

The Future of Doctoral Education: Reimagining the PhD in a Globalized and Digital Age

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Introduction

This essay aims to address the future of the Doctor of Philosophy (PhD) sector of higher education. Drawing on Barnett's (2005) account of the university as an institution devoted to "truth-seeking, knowledge gathering, learning and critical reason" (p. 786), the PhD can be seen as the terminal research degree that embodies these universal functions, cultivating not only disciplinary expertise but also the capacity for critical inquiry, independent research, and engagement with the "strangeness" and supercomplexity of contemporary knowledge (Barnett, 2005, pp. 794–795). Whilst the PhD is closely intertwined to the staff-led research work of the university, the focus of this essay will be on the doctoral education itself, more notably the experience, training and societal purpose of PhD students, rather than the research activity conducted by academics and research staff. Through drawing on key course readings and external research, the essay will focus on the future of the PhD sector of higher education and how it is being transformed through digitalization, massification and global competition. It will be argued that the future of PhD programmes will entail increased innovation, cosmopolitan outlooks, meaningful public engagement, and most importantly, balancing the pursuit of traditional research excellence with social and personal objectives.

Historical Foundations of Doctoral Education

From Barnett (2005), it is evident that universities are fundamentally devoted to truth-seeking, knowledge production, and knowledge transfer. These ideals have deep historical roots,

tracing back to the medieval period. For example, at the University of Bologna, the “universitas scholarium” (a guild of students) exercised agency by hiring professors to deliver lectures, thereby shaping their own educational experience. In pursuit of greater academic freedom, a group of scholars and students departed Bologna in 1222 to establish a new institution in Padua, which was followed by subsequent waves of Bolognan exiles in 1262, 1274, 1306, and 1322 (Lowe & Yasuhara, 2016). These persistent motifs of scholars on their quest for knowledge and academic freedom have been at the forefront in the evolution of higher education institutions (HEIs), inspiring Wilhelm von Humboldt’s model of the 19th-century German university. The so-called “Humboldtian” model has very much influenced the modern research university and is characterized by the unity of teaching and research (Yang, 2025). Humboldt stated that teaching and research should be intrinsically interconnected, fostering an environment in which new knowledge is both generated and disseminated (Albritton, 2006). This integration underpins the traditional PhD model that still exists today.

The Contemporary Doctoral Education Experience

In its modern form, the PhD requires candidates to identify an original research problem, perform rigorous research, and produce a thesis or dissertation that is subject to critical evaluation and defense before a panel of disciplinary experts. Success is determined by the extent to which the candidate contributes novel insights or advances to the field, reflecting the Humboldtian ideal of generating new knowledge. Upon successful defense, the doctoral achievement is typically formalized through university-affiliated publications and the conferral of the doctoral degree, marking the candidate's entry into the scholarly community. Within this framework, the university

functions not only as the validator of individual research, but also as the custodian of disciplinary standards and scholarly excellence, upholding the integrity and rigor of advanced academic inquiry.

Universities as Gatekeepers: Past and Present

Universities today still function as strict gatekeepers as far as doctoral research is concerned given the high degree of control they have in research and knowledge production. This is in stark contrast to the medieval times of institutions such as the University of Bologna, where students played a more autonomous role in directing their own education (Lowe & Yasuhara, 2016). Admission to doctoral programs remains highly selective generally restricted to candidates deemed suitable by faculty and institutional standards (Jung et al., 2023). Universities grant privileged access to essential resources, including laboratories, archives, and scholarly communities, which would have been otherwise unavailable to the broader public, and they retain the exclusive authority to credential new researchers. Furthermore, HEIs control the dissemination of research through established channels such as peer-reviewed journals and academic conferences, which that have historically been inaccessible to most individuals outside an institution (Fyfe et al., 2023). These practices reinforce the university's position as the primary arbiter of what constitutes legitimate knowledge within society, making it elitist and exclusive, and thereby a 'university of the past' (Morley, 2012).

Globalization and Digitalization in Doctoral Education

The landscape of doctoral education at HEIs has been transformed over the past two decades through both globalization and digitalization. The rise of the internet and associated digital technologies has not only enabled new modalities of communication (Morley, 2012) but it has also accelerated the internationalization of research. Digital platforms now empower doctoral candidates to publish findings, share feedback, and engage in collaborations that go beyond geographical or institutional boundaries, often without the involvement of the gatekeeping institutions. The rise in popularity of open-access journals, preprint servers like arXiv, academic blogs, professional social media networks such as X (formerly known as Twitter) and LinkedIn, have played an instrumental role in democratizing the distribution of research, fostering more immediate and widespread scholarly engagement (Chaleplioglou & Koulouris, 2021). This increasing digital interconnectedness acts as a key driver in the surge of international research collaborations, evidenced by the 66.6% of UK-authored papers involving international co-authors, as compared to the 22.4% world average (Marginson et al., 2024).

This evolving ecosystem vividly illustrates Morley's (2012) concept of "borderless/edgeless" universities, where traditional academic and institutional boundaries are dissolving. Such shifts align with Beck's (2007) critique of "methodological nationalism," which indicates that in the current "Cosmopolitan Condition," the nation-state unit of research becomes increasingly obsolete as global interconnectedness intensifies. For doctoral candidates, this translates into enhanced agency, as they are no longer solely reliant on their home institution. They must become active "global space makers" (Marginson et al., 2024), forging international networks, participating in

transnational research projects, and gaining visibility through diverse digital channels. These changes disrupt the conventional model of the "university of the past," long defined by elitist and exclusionist practices (Morley, 2012) and instead fosters a cosmopolitan outlook, preparing scholars to engage with the "strangeness" and supercomplexity of contemporary knowledge from a truly global perspective (Barnett, 2005).

From Gatekeeping to Self-Distribution

The trend towards massified and increasingly universal higher education, has significantly reconfigured the pathways of scholarly communication, fostering a more diverse and "cosmopolitan research community" (Beck, 2007). This evolution signifies a shift away from the university's traditional role as the exclusive gatekeeper of research dissemination. Historically, HEIs held primary control over the "production, preservation, transmission and communication of knowledge" (Marginson et al., 2023). In contrast, the future of doctorate education will see scholars increasingly taking proactive steps in building their own academic reputations and engaging in what can be termed "networked" academia (Marginson et al., 2024). Doctoral candidates are no longer solely dependent on traditional publication metrics or institutional prestige to gain recognition. They can cultivate an international audience and scholarly identity through accessible Twitter threads that explain complex research in a simple manner, insightful LinkedIn articles, or engaging long-form YouTube videos or Instagram Reels. This direct engagement and development of an academic online presence challenge the "sacred aura" and "educational purity" concepts that Barnett (2024) argues has historically made the university a principal validator of knowledge. As individual researchers become more autonomous in

disseminating their work and building their scholarly networks, the university's traditional authority as the sole arbiter of academic legitimacy is undermined. This newfound agency, however, introduces its own set of dynamics. Success in this democratized environment increasingly hinges on navigating the "attention economy" given the saturation of online content. Scholars must not only produce rigorous work but also strategically capture and sustain the focus of a global, digitally mediated audience, a pressure that resonates with broader concerns about performativity and market-driven imperatives (Hargreaves, 2009).

The Future PhD: Autonomy, Agency, and the Attention Economy

The doctoral education experience over the next decade is poised for a significant transformation, characterized by enhanced scholar autonomy and agency, whilst closely linked to the dynamics of the attention economy. Davenport and Beck (2001) define the "economics of attention" as an approach to the management of information that treats human attention as a scarce commodity and applies economic theory to solve various information management problems. As the world becomes increasingly complex, it is theorized that we are living in an "attention economy," rather than an "information economy" (Davenport and Beck, 2001).

Given this, it is possible to envision a future where PhD candidates more frequently engage in international collaboration, leveraging the "borderless/edgeless" nature of the contemporary academic landscape (Morley, 2012). Doctoral candidates will be able to conduct and publish meaningful research with a purpose of providing value to the world and capturing the attention of

social media users to raise awareness regarding their research. This will become an increasingly important aspect of doctoral candidates given the fight for attention. Central to this evolution, will be the imperative to cultivate a credible online professional identity. This digital presence can take some time to grow and attract a desirable level of engagement, given that it will require constant uploading of content (both textual and audiovisual) on X and LinkedIn, as well as active participation in scholarly networks, and most importantly, the strategic distribution of high-quality research. Whilst this is all considered to be optional with academics today, it will be considered necessary in the future, as it will help showcase research impact, but most importantly, assist candidates in professional networking and potentially for securing potential funding and post-doctoral opportunities (Quintas-Mendes & Paiva, 2023).

This shift will likely redefine how academic reputation and credibility are established. While institutional affiliation will retain importance, its dominance may dwindle as more research becomes openly accessible. Reputation will increasingly be built upon demonstrated expertise, consistent and meaningful community engagement within digital and physical scholarly networks, in line with Barnett's (2023) critique of "sacred institutional forms," which suggest that the university's traditional authority as the primary validator of scholarly worth will be further diffused by the individual scholar's capacity to build direct credibility.

Potential Challenges in the Future of Doctoral Education

However, this future of doctoral education is not without its challenges. The increase in the volume of information being distributed will intensify the competition for attention, potentially benefitting those with strong self-promotion skills or greater access to digital resources, rather than purely substantive scholarly contributions.

A digital divide between scholars in high and low-income regions may be apparent. Doctoral candidates in developed countries may benefit from early, sustained access to reliable internet and robust digital infrastructure. In contrast, doctoral candidates in developing regions of Asia and Africa, may face barriers such as higher costs of internet access (Bon et al, 2024), and thus a lack of understanding in generating engaging content to capture attention. This would make it difficult for talented researchers from developing regions to achieve the same visibility and influence academic discourse as their counterparts from developed regions. Without deliberate efforts to address these inequities, the shift toward digital, networked academia risks showing remnants of the elitist and exclusionary ideals that defined the “university of the past” (Morley, 2012).

This competition for visibility within the “attention economy” can create additional challenges for doctoral candidates. The persistent pressure to self-promote and maintain an active online presence can contribute to heightened stress, anxiety, and burnout, as doctoral candidates may feel obliged to be constantly active within digital spaces. This blurring of boundaries between

personal and professional life may only further exacerbate these mental health challenges (Khalaf et al., 2023). Audiences on the internet may gravitate towards research that is accessible or visually engaging, rather than work that is deeply rigorous and thorough, being further amplified by the decreasing attention spans of online content consumers (Nussenbaum, 2025). As a result, doctoral candidates may feel incentivized to prioritize producing content designed to attract likes and shares, potentially at the expense of substantive scholarly contribution.

Despite the future of doctoral education seeming more accessible for all, established voices and prestigious institutions may continue to dominate digital platforms, due to algorithmic biases reinforcing existing academic hierarchies, making it difficult for doctoral candidates from emerging or marginalized institutions to gain recognition. Furthermore, the rapid and open sharing of research outputs may raise concerns around intellectual property, authorship, and the risk of misappropriation of ideas before formal publication. The high demands of constant online engagement may also take away from the time required for in-depth “truth-seeking and critical reason,” challenging the ideals that characterize modern day HEIs, according to Barnett (2005).

Conclusion

The future of doctoral education is characterized by better access and unlimited potential. As universities traditional gatekeeping efforts are eroded by cosmopolitan, networked scholarly practices, doctoral candidates will find themselves with greater autonomy to shape their own academic identities, pursue international collaborations, and engage the broader public. However,

this evolution may bring about significant challenges. The growing importance of cultivating a digital presence, navigating the attention economy, and overcoming persistent digital divides may only further amplify existing inequalities and place additional pressures on doctoral candidates that did not exist historically, potentially undermining the pursuit of rigorous, independent inquiry. As the boundaries between personal and professional lives increasingly blur, issues surrounding mental health, academic recognition, and intellectual property remain pressing concerns. To ensure the PhD remains a meaningful and equitable pathway for future scholars, HEIs must balance innovation and openness with a renewed commitment to supporting access, well-being, and scholarly integrity. Ultimately, the future PhD should cultivate not only expertise, but also resilience and adaptability, to effectively deal with the complex nuances of global knowledge production.

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