exploration of the Teaching-Research Nexus, p. 41.

⁶⁷ Ibid.

⁶⁸ McKinley et al, An Exploration of the Teaching-Research Nexus, p. 7 and p. 53, citing Abbas, A., Abbas, J., Brayman, K., Brennan, J., and Gantogtokh, O. (2016), Teaching Excellence in the Disciplines, Higher Education Academy.

McKinley et al, An Exploration of the Teaching-Research Nexus, p. 40.

⁶⁹ McKinley et al, Ar 70 *Ibid*, p. 49.

⁷¹ See the Vitae (2011), Researcher Development Framework. This is also the case with the 'Teaching Lens' on the Framework, The Higher Education Academy and Vitae (2013), Teaching lens on the Vitae Researcher Development Framework and the UK Professional Standards Framework (UKPSF). Version 2.

Vitae and Universities UK (September 2019), The Concordat to Support the Career Development of Researchers. Commonly known as the Researcher Development Concordat.

⁷³ McIntosh et al, Critical examination of the teaching-research nexus, p. 28.

emphasis on teaching currently, as a result of the pandemic, it remains to be seen what the longer-term implications of this will be for these early career researchers and also for the future of the nexus.

A gender imbalance is also apparent between research and teaching career pathways, with one institution noting, pre-pandemic, that its research committees were populated by senior male academics, while female academics made up the majority of seats on teaching and learning committees.⁷⁴ Gender inequality, pay gaps and precarity in the UK's higher education sector were also the focus of industrial action in 2018.⁷⁵ While the gender balance across all types of contract in the sector has been improving since 2012/13, women continue to hold a greater proportion of teaching-only contracts (53% in 2019/20) with 58% of balanced teaching and research contracts being held by men.⁷⁶ Women also continue to hold the greater proportion of part-time permanent contracts of all types.⁷⁷ In interviews with senior staff, one interviewee from a teaching and research balanced institution in the south of England commented that:

'... there are huge and obvious gender disparities across all the contracts and academic ranks.' $^{\rm 78}\,$

Another interviewee from a separate teaching and research balanced institution, also in the south of England commented that:

'By and large, if you are on a teaching-only contract, you are a woman.'79

There is also anecdotal evidence that female academics have been disproportionately impacted during the pandemic, having a greater share of caring responsibilities at home, while also trying to balance teaching and research commitments.⁸⁰ For those female academics already on teaching-only contracts and having to conduct research outside their core contractual commitments, this places even greater strains on the relationship between teaching and research and their ability to enact the nexus.

It was noted above that there is a lack of racial and ethnic diversity and inequality of attainment amongst students in the higher education sector, and this is also apparent amongst academic staff in SHAPE subjects. The proportion of Black, Asian and mixed ethnicity academics on teaching-only contracts in SHAPE subjects increased by 148%, 92%, and 126% respectively, between 2012/13 and 2019/20.⁸¹ Not only does this continued bifurcation of teaching and research potentially further entrench inequalities in academia and higher education more generally, but it also poses problems for the future of the nexus if only a select few are given the opportunity to successfully integrate both teaching and research.

- 78 Ibid, p. 23. This institution is listed as 'South 2'.
- 79 Ibid. This institution is listed as 'South 1'

⁷⁴ McKinley et al, An Exploration of the Teaching-Research Nexus, p. 49.

McIntosh et al, Critical examination of the teaching-research nexus, p. 7, citing Bergfeld, M. (2018), "Do you believe in life after work?" The University and College Union Strike in Britain', Transfer: European Review of Labour and Research, 73(2), pp. 233-236.
 McIntosh et al, Critical examination of the teaching-research nexus, pp. 13-15.

⁷ Ibid, pp. 13-17.

⁸⁰ McIntosh et al, Critical examination of the teaching-research nexus, p. 27. The imbalance in the gender labour load during the COVID-19 pandemic, though not research-specific, is also discussed in 'Knowledge, employment and skills', in The British Academy (2021), The Covid Decade: Understanding the long-term societal impacts of COVID-19, pp. 92-122.

⁸¹ McIntosh et al, Critical examination of the teaching-research nexus, p. 18

Using the nexus in practice

It is widely recognised that many academics were motivated to pursue that career path by particularly inspiring lecturers or tutors of their own. Teaching thus has an important role to place in the future sustainability of academia and higher education across all subjects. We should not assume, however, that utilising the teaching-research nexus is something that academics will naturally do rather than something which itself has to be developed. The topic of scholarship and enquiry into pedagogical research was also raised in the research undertaken for this project as an area which should receive more attention, and which was central to supporting and getting the most out of the nexus. Whilst work has been done on the positive impact of research on teaching, fewer studies have focused on how teaching benefits research.⁸²

The 2018 survey of academics conducted for this project demonstrated the different ways in which the relationship between teaching and research plays out in their dayto-day work. While this may challenge a simplistic, bidirectional, view of a nexus, the responses suggest that the reason for this is not an inherent incompatibility between the activities of teaching and research, but rather the impact of competing priorities at institutional and sector level.

The pandemic has added to these pressures for many academics, though not for all. One senior staff member from a teaching-focused institution in the South East of England noted the particular impact on female colleagues who had to balance teaching and research with home-schooling and caring responsibilities.⁸³ These circumstances would make it even more difficult for them to employ the teaching research nexus in their teaching and research activities. Another senior academic from a research-focused institution in London commented that some academics had benefited from home working and no longer having to commute but acknowledged that, overall, research had suffered.⁸⁴

Academics surveyed in 2018 reported increasing pressure to excel across the wide range of activities required of them and there was much debate over whether the current level of expectations placed upon academics were realistic or appropriate. Those at research-focused institutions in particular also more commonly mentioned greater pressures as a result of the introduction of the TEF and increasing student numbers.⁸⁵

There is also evidence that institutions strategically deploy different contract types depending on financial conditions in the sector, as well as institutional and sectorwide policy priorities and that this occurred both before and in response to the pandemic. Governmental policy priorities, notably the REF, were cited in terms of their impacts on academic contracts, with some staff being moved to teaching-only contracts if they were deemed 'un-REF-able'.⁸⁶ A recent report on staffing patterns in UK higher education also identified a 'spike' in teaching-only contracts across higher education institutions, which coincided with the approach of the REF census of eligible academics.⁸⁷

McKinley et al, An Exploration of the Teaching-Research Nexus, p. 11.
 McIntosh et al, Critical examination of the teaching-research nexus, p. 27.

McIntosh et al, Critical examination of the teach
 Ibid, p. 28. This institution is listed as 'London 2'.

McKinley et al. An Exploration of the Teaching-Research Nexus. p. 44.

⁸⁶ McIntosh et al, Critical examination of the teaching-research nexus, pp. 21-22.

⁸⁷ Wolf and Jenkins, Managers and academics, p. 70.

Responses to the pandemic across the higher education sector in terms of contract have not been consistent, with some institutions increasing numbers of fixedterm teaching-only contracts in order to meet increasing demand, whilst others cut temporary contracts or held back new hires in light of financial uncertainty.88 Finances were mentioned by all senior staff interviewees as a key, long standing influence on contract types, with one from a teaching and research balanced institution in the South of England saying:

'Finances play the only part that I can see, really'.⁸⁹

Whilst the long-term financial impacts of COVID-19 for the higher education sector remain unclear, the contractual choices made now may have long lasting implications for the future of the teaching-research nexus.

Academics and the teaching-research nexus

The evidence above suggests the following opportunities for strengthening the nexus between teaching and research for academics:

- Sector agencies, such as Advance HE or other organisations as appropriate. could work to promote the value of the interrelationship between teaching and research and increase recognition of the reciprocal relationship between the two through the UK Professional Standards Framework (UKPSF),⁹⁰ Vitae's Researcher Development Framework,⁹¹ the Concordat to Support the Career Development of Researchers,⁹² and the Concordat to Support Research Integrity.⁹³
- Fellows and Associate Fellows of Advance HE (formerly the Higher Education Academy), and accredited members of other appropriate sector agencies and institutions, could encourage the development of a culture of greater reflective practice and of pedagogical practices which enhance the relationship between teaching and research.
- Institutions could support academics by giving them time to undertake both teaching and research (or scholarship), as well as to explore how their teaching and research could be integrated to the benefit of both activities - not just in terms of research-led teaching, but also teaching-led research. Institutions can foster an open dialogue on workforce planning and the rationale for supporting teaching and research specialists as well as academics on balanced teaching and research contracts, the reason for this division of labour, how it relates to the nexus, and whether the nexus would work on a community level rather than necessarily with an individual.
- Post-pandemic, institutions and the sector more broadly could recognise and address the workload pressures faced by academics. The nexus may provide a more neutral means by which all parties can approach and contextualise this issue by means of discussion of the nexus and the ideal of the academic endeavour as fundamentally connecting research and teaching.

McIntosh et al, Critical examination of the teaching-research nexus, p. 28. 88 89

Ibid, p. 20. This institution is listed as 'South 1'. 90

Advance HE et al (2011), The UK Professional Standards Framework for teaching and supporting learning in higher education

⁹¹ Vitae (2011), Researcher Development Framework Vitae and Universities UK (2019). The Concordat to Support the Career Development of Researchers. Commonly known as the Researcher

⁹²

Development Concordat

⁹³ Universities UK (2019), The Concordat to Support Research Integrity.

Institutions

Separating teaching and research

As well as being separated in the ministerial portfolio, a structural separation between teaching and research seems apparent across all types of institution; seen in senior management roles such as Pro-Vice Chancellor for Research and Pro-Vice Chancellor for Teaching and mirrored at departmental level in positions such as Director of Research or Director of Teaching and Learning.⁹⁴ Such practical structural separation may be difficult to overcome when it comes to the practice of teaching and research and in trying to attain a parity of esteem between the two.

The wider higher education landscape and the separation of research funding from funding for teaching activity can serve to further such divisions. Of those higher education institutions taking part in the staff survey conducted for this report, most lacked a coherent institutional plan aimed at strengthening the relationship between teaching and research.⁹⁵ This suggests that the nexus is not recognised as an institutional priority by managers and those shaping the direction of individual institutions, even though its benefits may be recognised by both academics and students. Across the international higher education sectors analysed by McKinley *et al*, a lack of targeted funding to support this work was viewed as presenting the main barrier to greater integration.⁹⁶ Teaching and research balanced and teaching-focused institutions also noted that the nexus was not something that they had previously been asked much about, with the emphasis of studies to date being on research-focused higher education institutions.

There is some evidence from teaching and research balanced universities, however, that a closer relationship between teaching and research can be achieved at an institutional level and research conducted for the independent review of the TEF found that the framework had helped to raise the profile of teaching and the 'importance of the educational dimension' to institution's missions.⁹⁷ Teaching and research balanced institutions appeared to have developed greater parity between teaching and research in terms of career and promotion pathways, with some reporting the introduction of teaching-only career pathways which allowed equal progression.⁹⁸ A senior staff member from a teaching-focused institution in Wales commented that:

'... with a lot of things that drive academia, including REF, there's quite a lot of pressure, responsibility that lies with the policy-makers within an institution and also the line managers and team leaders in an institution to humanize it and to make it work in a collegial way.'⁹⁹

97 Pearce, S. (2019), Independent Review of the Teaching Excellence and Student Outcomes Framework (TEF). Report to the Secretary of State for Education, pp. 23 and 77.

⁹⁴ McKinley et al, An Exploration of the Teaching-Research Nexus, p. 48.

⁹⁵ *Ibid*, pp. 33-34. 96 *Ibid*, p. 33.

⁹⁶ *Ibia*, p. 33.

⁹⁸ McKinley et al, An Exploration of the Teaching-Research Nexus, p. 49.

⁹⁹ McIntosh et al, Critical examination of the teaching-research nexus, p. 24.

Although one teaching-focused institution noted that some staff not deemed able to produce outputs suitable for submission to the REF were 'leant upon' to leave, findings from other institutions suggested current metrics may also be used to benefit the nexus.¹⁰⁰ One institution, which described itself as organised around maximising opportunities for students, perceived benefit for students in using the TEF's principal values about the learning environment to more closely align teaching and research.101

The expansion of the TEF may make teaching more of a 'live issue' for institutions, but there is also the potential for the combined pressures of REF and TEF to further polarise these activities and see academic staff directed into either teaching-only or research-only contracts. Research conducted as part of the Independent Pearce Review into the TEF indicated a greater focus on teaching-only contracts as a negative consequence of the introduction of the TEF and, possibly, also the REF and its new inclusion criteria; it was also noted that, for those institutions in receipt of a Bronze TEF award, there had been some reduction in morale amongst teaching staff.¹⁰²

The link between REF results and funding revenues was seen to still dominate institutional approaches to the relative values of teaching and research. At teaching and research balanced institutions, no academics surveyed thought that teaching was prioritised in promotion criteria.¹⁰³ Before the pandemic, research was viewed as the predominant factor in the hiring of new staff and the prioritisation of work across all types of institution.¹⁰⁴ One late-career academic from a teaching and research balanced institution reported that bias in favour of research potential, particularly REF-returnable publications, in institutional hiring practices meant that:

... I have to work with lots of teaching staff who haven't a clue what they are doing and even worse don't take an interest in teaching.⁷⁰⁵

One senior manager at a research-focused institution noted that academics not attracting constant streams of research funding could be deemed to be more 'suited' to administrative roles.¹⁰⁶

It is possible that the renewed focus on teaching which has occurred in light of the pandemic and its impacts on student experience may help to redress this balance and one respondent, from a research-focused institution, noted that teaching should be valued more because the majority of an academic's salary is derived from tuition fees.¹⁰⁷ Interviews conducted with senior staff also demonstrated an acknowledgement that the trend to separate teaching and research was not a positive one and perhaps even outdated. One interviewee from a research-focused institution in Scotland commented that:

'We've been making a big effort to reduce the gulf that exists between the superior research and the inferior teaching, that a lot of universities traditionally had, and I find that a really painful and old-fashioned view.^{'108}

¹⁰⁰ McKinley et al, An Exploration of the Teaching-Research Nexus, p. 40.

¹⁰¹ Ibid, p. 48.

Pearce, Independent Review of the Teaching Excellence and Student Outcomes Framework, pp. 80-81. 102 103

McKinley et al, An Exploration of the Teaching-Research Nexus, pp. 49-50, Table 6.

¹⁰⁴ McKinley et al, An Exploration of the Teaching-Research Nexus, p. 50, Table 7. See also Wolf and Jenkins, Managers and academics, p. 71. 105 McKinley et al, An Exploration of the Teaching-Research Nexus, p. 50

¹⁰⁶ Ibid. p. 38.

¹⁰⁷ McIntosh et al, Critical examination of the teaching-research nexus, p. 22.

¹⁰⁸ Ibid.

Embedding the nexus

The different styles of higher education institution within the sector, whether they be research-focused, teaching-focused, or teaching and research balanced, and how the nexus operates and fits in with their focus needs wider study. It may be more appropriate for some institutions to think of the nexus in terms of applied or technical education, rather than in terms of an 'academic' teaching-research nexus. Different department sizes and structures and different research cultures foster different relationships between teaching and research. Some environments may be more conducive to collaborative research, whilst others may favour independent individual research. What the nexus looks like in reality will therefore differ from department to department and from institution to institution.

Greater freedom to be creative with curricula and greater flexibility could help to foster a closer and more reciprocal relationship between teaching and research by allowing curricula to reflect emerging research directions. Making more use of the nexus in approaches to student learning could also be linked to graduate outcomes, through bringing added value to students in the form of learning which is more up to date, employability skills of greater flexibility and the ability to respond to change, more experience with group work, and broader pedagogical development than traditional coursework and exam-style assessments.

Institutions and the teaching-research nexus

The evidence above suggests the following opportunities for strengthening the nexus between teaching and research for higher education institutions:

- Sector agencies, such as Advance HE or other organisations as appropriate, could support institutions to explore more broadly the relationships between teaching and research. This could in part be achieved through greater communication between institutions on approaches to teaching and research in order to share best practice and raise awareness of the variability that exists across teaching and research practices.
- Government and the higher education sector could take a broader, sector-wide approach to policy development, engaging with teaching and research balanced and teaching-focused universities to provide a more balanced and realistic picture of the teaching-research nexus, rather than relying on the view from research-focused institutions.
- Institutions could develop or clarify promotion systems and criteria to have greater parity between teaching and research, in order to incentivise and reward academics for bringing research into their teaching, letting teaching influence their research, or for teaching outside of their area of specialism.

The sector and its context

Increased competitiveness

HESA data showed a sharp increase in numbers of academic staff employed on teaching-only contracts, compared to a more gradual increase in those on researchonly or balanced teaching and research contracts, between 2012/13 and 2019/20.¹⁰⁹ The findings of this project suggest that this trend may result in long term disadvantages for both teaching and research.

This separation may be occurring as a result of a growing competitive focus across the sector, reflected in institutional responses to league tables, performance frameworks based on metrics, and changes to policy in research assessment.¹¹⁰ Conversely, it may negatively impact individual academics and students, leaving them at a competitive disadvantage. As one late-career academic at a teachingfocused university responded, bringing their research into their teaching had positively impacted upon their research and afforded opportunities for undergraduate students to develop their own research skills and contribute to the research of academics. They commented that:

'I find if I am writing up my research and try out the reporting of findings with my undergraduates, then it improves my articulation of my research in papers and reports. From time-to-time students do come up with questions or even insights that can inform my research, in particular shed light on analysis. They can also give ideas for a new focus for research. Colleagues and I have taken on students as undergraduate research assistants as part of their optional employability modules.'¹¹¹

As well as individual students and academics losing the benefit of such interactions, there are potential long-term detrimental effects from severing the teaching-research nexus, not just for individual institutions but, given the collaborative and intradependent nature of higher education, to the entire institutional ecosystem and the innovations and knowledge which it brings to society.¹¹²

Failing to foster a connection

A lack of cross-referencing between the dominant frameworks for measuring excellence across the UK higher education sector may be seen to further contribute to the polarisation of teaching and research and clarity about the relationship between the TEF, REF, and KEF was mentioned as essential for the TEF's future development in the Independent Pearce Review.¹¹³ In their own responses to the TEF, however, the University and College Union have expressed concerns about the potential for increased competition between the TEF and the REF, as opposed to better complementarity.¹¹⁴ In the current specifications for the TEF, there is passing reference to links between 'teaching and learning, and scholarship, research or

¹⁰⁹ McIntosh et al, Critical examination of the teaching-research nexus, pp. 12-19, https://www.hesa.ac.uk/data-and-analysis/staff/employmentconditions.

¹¹⁰ See for example the findings in Wolf and Jenkins, Managers and academics, p. 15.

¹¹¹ McKinley et al, An Exploration of the Teaching-Research Nexus, p. 45.

¹¹² Ross, J. (26 September 2018), 'Brian Schmidt: separating teaching from research 'unsustainable'', Times Higher Education; see also the full text of Professor Schmidt's keynote address, published online by the Australian National University (26 September 2018), https://www.anu. edu.au/news/all-news/vice-chancellor-speech-to-the-world-academic-summit.

¹¹³ Pearce, Independent Review of the Teaching Excellence and Student Outcomes Framework, p. 27.

¹¹⁴ Pearce, Independent Review of the Teaching Excellence and Student Outcomes Framework, p. 81, citing University and College Union (2019), Understanding, recognising and rewarding teaching quality in higher education: an exploration of the impact and implications of the Teaching research Nexus, p. 6.

professional practice', as part of the learning environment aspect of quality, but none of the metrics which form the core of the framework relate to this.¹¹⁵ By failing to recognise and foster the beneficial relationship between these two activities, the sector is operating with a narrow view of 'excellence' in both areas.

The current direction of Government policy towards global leadership in research and development (R&D) does not suggest that this separation will be addressed. The current R&D People and Culture strategy talks about researchers engaging in a range of knowledge exchange activities and public engagement and gives the example of a survey stating that 49% of researchers gave public lectures and 36% worked with teachers and schools – what is noticeably absent, however, is mention of the fact that researchers themselves are often also teachers.¹¹⁶ While the guidelines for the 2014 REF did include impact on students and teaching within the definition of impact for submissions, they excluded such impact where it occurred within the submitting higher education institution.¹¹⁷ The situation has improved, but it is only in the 2021 cycle of the REF that the definition of impact now includes impacts on students, teaching or other activities both within and beyond the submitting higher education institution.¹¹⁸

More broadly, research funding is set to increase substantially as the government aims to raise public investment in R&D to 2.4% of GDP by 2027. This includes a commitment to invest £20bn by 2024/25.¹¹⁹ Whilst the allocation of this funding has not been outlined, it is reasonable to conclude that universities may receive additional funding for the training of increased numbers of PGR students as well as through existing research funders such as UKRI and the research councils, the National Academies, and research charities.

Though the cross subsidy between teaching and research has waned in recent years - particularly as the value of tuition fees have been eroded by inflation - its existence creates, on paper, a direct connection between teaching and research. Though the existing cross subsidy is drawn largely from international student fees, a reduction in domestic fees, in real terms or otherwise, would increase the shortfall in the cost of servicing these undergraduates, which currently includes a margin for sustainability and investment; the margin which allows universities to invest in new research and teaching programmes.¹²⁰

Aside from the direct funding implications, the potential scaling up of research funding, if accompanied by cuts to tuition fees and teaching grants, could create an imbalance which may destabilise the nexus. This could impact the nexus in some subjects and institutions more than others, particularly some arts subjects which have already seen a reduction in their teaching grant.¹²¹ As one interviewee from a teaching-focused institution in the South East put it: 'We're quite arts and humanities focused, quite creative-industries focused, and potential government policy won't serve us well here'.¹²² Current focus on so-called 'low value' courses also goes against the sense that higher education, including in SHAPE subjects, provides a range of general and transferable skills and attributes which are well suited to a

¹¹⁵ Department for Education (October 2017), Teaching Excellence and Student Outcomes Framework Specification, p. 24, no. 4.6.

¹¹⁶ Department for Business, Energy and Industrial Strategy (2021), *R&D People and Culture Strategy. People at the Heart of R&D*, p. 25.
117 REF 2014 (July 2011, updated January 2012), Assessment framework and guidance on submissions, Part 3, Section 3, no. 143 b, p. 27.

REF 2014 (July 2011, updated January 2012), Assessment tranework and guidance on submissions, Part 3, Section 3, no. 143.0, p.
 REF 2021 (January 2019) Research Excellence Framework, Guidance on Submissions, Part 3, Section 3, no. 300.b, p. 68.

H M Treasury (2021), Autumn Budget and Spending Review. A Stronger Economy for the British People.

¹²⁰ For more detail see Hillman, N. (2020), From T to R revisited: Cross-subsidies from teaching to research after Augar and the 2.4% R&D target, HEPI number 127.

¹²¹ Office for Students (July 2021), Recurrent Funding for 2021-22; see also the British Academy's response to the Office for Students' consultation on recurrent funding The British Academy (2021), 'The British Academy response to the Office for Students' consultation on recurrent funding for 2021-22'.

¹²² McIntosh et al, Critical examination of the teaching-research nexus, p. 21

diverse jobs market, rather than necessarily being a route into a single job.¹²³ It could also disproportionately impact female, Black, Asian and mixed ethnicity academics who, as noted above, are more likely to be on teaching-only contracts, and therefore more vulnerable to any shortfalls in the funding of teaching.¹²⁴

The structure of higher education, however, is still defined by its research focus. The way in which 'value' and 'impact' in higher education are presented to a wider public may, therefore, be detrimental to a wider understanding of the value of the nexus. There are some indications that current directions for funding may continue to undermine the teaching-research nexus and that a new nexus focused on the relationship between research and enterprise may be developing.¹²⁵

In contrast, the Australian higher education sector has had a similarly researchfocused funding structure and yet a survey conducted in 2019 showed that there was wide public appreciation of the benefits of a more 'Humboldtian' mix of teaching and research. The country now has plans for a performance-based funding scheme with proposed links to student experience, graduate outcomes, student success, amongst others – similar to the TEF.¹²⁶ Greater dialogue with the public about the role of teaching in higher education and students' development, through outreach activities showcasing teaching and research working together, could help achieve greater public appreciation of the nexus. Many institutions are already doing excellent public engagement and community outreach work, and these can provide examples of good practice. Such outreach work can have lasting beneficial impacts, not least in terms of widening participation and ensuring the future health of higher education, and the Knowledge Exchange Framework (KEF) recognises this value, providing an incentive for institutions.¹²⁷

The sector and the teaching-research nexus

The evidence above suggests the following opportunities for strengthening the nexus between teaching and research for the higher education sector:

- Government and its agencies could look to achieve greater parity between teaching and research at a policy level. REF, TEF, and KEF could all be considered in terms of whether they could adopt a more holistic approach in their reporting and criteria, to better represent the function of higher education and the benefits of excellent teaching and research for institutions, for students, and for society.
- Research funding bodies could consider making impact on teaching a criterion in the evaluation of research grants, both at the application and reporting stages.
- The Higher Education sector could provide case studies and examples which would help to enhance data on the nexus across the different disciplines and better make the case for other changes and developments. The sector could also help re-frame the narrative which the public receives about the role of higher education through promoting public-facing academic activities which celebrate the interrelationship between teaching and research.

¹²³ The British Academy (2020), Qualified for the Future: Quantifying demand for arts, humanities and social science skills; London Economics (2019), Understanding the career paths of AHSS graduates in the UK and their contribution to the economy. Final Report for the British Academy; The British Academy (2017), The Right Skills: Celebrating skills in the arts, humanities and social sciences.

McIntosh et al, Critical examination of the teaching-research nexus, pp. 13-15 and p. 18.

¹²⁵ McIntosh et al, Critical examination of the teaching-research nexus, p. 26.

¹²⁶ Ross, J. (25 March 2019), 'Australian public sees research-teaching mix as vital, survey shows', Times Higher Education; Pearce, Independent Review of the Teaching Excellence and Student Outcomes Framework, p. 43, citing Expert Panel Reporting to the Minister for Education (2019), Performance-Based Funding for the Commonwealth Grant Scheme.

¹²⁷ See for example, Pilkington, P. (24 April 2019), 'Slumming it on civic engagement', WonkHE; Allen, J. (4 June 2018), 'It's time for real action on local outreach', WonkHE; Greening, J. (17 April 2019), 'Universities are about social mobility. This needs to be recognised', The Guardian.

Conclusions

The UK's higher education sector sits in a global landscape of increased marketisation and greater internationalisation in which league tables are more focused on research measurables and institutional reputation is more likely to be based on research than on teaching or a combination of the two. A by-product of this has been the increased volume and intensity of the work of academics and the tendency of the sector to privilege research over teaching, whether implicitly or explicitly.

In introducing policies which impact research and teaching in higher education as well as impacting institutions themselves - governments need to be clearer about what they think is the purpose of higher education. This is something which is closely tied to debates surrounding graduate outcomes and the value of higher education in the public's view. Governments and their agencies can use developments in policy to help tell a more balanced, positive, and representative story about higher education and about the value of both teaching and research.

There are concerns, however, about the potential consequences of a narrower approach to education which assumes a connection between graduate numbers and economic growth. As McKinley *et al* have put it:

'In an era where a fragmentation of teaching and research seems to be growing, directing economic resources based on an unquestioned assumption regarding the role higher education has to play in national wealth could result in serious consequences for students.'¹²⁸

The evidence suggests a disconnect between a wide appreciation of the value of a supportive and bidirectional relationship between teaching and research by those engaged in higher education provision and research, and current expectations and funding priorities led by policy directives which bring the two into conflict or heavily prioritise research.

Whilst the evidence gathered for this project suggests teaching and research are increasingly being pulled apart as activities, conversely, the pressure on academics to excel at both simultaneously is only increasing. Surveys conducted for this project show that the connection between teaching and research is being placed under increasing pressure and, in some instances completely severed. While senior management at those universities surveyed, both in the UK and internationally, expressed an understanding of the integral value of the teaching-research nexus in higher education structures and practices, in reality we see the inherent separation of these activities in management structures, job descriptions, and hiring and promotion practices.

There are some particular implications of this for SHAPE subjects. When surveyed for this project, the majority of those students who recognised a relationship between teaching and research that was more akin to a nexus were SHAPE students. But they were also more likely than their STEM counterparts to recognise that the research-focused pressures felt by academics could impact negatively upon their teaching.

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McKinley et al, An Exploration of the Teaching-Research Nexus, p. 53.

Black, Asian and minority ethnic academics in SHAPE subjects were also those more likely to be employed on teaching-only contracts. This suggests that the continued bifurcation of teaching and research practices, and the impact this is having on hiring practices, may be more adversely affecting SHAPE subjects, students, and academics.

As was noted in the summary of academic attitudes, teaching is essential to the future sustainability of higher education, continuing research output, and the development of students into citizens. There is a risk that the current focus of policy and competing requirements on higher education will move away from supporting students to develop in this way. If certain spheres of academic work receive less attention, particularly when performance is connected to funding, this will have implications for the quality of teaching, the quality of research, and, ultimately, the quality of student learning in UK higher education.¹²⁹ As such, current policy structures and the focus on certain metrics may have the effect of undoing much of the work which they seek to measure and improve. The research commissioned for this report and the interviews conducted revealed an inherent bidirectionality in the relationship, with academics also finding inspiration for research projects in working with students. Without quality teaching inspired by current research and the opportunity to contribute to and experience active research through teaching, there will therefore be less to inspire the researchers and teachers of the future.

Whereas initiatives such as the TEF could have benefits for the relationship between teaching and research if developed in the right way, the lack of direct institutional revenue associated with this, as opposed to REF results, means that there remains an inherent imbalance. We must be sure that we are measuring the right things in the right way and for the right reasons if this is to be of benefit to the nexus and, ultimately, to the benefit of teaching, research, and higher education.

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