

Research Collaboration. Educational Research and Wider Contexts

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Abstract

Collaboration is the social dimension of scientific inquiry. Research collaboration is a field of academic research containing scientific and increasingly commercialized dimensions. This narrative analysis investigates questions about authorship and motivation. Aside from educational research, wider research collaboration literature is dominated by a focus on 'hard' sciences. Unresolved are ethical issues regarding the integrity of knowledge contribution claims listed on journal publications. Despite modest recognition by the UK's Research Excellence Framework (REF), scientific naming protocols on published journal articles inevitably shape, rightly or wrongly, the status strength of authors' symbolic capital and ranking as well as permit departments to submit each named author to the UK's REF, thereby gaining the benefits of additional monetary and scientific capital accumulation.

Keywords: Collaboration, Education, Oxbridge, REF, Research, Knowledge-transfer, Outputs.

Colaboração na Investigação. Investigação Educacional e Contextos Mais Alargados

Resumo

A colaboração é a dimensão social da investigação científica. A colaboração na investigação é um campo de investigação académica que contém dimensões científicas e cada vez mais comerciais. Esta análise narrativa investiga questões sobre autoria e motivação. Para além da investigação educacional, a literatura sobre colaboração na investigação é dominada por um enfoque nas ciências

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“duras”. Estão por resolver as questões éticas relativas à integridade das reivindicações de contribuição para o conhecimento constante das publicações de revistas. Apesar do modesto reconhecimento pelo Research Excellence Framework (REF) do Reino Unido, os protocolos de designação de nomes científicos em artigos publicados em revistas moldam inevitavelmente, com razão ou sem ela, a força do estatuto do capital simbólico e da classificação dos autores, bem como permitem que os departamentos submetam cada autor designado ao REF do Reino Unido, obtendo assim os benefícios de uma acumulação adicional de capital monetário e científico.

Palavras-chave: Colaboração, Educação, Oxbridge, REF, Investigação, Transferência de conhecimentos, Resultados.

Colaboración en la Investigación. Investigación Educativa y Contextos Más Amplios

Resumen

La colaboración es la dimensión social de la investigación científica. La colaboración en la investigación es un campo de la investigación académica que contiene dimensiones científicas y, cada vez más, comerciales. Este análisis narrativo investiga cuestiones relativas a la autoría y la motivación. Aparte de la investigación educativa, la bibliografía sobre la colaboración en la investigación en general está dominada por las ciencias “duras”. Quedan por resolver cuestiones éticas relativas a la integridad de las afirmaciones sobre la contribución al conocimiento que figuran en las publicaciones de las revistas. A pesar del modesto reconocimiento por parte del Research Excellence Framework (REF) del Reino Unido, los protocolos de nombramiento científico en los artículos publicados en revistas conforman inevitablemente, con razón o sin ella, la fuerza del estatus del capital simbólico y la clasificación de los autores, además de permitir a los departamentos presentar a cada autor nombrado al REF del Reino Unido, obteniendo así los beneficios de una acumulación adicional de capital monetario y científico.

Palabras clave: Colaboración, Educación, Oxbridge, REF, Investigación, Transferencia de conocimientos, Resultados.

Introduction

The intellectual life of academia is informed by collaborative inquiry. Research collaboration has, in recent decades, incrementally fallen under policies of managerial audit found in the public university (Craig et al., 2014; Shore, 2008). That control vehicle now characterizes contemporary UK higher education. Its discourse of explicit policy and protocol about processes of peer review and collaboration approval contrasts sharply with the intellectual life of academia experienced prior to the massification of higher education that has accompanied the imposition of managerial culture (Anderson, 1992, 2006; Evans et al., 2021; Trow, 2007). Social anthropologists have argued today's university administrations are not only bureaucratic self-serving entities antithetical to the academic mission of the university, but they also collude in capitalist forms of corruption (Shore, 2018). A brief glimpse of the past helps to foreground the distinctive nature of research collaboration in the twenty-first century and therefore its appearance in the article.

Historians of Victorian and Edwardian higher education have used the Cambridge Apostles to explore intellectual life and exchange. The Apostles were a small debating society associated with Trinity College, Cambridge, which survived into the twentieth century. Its members were notable for their professional as well as intellectual achievements: the philosopher G. E. Moore is exemplary of the latter, and the economist J. M. Keynes of the former. Allen (1989) argues the impact of their liberal ideas spread informally through social networks. The Apostles met on Saturday evenings to hear one of their number deliver a paper and collaborate in the discussion it inspired. Its energy was seen as an antidote to intellectual sloth and narrow specialism at Cambridge. Such debating societies had faith in themselves as an intellectual elite which focused upon aspects of the contemporary world such as social and economic inequality (Bentley, 1999; Maccio, 2016).

The contemporary University of Oxford sets the current discourse of research collaboration on its public website (University of Oxford, n.d.). It states that researchers frequently collaborate with colleagues both within the University and externally and highlights the importance of "good communication". Collaborators are prompted to address several dimensions of this relationship at an early stage: roles and responsibilities, resource sharing, conflict of interest disclosure, data collection and storage, authorship credit assignment, time frames, fiscal management and regulatory compliance. Three of its six suggested international wider resources concern "research integrity". On the matter of decisions about authorship, it notes there are no universal standards for attribution and there is variation among disciplines and journals. Collaboration is complex and may consume significant energies (Wray, 2002).

Navigating from Oxford's strategic level-headedness, we experimented with search terms. This curiosity provided a glimpse of the magnitude of research collaboration. 'Research collaboration' as search term yielded 3,581,654 'hits' in the University of Edinburgh's Discover Ed library search engine. Adding 'social sciences' to this search engine reduced this to 1,598,911, and when 'educational research' was added to the term 'Research Collaboration' the result was 889,110. Using the filter 'Peer Reviewed Journals' with 'Research Collaboration' yielded 1,550,010 results. Focusing upon 'Research Collaboration in Educational Research' as the search term with 'Peer Reviewed Journals' as the filter produced 443,350 results; with a different filter - 'Theses/Dissertations' - the search yielded 166,188 results. As far back as 2002 philosophers of science noted, collaboration's growing popularity in the natural sciences and, to a lesser degree, in the social sciences, as the latter does not rely on scarce "abundant resources" for which there is "great competition" (Wray, 2002, p. 150). The article recognizes the zeitgeist towards research being judged in utilitarian terms through a terminology of impact. A recent Editorial in the journal *Ethnology* is circumspect about dividing research into domains of worth, a theme resurfacing with the UK government's research impact or relevance agenda:

A common and very valid justification of doing and funding basic or "blue sky" research is that many discoveries lead to unforeseeable, novel and practical applications, and that every penny spent for basic research will multiply and result in economic growth. (Goymann, 2019, p. 501)

Knowledge-sharing is conducive to research productivity (Adams et al., 2005). This review investigates the international and national dimensions of collaboration. There are ethical and scientific implications around difficulties identifying the authenticity of authorial attributions on papers in high stakes performance review cultures (Herbst, 2022). Setting quotas for research output, a procedure that has become widespread, may encourage scientific fraud; in India, for example, it was proposed that a minimum of four publications be required for the post of associate professor in the medical field and for a chair at least eight publications (Aulakh, 2016).

The integrity of knowledge and trust maintenance is dependent upon contribution claims and authorial presence on published outputs being justified in terms contribution to the science in publications. Transparency has become a byword for good behavior in government and business (Reith Lectures, 2002). Publication for professional opportunity and advancement arose in the 1970-80s at just the time when more cases of scientific malpractice over authorship became topical (Claxton, 2005; Tugwell & Knottnerus, 2017). Mechanisms of contribution verification are limited, and impossible to detect or a drain on resources (Claxton, 2005). Research

collaborators' careers have suffered as a result of colleagues' misconduct (Mongeon & Larivière, 2016). Fuller (2005) argues against a modern zeitgeist of collaborative conformity to prescribed corporatized edits. Fuller recommends intellectuals resist corporate ideologies coercing academics to 'produce output', claiming that to write as an intellectual in today's academia amounts to being in a state of exile from intellectual life. The article's two case studies of REF units of assessment in the field of educational research exemplify the bureaucratic mundanity of scientific relations. How these practices unfold depends on the autonomy granted to academics and therefore how far their employment is ensconced in the audit, performative culture of managerialism. A recent addition to managerialism is the UK's metrical monitoring on a national scale of the quality of research undertaken by the higher education sector and its departments.

The UK's Research Excellence Framework (REF 2021a) offers an externalized approach to assessing research quality that quantifies, in bureaucratic terms, eminence and reputation. Historically, eminence and reputation were captured and constructed by encyclopedias and biographical entries in *Who's Who* volumes where the number of lines in a volume was taken as a reliable estimate of the level of eminence (Runco et al., 2010). Scholars have referred to Oxford and Cambridge as being located as "entrepreneurial regions" with high tech economies (Lawton Smith et al., 2013). The 'golden triangle' of Oxford, Cambridge and some London universities not only channel research funding, but also networks of access to top positions in British society (Raffe & Croxford, 2015; Wakeling & Savage, 2015). These universities proximity to the seats of power in the House of Commons, the House of Lords as well as prestigious London clubs enables networking with power that may give them a disproportionate advantage in the academic 'game' where research quality criteria are formulated to define the REF model including its academic staffing.

Educational research in elite universities

To illustrate typical and longstanding forms of academic collaboration in elite universities in the UK we have analysed grading of the Education UAOs of the Universities of Oxford and Cambridge in the most recent REF 2021. In 2021, the UK government reported the results of its latest REF application, setting out the performance ratings for research outputs of UK university departments (UKRI, n.d.-a, n.d.-b). The results of this exercise led to funding allocations to those departments that submitted staff outputs of journal articles, books and chapters to the REF expert assessment panels.

Each member of a university department can submit between one to five research outputs through the management of their department. After internal assessments outputs deemed worthy are then externally assessed by the appropriate REF panel that appraises UK university outputs.

The result of a REF panel's assessment is a research quality level profile ranging from Four Star to Unclassified. The Unit of Assessment for Education in the REF is called UOA 23. In REF documentation, Education research is described as "a large, diverse interdisciplinary field of research" (REF, 2021a, p. 157). The reputation of a university, its departments and staff are influenced significantly by the hierarchical rankings awarded based on REF panel assessment of their research outputs. Cronin (2016) argues that the reputational image of a university has powerful implications for recruitment, rewards, and the careers of those passing through highly ranked institutions.

Table 1 presents the generic rating profile which is applied to assess the outputs of all disciplines within a university. It is clear from these criteria that interpretative judgement is required to allocate grades to outputs (UKRI, n.d.-b).

Table1
REF Quality Profile

Quality level	Description
Four stars	Quality that is world-leading in terms of originality, significance, and rigour.
Three stars	Quality that is internationally excellent in terms of originality, significance, and rigour but which falls short of the highest standards of excellence.
Two stars	Quality that is recognised internationally in terms of originality, significance, and rigour
One star	Quality that is recognised nationally in terms of originality, significance, and rigour.
Unclassified	Quality that falls below the standard of nationally recognised work. Or work which does not meet the published definition of research for the purposes of this assessment.

The eminent English sociologist of education Basil Bernstein (1924-2000) research into linguistic codes and inequalities in class attainment is an example of work a REF panel would arguably classify as Four star quality (Charap, 2000). Stephen Ball, a contemporary sociologist of education inspired by the French theorist Michel Foucault, is likely to be graded Four star for his contributions to knowledge (see, for example, Ball, 2003).

A UK university's league table national ranking position is impacted by the REF 2021 grade profile it is awarded. Academic journal articles constitute the largest type of research outputs submitted to all the UK's UOAs: 46,468 out of the total 56,650 outputs (82%). Collaboration is evident in that many outputs were double-weighted, that is, the same article was submitted by two universities (2,424). It was found that there was a significant increase in number of outputs since the last REF

in 2014 submitted with multiple authors across all disciplines (UOAs). Concern was expressed by REF authorities about the latter:

The main panel noted that this was a growing phenomenon of research collaboration and activity and felt that there could usefully be more detailed guidance to institutions on explaining the significance of a co-author's contribution to the research output in any future research assessment exercise, to encourage such co-operation while recognising the level of rigour and research needed for different types of output. (REF, 2021a, p. 27)³

In the REF Education (UOA 23), research collaboration is evidenced (obliquely) by the submission of 6,115 doctoral degrees awarded to students in a range of education departments. 'Low key' collaboration lies in the environmental milieu where PhD supervision teams enable students' to progress. Scientific capital accumulation by international doctoral research students mimics the career mobility of established academic researchers (Horta et al., 2020). Doctoral mobility trajectories parallel the academic collaboration of established elites who seem routinely to pass through Oxbridge on route to other collaboration after several years of contribution. Many arrive at Oxbridge from a diverse range of international universities, including Sciences Po, Harvard, Princeton and Beijing (Beijing (Peking)). That PhDs are not co-authored contributions to the academy conceals their collaborative inner making.

In conclusion the REF assessors decided that international collaboration requires more funding:

...uncertainties following Brexit, the current level of investment in educational research along with reduced potential for international collaborations and impact presents considerable risks to the discipline. (REF, 2021a, p. 169)

University of Oxford

Oxford's intellectual life long pre-dates governmental metrical audits of research endeavors with teaching at Oxford recorded as early as the year 1096. Educational publishing opened at Oxford as the school and university markets developed in the 1860s; the Clarendon Press Series appearing in 1865 (Eliot, 2014). When key German thinkers fled the Nazi regime in the 1930s many came to Oxford. Crawford et al. (2017) argue Oxford at this time impacted Britain's cultural heritage, especially

³ REF 2021 Overview Report by Main Panel C and Sub-Panels 13-24.

in the arts and humanities. Oxford is home to eminent academic journals: scholars in the Education department, for example, celebrated a special issue on the Oxford Review of Education's fortieth anniversary on the theme of inequality and education (Furlong & Lunt, 2014). In the Guardian newspaper's published UK 2023 league table ranking the University of Oxford holds second position from the top out of 121 listed UK universities. As reported in the Times Higher Education, 12 May 2022, Oxford's Education department leads the UK's REF league table with 37% of its staff rated Four star (Times Higher Education, 2022).

Collaboration within Oxford's Education department was identified by an original analysis for this article outside of the existing collaboration literature review. Of the total of 138 outputs (similar in size to Cambridge's 146 outputs) submitted to the recent REF, 105 of them were journal articles (2014-2020). Totalling the numbers of authors on these 105 outputs found as individual downloadable articles on the UOA site resulted in the identification of 372 contributors. Only 25 of these 105 articles were single authored, emphasising the significant extent of academic collaboration within Education at Oxford, and perhaps at least one reason for its eminence. Twenty-nine articles have two authors. A multiple authorship of three comes out the largest of the authoring pattern with number, of authorships then declining with only two articles having either 9 or 10 contributors: see Table 2 illustrating the number of authors from 1 - 10 on the 105 outputs.

Table 2
Oxford (UOA23) Journal outputs (bottom line) by number of authors (top line)

1	2	3	4	5	6	7	8	9	10
25	29	36	10	10	4	2	2	1	1

University of Cambridge

The University of Cambridge's department of education (UOA 23) is our second case study illustrating patterns of academic journal article collaboration and authorship profile, as reported for output measurement purposes in REF 2021 for the period 2014-2022.

The University, founded in 1209, and recognized for its world-class original research, now comprises 31 colleges. Luminaries have included Isaac Newton and Stephen Hawking who held chairs as Lucasian Professors of Mathematics (Knox & Noakes, 2003). Ninety-two affiliates of Cambridge have been awarded Nobel prizes in all categories. In the Complete University Guide 2023 it is ranked second only to Oxford out of the listed 130 UK universities (Complete University Guide, n.d.). In the Times

Higher Education world 2023 university ranking data Cambridge holds third position after Harvard at second and Oxford at first position (Times Higher Education (n.d.)).

The *Cambridge Journal of Education* parallels the eminence of its Oxford counterpart. Social anthropology, a new discipline during the interwar years in England, emerged through the teaching enacted in the Cambridge colleges (Bank, 2009; Snyder, 2014). The journal *Ethnography and Education* exhibits the cross-fertilizing nature of the influence of such intellectual innovation. David Bridges (University of Cambridge, n.d.-a), a philosopher of education, based in St. Edmund's College, Cambridge and former Professorial Fellow in the Cambridge Faculty of Education, describes in the *Cambridge Journal of Education* its changing educational context over the past 50 years from his perspective as founding editor (Bridges, 2021). According to the Complete University Guide Cambridge is ranked first out of 90 UK Education departments in the UK's Subject League Table 2023.

At Cambridge, a total of 146 staff outputs were submitted to the 2021 REF Education (UOA 23) assessment panel (REF, 2021b). A common methodology, adopted earlier with Oxford, to identify authorship through the REF website repository archive was applied to generate the REF findings reported about Cambridge. Articles were downloaded, authorships identified including the numbers of names listed on each article. Of Cambridge's Faculty of Education total academic outputs numbering 146, some 114 were journal articles. As a measure of collaboration, the total number of academic contributors to the figure of 114 journal articles was 347 authors at Cambridge which is remarkably like the Oxford figure of 372 journal authors listed on its output of 105 journal articles. Using these indices of collaboration Oxford and Cambridge include an array of contributors bringing diverse types of expertise to its journal article REF outputs.

Oxbridge education academics collaborate, as do other academics contributing to their departments' national league table rankings in the UK. Table 3 below illustrates the pattern of symbolic capital contributions for education at Cambridge.

Table 3
Cambridge (UOA 23) Journal outputs (bottom line) by number of authors (top line)

1	2	3	4	5	6	7	8	9	10
22	32	22	15	7	6	1	1	3	1

During this REF period 2014-2020, some academics left for other academic positions overseas or to join a London university such as UCL (University College, London). Research capital is mobile. The authoring of papers included affiliations with universities in Asia, Australia, New Zealand and African countries, ties giving access

to new sources of data, funding and the talent in international academic markets. Elites are mobile and increasingly move between universities (Korom, 2020).

Serendipitous ‘collaboration’

The concept of collaboration includes academics working as seemingly solitary researchers. A Faculty professor at Cambridge specializing in technology and psychology collaborates with the airline industry on immersive virtual training and developing online learning in science and mathematics, many of his published articles are single authored (University of Cambridge, n.d.-b).

Tables 2 and 3 illustrate personal agency. Many academics’ outputs involve no collaborator, as another named author. In total 47 Oxbridge journal outputs are single authored. Comparisons with multiple authors (69 for two authored papers, and 58 for three authored) suggest this collaborative milieu illustrates a culture of exchange of ideas is enabled by Oxbridge’s physical geography; no more than a Raleigh bicycle ride away are scores of colleagues. Philosophical giants including Ludwig Wittgenstein (1889-1951) and Bertrand Russell communed with an esoteric academic community of the likeminded living a few meters away across a College quad. Their collaboration is found in a sociability of worshipful students and vigorous exchanges in Oxbridge college rooms and the intimacy of invitation-only learned societies (“Ludwig Wittgenstein”, 2023). The Nobel Prize in Literature is exclusive in recognizing individual merit. The phenomenon of ‘discovery’ in the humanities revolves within cultures of the creative, of ideas, lived experience and unusual biographies (The Nobel Prize, n.d.). Research collaboration in this concentrated sociability moves with the intensity of face-to-face conversational exchange. The seeds of a project are recognized in the eyes of the interlocutor as they complete rituals of coffee drinking at conference.

Collaboration: tangled benefits

Research collaboration has intensified in the last three decades, encouraged by European Union research policies that include developing the EU as a “research area” (CEC, 2004, 2007 cited in Abramo et al., 2009, p. 156). Knowledge co-production (KCP) within academic-practitioner or other research collaboration is a means to address that elusive research impact. The ideal of knowledge co-production is beset with challenges, one being the resource power asymmetries of partners (McCabe

et al., 2021, p. 604). Lukes' (1974) three faces of power include: decision-making power exhibited by policymakers; non-decision-making power, agenda control and thirdly ideological power, thought control. McCabe et al. (2021), using interviews with academics and practitioners funded by the Australian Research Council Linkage Scheme projects, examined this face of power model and its influence upon dynamics of knowledge co-production. McCabe et al. drew on Lukes' (2021) tripartite model of power to find shortcomings in projects meeting the knowledge co-production ideal. They argued it arose from "resource power conditions" that shaped the biased collaborative interactions in Australian university business schools; academics and practitioners believed in the superiority of academic knowledge. McCabe critiqued academics, claiming they need a better understanding of their power in research relationships involving practitioners. Normative power prevailed as practitioners subjugated themselves to academic project leaders despite this conflicting with their real interests (McCabe et al., 2021, p. 622). Key decisions made early in the project development phase meant practitioners grew resigned to leaving academics' decision-making unchallenged.

KCP has the admirable goal of creating a framework to overcome a theory-practice gap in the research process. Banks et al. (2016) argue KCP enables research to address 'big research questions' outside the capacity of either party and, through the practitioner loop linkage, avoid a drift into abstractions by the academic partner. Theory and practice are seen as two different, complementary forms of knowledge where tensions between the parties become a source of creativity (McCabe et al., 2021). In the US, scientific productivity pivots around collaboration, which is judged a cornerstone of the performance of individuals and institutions and its outputs from American universities (Abramo et al., 2009, p. 158; Lee & Bozeman, 2005). Significant energies support collaborations, but some partners are harmed; exploitation occurs (Bozeman et al., 2012; Sonnenwald, 2007). Despite fractures, a division of labour amongst research groupings is posited as source of high productivity. The determinants of research projectivity combine three attributes:

- Personal: the age, gender, and education of researcher.
- Institutional: the size of faculty and infrastructures.
- Environmental: policies, funds, staffing

In the US (1988-1992), faculty size was associated with productivity: researchers in larger faculties had opportunities to collaborate (Dundar & Lewis, 1998). In certain disciplines (especially biomedical), collaborations enabled scientists to work on several projects, simultaneously (Bordons et al., 1996). Establishing a research group was

also advantageous as it enabled more participation in funded projects and a higher likelihood to publish in esteemed journals (Abramo et al., 2009, p. 158).

Barriers to collaboration are eased by the internet which reduces the “proximity effect”. Abramo et al. (2009) found that academic research collaboration in Italy grew from policies encouraging networking. Abramo et al. (2009) equated collaboration drivers with the co-authorship of scientific publications spurred by:

- Increase in scientific specialization.
- Complexity of the investigated problems.
- Cost of scientific equipment.
- Accessibility of public financing.
- Aspirations for prestige gained by working with renowned researchers.
- Opportunities to gain higher productivity.
- International collaboration [increase scientific performance].

Seventy-eight of these Italian universities co-operation through scientific-technological disciplines whose outcomes were:

- High impact journal publications.
- Over 95% of the publications were joint authored.
- Correlated with productivity in mathematics and computer science.

Bozeman et al. distinguish between traditional collaborations (academic) that extend knowledge (knowledge-focused) from those nurturing economic value in industries competitiveness and wealth creation (property-focused). These scholars define collaboration as: “social processes whereby human beings pool their human capital for the objective of producing knowledge” (2013, p. 3).

Chronological age characterizes research partnering trajectories. Young US researchers are found to be more productive, as are mid-career academics. Collaborations among older academics don't enhance outputs (Lee & Bozeman 2005, cited in Bozeman et al., 2013). Membership of a scientific peer group connected to industry has an “imprinting” effect on younger researchers (Bozeman et al., 2013, p. 7). Gender has outcomes on collaboration: US females on non-permanent contracts collaborated more with female peers of similar status, indicative of their career affinity. Men collaborated on the grounds of possible instrumental criteria. Typically, men have more collaborators and are inclined towards interdisciplinary enquires illustrating the presence of masculinity factors (Bozeman & Gaughan, 2011).

Academics who are settled in roles are more prone to collaborate, but unfortunately that is no guarantor of productivity (Lee & Bozeman, 2005). Complexity erodes collaboration, projects spanning universities raise the likelihood of negative

outcomes, meeting face-to-face and holding common communication policies mitigates a loosening of ties (Cummings & Kiesler, 2005). Others argue a key to success in productivity lies in the extent to which collaborators invest energy in their network (Liao, 2011). Stable work routines also matter to the coalescing of collaborators, respect for project work schedules and meeting deadlines buys trust (Bozeman et al., 2013, p. 18). The thorny entanglements of collaboration include institutional bureaucracy: writing and administering grants can be obstacles combining with academic workload. Haley et al. (2022) explored internationalisation agendas between a northern European university and an African university. This collaboration required data sharing, co-authoring, methodology development, data collection and data analysis (Kaye et al., 2019; Secret et al., 2011).

Internationalisation is a key feature of “global” university branding. It emits signals of academic quality and a caring ethical orientation to supporting the world community. Through internationalisation, it is argued, global issues are more readily addressed; knowledge systems in the North, for example, are perceived as research intensive, whereas in the South they are perceived as dependent (Altbach, 2006). Building trust and personal relationships are a sine qua non of success for academics (Delgadillo, 2016; Sutton et al., 2012). The outset of partnering must demonstrate care to address:

- Clarifying motivations.
- Setting clear goals and values.
- Fostering communication.
- Defining responsibilities.

Haley et al. (2022) were motivated to collaborate based on common interests in internationalisation agendas in the higher education sector. They developed their collaboration by addressing Heron’s (1996) elements:

- Linking co-researchers.
- Reflecting on the collaborative plan.
- Running in-person meetings.
- Interviewing one another.
- Gaining the support of university managements.
- Agreement on the timing and frequency of meetings.

Haley et al. conclude: “Successful international research collaborations are those where positive relationship building, trust, a willingness to learn and mutual respect are central. In contrast, unsuccessful collaborations are those where the needs of either partner are neglected” (2022, p. 13).

Disentangling collaboration calls on tact, diplomacy, and capacity to foster trust. Outside the understood normative boundaries and research conventions in places with shared cultural histories, the formulation and pursuit of collaboration is more complex and requires more energy to achieve and progress. We are unlikely to meet the serendipitous researcher in a landscape of capitalist striving and pressure. Opting out is a diminishing option: the REF, which has parallels outside the UK, has increased its research quality weighting on research having real world impact, in social, policy and economic terms. Impact case studies are a mandatory strand of a university department or unit's submission to the REF, combining with journal article ratings to help establish the research rating overall. Contemporary academics must remember that the quality rating of their workplace depends upon an external collaborator's judgement about benefit arising from their research labour. This relatively new, value-for-money, government sponsored landscapes is in tension with the refinement examined earlier in the case studies of the interior of authorship patterns within an Oxbridge department. The discourse of REF impact, weighted at 25%, is re-modelling academia into a relevance, 'outdoor' agenda (UKRI, n.d.-b). The British government states that

For the purposes of the REF, impact is defined as an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia. Impacts will be assessed in terms of their 'reach and significance' regardless of the geographic location in which they occurred, whether locally, regionally, nationally or internationally.

The aggressive accountability culture of today's government-managed academia requires researchers to justify utility to society through demonstrating how what they do benefits others outside higher education. Research in that vein becomes knowledge-transfer designed for the immediate needs of industries, policymakers and communities and will come and go to their tune as they alter in tandem with what decades ago A. H. Halsey (1995) called the anti-intellectual element in British society.

Discussion

This article contributes to a gap in our knowledge that is somewhat peculiar to UK academia, but not entirely. Unusually, it journeys backstage asking questions about the birth and identity of research. Our argument is that we are witnessing transformational change in higher education where the REF impact agenda is likely

to move upwards in weighting and therefore as a corollary dramatic increase in the nature and magnitude of collaboration. In order to demonstrate research impact testimonials and other forms of evidential warrant are required from users of research.

Recent histories of UK wide educational research collaborations – the Applied Educational Research Scheme (AERS) is an example – were beset with confused management arrangements and lack of strategic direction. As testimony to the complexity of collaboration and extensive funding from the British government, the traditional outputs of this million-pound resourced AERS scheme were a meagre number of academic journal paper outputs, few in prestigious journals (Taylor et al. 2007). The politics of competition, resourcing, and career status variables foreground, in the case of AERS which may not be atypical, that institutional and personal factors ‘design’ the outcomes of collaboration. Haggling over the ethics of authorship on journal articles may be the least of the anxieties experienced by the teams involved in this illustration of the impact agenda. The REF impact’s neo-liberal agenda, whilst mitigated by requirements to embed case studies of research impact into the milieu of other supporting academic journal articles published by a department, does not detract from a deeper drift coalescing with pessimism (Fuller, 2005).

An outcome of drift, if it continues, means academic research labour worth is valorised in terms of a business discourse of deliverables. The latter products are associated with market research company outputs for their paying customers. A. H. Halsey, the renowned Oxford based educational and social researcher, writing almost a generation ago, wondered how an essentially elitist conception of British academic life would fare in the future, concluding there was a loss of public respect for the profession compounded by the Conservative Government’s application of market principles to its management. He remarked that “Erstwhile dons are now the managers of a higher education industry” (1995, p. 4). What Halsey foresaw was the need to adapt an elitist notion of the British university to the requirements of an advanced industrial society.

Conclusion

Through the broad theme of research collaboration, the article speaks to how academia has changed since Britain become a post-industrial society. A different historical context is now re-making again, at pace, academia, and what counts as research as opposed to what critics might classify as self-indulgent inquiry. Now visitors to the websites of Oxbridge will discover there are complex lines of engagement

that straddle the dichotomy of academia versus industry. As the visitor moves to the lower rankings of the UK university league tables, they will discover the existence of large bodies of more obviously applied research that typify this UK's post-1992 'teaching-led' higher education sector. Forays into questions of authorship, names on papers and relevance explored in the article whilst not opening the proverbial Pandora's Box cannot be neatly set aside and understood separately from larger structures of power surrounding status, reputation and social class. Higher education and therefore research whether collaboration or not cannot be sub-subsumed as homogeneous along many vectors in this UK landscape. Future studies into contribution could examine universities located at the opposite end of the UK's rankings and the practices found in the humanities and social sciences.

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