Embedded learning and creating a community of practice

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Abstract

This paper explores the importance of embedded learning opportunities within UK postgraduate programmes, particularly focusing on the acquisition of study skills and academic writing. It begins by contextualizing the research within the landscape of UK postgraduate education, highlighting the lack of emphasis on skills development. Drawing on existing literature, the paper examines the value of postgraduate education, concerns regarding skill development, and the prevalence of imposter syndrome among doctoral students. It proposes that embedding learning opportunities, such as those offered by the Academic Writing Advisory Service (AWAS) at the University of Birmingham, can mitigate these challenges and foster a sense of community among doctoral candidates.

The paper discusses the specific initiatives undertaken by AWAS, including tailored workshops and the piloted programme "In Conversation" interview series, which have successfully created a community of practice centred around skill-sharing and support. It concludes by advocating for further research into embedded learning opportunities within UK doctoral programmes to enhance the resilience and success of doctoral candidates in academia and beyond.

Introduction

There has been significant research into the value of postgraduate education and the identity of postgraduate students (Mantai, 2017), as well as the structure of doctoral programmes (Park, 2005). These studies survey supervisor relationships (Riva *et al.,* 2022), stressors relating to research (Cornwall *et al.,* 2019), and employment (Halse and Mowbray,

2011). While much of this research touches on the research skills necessary to be successful in doctoral programmes, there is a relative dearth of research related to the opportunities afforded to doctoral candidates during their time of study (Harris, 1996)—more specifically opportunities to learn and further develop study skills and academic writing. There is a general assumption that doctoral candidates should already possess the study skills necessary to complete a PhD successfully, however research has shown that these students are still navigating academic conventions, research processes, and developing an understanding of how they work best (Mantai, 2017). This paper reviews current research regarding doctoral opportunities, more specifically exploring the opportunities provided in the realms of academic writing and study skills. This paper considers the opportunities afforded to students at the University of Birmingham and at other UK higher education institutions more broadly. I argue that postgraduate research students within the UK would benefit from embedded learning opportunities (i.e. study skills and academic writing) in addition to their supervision and research focus. If such prospects were afforded, doctoral students would have more resilience post-graduation which could combat imposter phenomena (IP) in early career researchers (see growing body of research into IP in PhDs and Early Career Researchers [ECRs] (Sverdlik *et al.*, 2020; Mulholland *et al.*, 2023; Wang and Li, 2023). This paper shows that by offering specific embedded learning opportunities to postgraduate researchers then a community of practice can be created and as such, improve postgraduate researchers' academic careers and their perceived value of higher education.

I will first provide the rationale behind the study, including the UK context of the PhD process, before moving to a review of current research into the themes of value, skill development and embedded learning, imposter syndrome and communities of practice. Finally, the discussion will turn towards how doctoral candidates can be better supported at UK institutions through embedded learning opportunities and forming a community of practice, and in doing so create resilience among the PhD and ECR communities.

Rationale and context

This paper is spurred by the research that describes the difficulties ECRs are navigating post-graduation, as well as the changing landscapes of higher education in the United Kingdom

(Wilkinson and Wilkinson, 2023). The shifts occurring in HE (e.g. commodification, government mandates, etc.) have an impact on all staff and students, particularly with regards to the support and opportunities that staff can offer their students. This paper will focus on postgraduate research students, although it is important to note that much of what is problematized in this paper relating to study skills and academic writing affects undergraduates and taught postgraduate students alike.

Contextually, a good comparison to draw upon is the differences between United States (US) and UK doctoral programmes because research has shown that US doctoral candidates are graduating with a greater breadth of knowledge and the skills necessary to argue their position for academic positions compared to UK doctoral graduates - which provides a rationale for more embedded learning prospects (Lovitts and Nelson, 2000; Park, 2005). For instance, in the US, doctoral programmes typically range from four to seven years in length, as the programme includes coursework in addition to the research for the thesis. Conversely, doctoral programmes in the United Kingdom typically last for three to four years, where the focus is primarily on conducting independent research leading to the final thesis. While this is a generalisation of US doctoral programmes, the inclusion of coursework in the US context offers opportunities for doctoral students to gain a broader academic foundation before diving into specialized research (Haden, 1993), whereas those undertaking PhD in the UK take a more specialised approach from the start. Furthermore, in the US context, teaching during postgraduate study is encouraged and therefore the development of academic writing skills is informed by professional practice (Timperley, 2010). On the contrary, UK doctoral students are asked to delve into their research topic almost immediately, and in some cases their supervisors offer direct tuition regarding research, literature, archives, and the writing process. In the US, requiring the initial broader academic foundation affords students the opportunity to hone their study skills and academic writing, and in many cases prepares US doctoral students to complete their research successfully, and also prepares them well for a career in academia after graduation (Spriestersbach and Henry, 1978). It would perhaps be interesting to conduct comparative research into the access to embedded learning opportunities and PhD completion rates between US and UK students, however the length of this paper does not allow for this (see Lovitts and Nelson (2000) on their discussion of US doctoral attrition rates and possible correlations and Park (2005) on the shifts in UK

PhD programmes pertaining to skills learning). This context emphasises the importance of questioning embedded learning opportunities afforded to doctoral students within the UK.

Literature review: values, concerns and opportunities in the doctoral space

The value of a PhD is multifaceted and one that can be studied through a variety of lenses (Bryan and Guccione, 2018), including research value (Riva *et al.*, 2022), impact (Halse and Mowbray, 2011), and even a candidate's identity and personal fulfilment (Mantai, 2017), to name a few.

What has become evident through published research is that doctoral value is inherently tied to the perceived value that the doctoral candidate places on the programme, and a primary way to increase value is through embedded learning and the ability to acquire skills in studying and in writing. Bryan and Guccione (2018) used a thematic framework to analyse perceived value from the doctoral candidates they interviewed. The themes that emerged fit into four categories: career value, skills value, social value, and personal value. Specific to this paper is the factor of skills value; the findings showed that candidates were most interested in gaining skills in "…report writing…including critical thinking and argument construction" (Bryan and Guccione, 2018, p. 1129). The doctoral candidates suggested that these learned skills were most transferable, but in most cases, they had to engage with these skills outside of their programme through extra-curricular activities. Moreover, there was an expressed call from the students for more skills-based learning as it related to teaching, public speaking, and other competencies needed in professional contexts.

Similarly, the concern for more skill-based learning, including both academic and professional skills, was an area of research for Sharminia and Spronken-Smith (2020) who investigated the constructive alignment of doctoral programmes. They argued that although there were differing opinions on what the purpose of a PhD was there should be a core set of outcomes to measure "doctorateness" against (Sharminia and Spronken-Smith, 2020, p. 823). These core outcomes included the explicit and expected outcomes like mastery of

research methods and the creation of publishable research, but Sharminia and Spronken-Smith (2020) also included the more implicit outcomes of skills development including "critical thinking…problem-solving, time management…and effective communication" (p. 824). What became clear from their research is that doctoral programmes are supporting their graduates in the more explicit core outcomes, but not necessarily with the more implicit skills that are ultimately used towards "the ability to write research grants, collaborate in research, and manage research budgets" (p. 824). Similarly, research conducted by Denicolo and Reeves (2013) has shown that there are many transferable skills that can be developed during postgraduate study that can aid in employment, especially for those who do not wish to pursue research after graduation. While some of these skills will be inherently developed through doctoral study, there is a clear need for more embedded learning opportunities for study skills and academic writing – all of which support the core implicit outcomes.

As suggested, the value of doctoral research can be dependent upon the opportunities afforded to doctoral candidates. Conversely, research has shown that a lack of opportunities is a contributing factor to stress and imposter syndrome in doctoral candidates (Cornwall *et al.*, 2019; Hockey, 1994; Wang & Li, 2023). The research conducted in the field of PhD opportunities and wellbeing has found that 'imposter syndrome' or the imposter phenomenon (IP) is a recurring theme. These studies have ranged from research into the *causes* of IP to research that explores *solutions* to lessen IP in these two groups. The former has found that vagueness in tasks and programme structure, time pressures, lack of confidence in themselves, and unpreparedness for professional and academic careers are contributing factors of stress and IP (Hockey, 1994; Cornwall et al., 2019; Wang and Li, 2023). The latter (solutions) has found that by accessing embedded learning and by finding a community of practice, doctoral candidates and ECRs have better productivity levels (Kent *et al.*, 2017) and have noted that they feel less isolated and lonely (Mulholland *et al.*, 2023).

When reflecting on isolation and loneliness, some contributing factors that should be more closely considered are Equity, Diversity, and Inclusivity (EDI); for instance, first-generation students and international students may lack the cultural and social capital to understand the unwritten norms within UK higher education, which could reinforce isolation, loneliness,

or imposter syndrome more broadly. Pilbeam, Lloyd-Jones, and Denyer (2013) conducted a study that examined the value of student networks in UK doctoral education; they identified that the main facilitators of network formation included physical presence, shared experience, and common purpose. However, these three facilitators were also the barriers to creating networks, particularly for students who may lack cultural and social capital.

Successful embedded learning of academic writing can increase cultural and social capital during doctoral study and encourage network formation as it is "a tool to get credibility in academic community, a representation of disciplinary-based academic knowledge" (Yuvayapan and Bilginer, 2020, p. 596). I argue that providing embedded learning related to study skills and academic writing could not only build networks, thereby lessening symptoms of imposter syndrome, but also begin to form collaborative and inclusive spaces, i.e., the beginnings of a community of practice for doctoral students. Moreover, if PhD students are provided with opportunities to 1) enter a space where other doctoral candidates are struggling with similar issues, 2) learn preparedness and time management, and 3) work on academic writing skills specific to the doctoral level, then we can begin to build resilience among doctoral candidates and consequently in ECRs (Sharminia and Spronken-Smith, 2020).

Possible solutions: embedded learning and creating a community of practice

There are a few opportunities for PGRs to learn academic writing and study skills, both centralised and embedded (Durkin and Main, 2002) across the University of Birmingham (UoB) including the Graduate School, the Academic Skills Centre at the Library, the Academic Writing Advisory Service, and the Birmingham Law School Skills Academy (SA). The latter two offer support to all levels of UoB students (i.e. UG and PG) within the College of Arts and Law and Birmingham Law School, respectively. More specifically, the Academic Writing Advisory Service (AWAS) housed within the College of Arts and Law (CAL) is a service that offers academic writing and study skills support to those studying within any School and Department within the College. Any student (i.e. undergraduate, postgraduate taught, and postgraduate research) is welcome to utilise the service. AWAS provides a myriad of services

including – but not limited to – 1-to-1 tutorials, access to online lecture-style sessions that discuss an aspect of academic writing (e.g. argument structuring, editing, writing a literature review, etc.), and in-class discipline-specific workshops. While the services of AWAS are most popular and accessed most widely by the CAL undergraduate and taught postgraduate communities, AWAS does support a number of postgraduate researchers each year: approximately 5% of c. 850 postgraduate researchers enrolled within the College of Arts and Law have utilised 1-to-1 tutorials and another 10% have accessed AWAS online workshops.

The importance of the AWAS service for doctoral candidates is that it provides doctoral-specific embedded learning opportunities in study skills and academic writing. AWAS runs sessions such as *Editing your Thesis, Preparing for your Viva, Writing Conference Abstracts,* and more. These sessions are often scheduled during and after the summer semester where doctoral students can prioritise their research without the distractions of term-time teaching. Furthermore, the sessions are held online and recorded to provide an inclusive environment and make them accessible to distance learners, part-time students, and others who must factor in additional responsibilities, including fieldwork and other employment. Providing these doctoral-specific sessions has positively impacted CAL postgraduate research students twofold, first by teaching these students important study skills and academic writing practices to help them succeed in their research, and secondly by creating an open and welcoming space for PGR students to see that other PGR students have similar concerns and questions. Overall feedback from students collected after sessions has highlighted that they are often seeking advice on their argumentation, structure, prose, and study skills; areas that are not always covered in supervisor meetings either due to time constraints or feelings of embarrassment for not already 'knowing how'. Attendees have expressed that they are accomplishing more during their research and writing time as they are utilising the skills learned from the embedded learning opportunities. Moreover, they have expressed their gratitude in finding a community who are experiencing similar challenges, and therefore it is helping with symptoms of imposter syndrome.

A positive consequence of AWAS's doctoral-specific sessions is that the service has begun creating a community of practice (CoP) that helps combat imposter syndrome within the CAL doctoral community. AWAS decided to investigate ways to capitalise on this CoP and created

a programme that was piloted in the autumn of 2023. The programme is meant to provide a space where "learning occurs through mutual engagement with shared norms, rather than through explicit didactic instruction" (Kent *et al.*, 2017, p. 1195). The programme is an interview series called *In Conversation,* where a CAL doctoral student interviews a member of academic staff about their study skills and academic writing processes, and strictly not about their research. This promotes a collaborative and inclusive space where doctoral candidates actively participate in their learning by asking the questions that may not otherwise come up in supervision, either because of time constraints or embarrassment. For instance, some questions that have arisen include, 'do you suffer from writers-block, and if so, how do you overcome this?', 'what do you include in an email asking to collaborate on research?', and 'what referencing software have you used through your academic career?'.

The formation of a community of practice for the purpose of learning study skills and academic writing has proven fruitful to the CAL students attending. Preliminary findings have shown that there has been an average of 30 attendees at each of the four sessions, with an average split of 90% of postgraduate researchers and 10% of staff from the College of Arts and Law. Each session was advertised primarily online through the CAL Student Experience Hub hosted on Canvas, the AWAS Instagram, and the CAL Padlet for postgraduates. While the piloted programme has only attracted approximately 4% of the CAL PGR community, attendance at sessions is expected to grow within CAL. Furthermore, through collaboration with other postgraduate services at the University of Birmingham (e.g. PGR services in UoB Library, UoB Careers Network, and the Graduate School) the *In Conversation* series is expected to reach more than just CAL students. Feedback from students has indicated that the sessions have brought about a sense of community amongst the CAL postgraduate researchers. Doctoral students who have attended the sessions have remarked on the demystification of the writing process, making them realise that many researchers, established and early-career, are facing similar challenges. This small programme is an example of how crucial embedded learning is to the doctoral process, particularly as it relates to the value placed on PhD programmes, the health and wellness of doctoral candidates, and the success of these students after graduation.

Conclusion

In conclusion, this paper argues that embedded learning is necessary to UK doctoral education. The paper explains how skill development is essential to the perceived value of a PhD degree and that the development of skills, like academic writing and time management, is correlated to the success of doctoral candidates as early career researchers and professionals. Furthermore, this paper has shown that lack of embedded learning opportunities is connected to feelings of stress and imposter syndrome among doctoral students, and that a solution to this is to build communities of practice for skill sharing and general support.

The paper then discussed the Academic Writing Advisory Service (AWAS), an embedded learning opportunity in the College of Arts and Law at the University of Birmingham, and how this service has provided doctoral-specific opportunities successfully. Moreover, this paper covered the pilot programme, *In Conversation*, that has led to the creation of a community of practice and how important that has become to the service's research, development, and understanding of doctoral students' needs.

By supporting doctoral students through opportunities that extend outside of research, such as study skills and academic writing support, resilience is built. This may be resilience to imposter syndrome, publication and grant rejections, and/or other situations found in academia and in professional careers. As mentioned earlier in this paper, the US doctoral system has built-in learning opportunities that aim to provide a more foundational experience for PhD students to aid in their success. While I do not think the UK should adopt the same doctoral structure, I do believe that there needs to be further research into the opportunities afforded to PhD students in higher education in the United Kingdom—with a specific focus on teaching academic writing and study skills to doctoral candidates.

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