

Entry

Monitoring the Progress of Doctoral Students

Jane Brooks

School of Health Sciences, Jean McFarlane Building, University of Manchester, Manchester M13 9PL, UK; jane.brooks@manchester.ac.uk

Definition: Doctoral students, graduate students, or postgraduate researchers (PGRs) are those students who undertake a research degree culminating in a thesis of original work. In this entry-level paper, they will generally be referred to as PGRs, as this demonstrates the importance of their contribution to the global research culture. In the UK, doctorates, usually a PhD but also professional doctorates, are typically three to four years in length full-time or six years part-time and are undertaken as an individual study. Research degrees are therefore unlike undergraduate and master's programmes as they are not taught in a classroom with other students. PGRs can therefore suffer from an isolating student experience. Student monitoring refers to systems which track PGR engagement, progress and attendance. They can therefore be used to ensure that the PGR is present on the programme and submitting work, often in accordance with pre-set deadlines. Although doctorates internationally do have many similarities, there are also significant differences. This entry manuscript will be focused on UK doctoral study, although references will be made to the international stage as appropriate.

Keywords: monitoring progress; doctoral students; PhD; PGRs; successful progression

1. Introduction or History

In the nineteenth century, British scholars began to travel to Germany to access the research degree opportunities which were being created there, most specifically the PhD [1]. It was not until the early twentieth century that British universities began to offer the same chances to study at this level. Postgraduate degrees of all descriptions in the UK have been available for the past 100 years [2]. Oxford University established its first DPhil in 1917 [3]. This early doctoral degree included a thesis, oral examination and sometimes a written examination. The universities of Manchester, Leeds, Liverpool and Sheffield followed suit quickly and established PhD programmes in 1918 and University College London developed their first PhDs in 1921 [3]. Yet as late as 1963, the Robbins Report into the state of higher education in the UK hoped that 'the notion that to hold a doctorate is an essential qualification for every applicant for a university post will never become established in this country' [4] (p. 101). Criticisms of PhDs continued for the next twenty years or so. Burgess et al. argued that until the 1980s, most postgraduate studies in the UK had been 'bolted on' [5] (p. 145). It was only in the 1990s, they continued, that organisational structures were instituted to support doctoral students. These support structures were influenced by the rise in student numbers as the need for research to create wealth and prosperity became a reality. Indeed, the attitude, which Clark has called the 'undergraduate fixation' pervaded British academic institutions until the latter decades of the twentieth century [6].

Thus, whilst doctoral study did become increasingly popular throughout the twentieth century, the figures remained relatively low. The number of people who earned doctoral degrees in OECD countries rose by 38% from 154,000 new graduates in 2000 to 213,000 new doctoral graduates in 2009 [7] (p. 6). A more recent study, which delineated PhD production across the globe, identified 8000 PhDs awarded in the UK in 1991. By 2016, this figure had risen to 27,366 [8] (p. 20). Whatever the arguments for or against administrative monitoring systems, in an environment with large numbers of PGRs, it is virtually impossible to keep



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track without effective schemes [9]. Furthermore, as the PGR student body expanded, supervisors have needed to increase the pedagogical nature of postgraduate study and provide more structured support and learning [10]. To ensure parity of research skills and understanding, these taught elements need to be monitored.

2. Influences

Influences on Progression Monitoring

According to the Quality Assurance Agency for Higher Education (QAA), ‘degree-awarding bodies ensure that the design of programmes facilitates academic and intellectual progression. However, it is for degree-awarding bodies to decide how this is best demonstrated’ [11] (p. 33). Doctoral study is not like other programmes in the higher education sector. Postgraduate research students exist in the interstices between studenthood and staff [12] (p. 132). Indeed, in some universities, there is a move to identify them not as students at all, but as postgraduate researchers (PGRs). This liminality is created by the individuality of the PGR’s work compared to the collegial space of the classroom for undergraduate and taught postgraduate students [13] (p. 46). Whilst recent massification of doctoral study has increased the research training aspect and in its wake, a more pedagogical environment [14] (p. 320), this has not lessened the critical nature of a doctoral thesis as original research, nor therefore the need for the PGR to engage fully with a very singular piece of work. Isolation is, therefore, a common feeling for PGRs in a way that it is not for students in taught programmes, or academic members of staff [15] (p. 711), [16] (p. 115). Given the insularity of doctoral study, the need to monitor students both academically and pastorally is critical to their success. Nevertheless, how universities monitor their PGRs and the engagement with monitoring processes by individual academics is as diverse as the students they monitor. It is the purpose of this entry-level paper to discuss the nature of monitoring the progress of PGRs, how this can be achieved, the relative nature of the success it brings to student support and doctoral completion and what happens when it fails.

3. Applications

3.1. University Monitoring Infrastructure

Owens et al. argue that as the number of PGRs has increased, so has the administrative organisation of milestones to monitor student progress [16] (p. 110). However, they continue, these milestones are not universal. They not only differ from country to country, but also between universities in the same country. Furthermore, monitoring processes do not reflect the diverse needs of the PGR study, nor are they transparent. Importantly, PGRs are not always aware of the processes which monitor their progress. Nevertheless, despite these well-considered reflections on the problems of administratively driven milestones used to monitor success—or otherwise, such organisational aspects of doctoral study delivery can be valuable to both supervisors and their PGRs.

One of the critical requirements of a doctoral thesis is that it is at the forefront of new knowledge [11] (p. 30). The students whose work leads to a doctoral-level award are new ‘knowledge workers’ [17] (p. 560). However, this work is challenging in terms of skills, knowledge and tenacity [17] (p. 560). As Kathryn Roulston and colleagues argue, PGRs also have to contend with the growing knowledge of the ‘messiness’ of research [18] (p. 259). If in previous taught programmes students could dwell in a safer space of knowledge provision, in research degrees, the student becomes the knowledge producer, and this is a much more precarious position. One of the criteria set for recruitment of PGRs by the UK Council for Graduate Education (UKCGE) is the need to assess whether ‘applicants are likely to make the transition to independent researchers’ [19]. This ‘threshold crossing’ from learner to researcher is a challenging one [20]. Regulatory milestones can therefore when engaged within a participatory manner by both the supervisor and PGR and support the circuitous trajectory of doctoral study, whilst ensuring that university regulations and policies are followed.

Sambrook et al. argue that ‘The purpose of supervision is to steer, guide and support students through the process of conducting a doctorate’ [21] (p. 72). University monitoring systems often begin with the recruitment and admissions process. Appropriate selection of PGRs is a critical aspect of the rates of success, but how the best candidates are selected remains a moot point. As early as 1989, research into the selection and progression of doctoral students highlighted factors which could enhance the likelihood of success [22]. Current practices across the globe make use of collective decision-making bodies and explicit selection criteria are used to support the effectiveness of the recruitment process [23] (p. 84). Doctoral training partnerships (DTPs) such as those offered by the Medical Research Council and the Economic and Social Research Council have specific calls and remits for their funded PhDs [24]. The procedure for application to these prestigious studentships also follows strict processes with supervisor and project surveillance from Doctoral Management Boards and students are often required to attend panel interviews.

According to Torka, such structured and funded opportunities for doctoral study are now offered across the West. These studentships compete with the more traditional manner of internal apprenticeships when a potential student contacts an academic to make a personal application for study [25]. The systems for such funded studentships do differ, with some countries having government-funded programmes and other more local arrangements. For example, the Australian Government have fully funded research scholarships for master’s degrees and PhDs [26], as well as more specific studentships, such as the Industry PhD Programme [27,28]. Other countries have more diverse and less centralised programmes, such as the USA. Although there are PhD funds from organisations including the National Institute for Health, provision is more likely to be focused on charitable funds [29]. Germany has recently started to move towards a more collective process of selection and monitoring [25] (p. 63). However, because the majority of their PhD students engage in their doctoral research whilst also working as lecturers or research fellows, most monitoring are still via more internal systems [25] (p. 63). Despite the wide variety of structured funded programmes across the Western world, they are grounded in the expectation that they will increase the timely completion of the doctoral programme and the acquisition of transferable skills for the global science market [30]. It is worth noting that countries in the global South may not offer the same sort of opportunities for funded programmes. Bayona-Ore argues that this makes undertaking research in Peru challenging, as most students pay their own fees [17] (p. 560). Whilst the Commonwealth Scholarships offer valuable financial support to some international students to study in the UK [31], they are highly competitive and do not have specific recruitment and training integrated into the programme. Despite the obvious advantages that funded doctoral programmes offer, they are not however without their detractors. Nevertheless, their stringent application process is the first step in the production of the successful student.

However, even for ad hoc applications, there is an increased requirement for more stringent recruitment processes [32] (p. 219), some of which may require oversight from directors of graduate studies at the higher education institute (HEI). As the desire to preserve quality over quantity of research students is appreciated by HEIs across the country, it can be beneficial to introduce application processes for self-funded or sponsor-funded candidates similar to those for the DTPs. Major barriers to successful doctoral study are over-ambitious projects and candidates’ lack of both technical skills and knowledge of their subject area [14]. Careful selection can act both as an important precursor to understanding the needs of candidates before they arrive to study and consideration as to whether the candidate will be able to overcome these barriers.

Nerad et al. identify the use of interviews as part of the recruitment and selection process and acknowledge their use by universities in a range of countries [33] (p. 67). Whilst interviews can, when used correctly, be useful indicators of the appropriateness of a candidate [34], they are not sacrosanct. Furthermore, although they can give a snapshot of the candidate on the day, they are no predictor of the following three to four years. Careful selection is therefore an integral part of PGR monitoring, but it needs to be followed by

structured milestones for the doctoral programme itself. Effective monitoring is however challenged by both the PGRs and the supervisors themselves.

3.2. Student Engagement with Progression Monitoring

Online monitoring systems, which are often administratively driven are ideal for assessing student progression. Each doctoral student is given a programme outline with various milestones mapped out for the full three or four years of study. Expectations can include a literature review in the first few months, an assessed report and viva at the end of year one and a less formal supervisor-approved report at the end of year two. PGRs are also monitored for attendance and engagement, which is particularly important for those international students on Tier 4 visas [35], but is also maintained for home students to ensure a watchful eye on their presence. The systems also enable PGRs to set out their training needs and expectations. As doctoral programmes have increased and the student body diversified, expectations that PGRs will not only engage in their own research but will also exit with transferable skills have become the norm. Muda et al. argue that doctoral training is essential [36]. Internationally, poor success and high attrition have been blamed on poor research skills. According to Sakhiseni, in countries in the global South, such as South Africa, these issues have yet to be properly addressed [37]. Training programmes should include broader academic requirements such as writing for publication, presenting at conferences and employability. Monitoring systems that not only log attendance at training sessions, but also link to catalogues of training opportunities are therefore arguably a critical element of the monitoring process.

The issue of employability post doctorate is of particular importance given the increasing numbers of doctoral graduates and the limited number of academic positions. It is perhaps a useful platform on which supervisors can hang the essential nature of monitoring to help their students engage with the process. Hancock argues that the expansion of doctoral graduate positions outside academia is a testament to their employability [38]. PhDs are highly valuable commodities for a variety of career paths. However, as Hancock continues, little is actually known about many of the destinations which are open to doctoral graduates and which lie outside academia [38]. LERU, the group of leading European countries in which most doctoral research takes place, is clear: 'Professional development support is useful for all researchers, whether they remain in the sector, or whether they transition to careers outside of the university or beyond research' [39]. Hayter and Parker assert that the majority of graduates of doctoral programmes in the USA will not find positions in academia [40] and, whilst there may be many opportunities currently, if programmes continue to expand to the level they are at currently, the system may face an 'oversupply' [38] (p. 521). The OECD working paper on postdoctoral employment points to doctoral graduates being more mobile than graduates of taught degrees, but those options are highly variable across the globe [41]. Academia has been privileged as the space for doctoral graduates. This, Hancock suggests, has been partly driven by the students themselves, although supervisors may well have a part to play [42]. It is vital that research-intensive universities ensure their PGRs are prepared for work both within and outside of the academy. In order to manage expectations, it is incumbent on the supervisory team to start the conversations about employment from the recruitment phase and return to it throughout the monitoring process.

As argued above, monitoring systems are not always understood by PGRs, which leads to poor engagement with them. Supervisors and the doctoral administration therefore need to provide motivations and information as to their location, benefits and value [43]. Studies point to both the 'supervisory lottery' [44] (p. 21) and poor PGR environments [21] (p. 135). However, a critical aspect of student engagement may relate to their mental health, with increasing levels being noted across the disciplines [45]. Jackman et al. highlight the high prevalence of mental distress for PGRs. In one study, 32% of PGRs disclosed mental health problems, with 50% reporting significant symptoms, rates which are higher than for those in defence (10%) and emergency services (22%) [15]. Other research suggests

that graduate students experience mental health problems about six times more than the general population [46]. Struggles with mental health may be the reason why some PGRs fail to engage with monitoring systems; they may also be the reason such problems are discovered. Indeed, it may be the disengagement which alerts the conscientious supervisor to problems.

Other causes of poor engagement include isolation [47], especially for students in the social sciences and humanities [16] and living with financial precarity. As identified above, isolation is a factor for PGRs in a way that it is not for taught students [15] (p. 711), [16] (p. 115). Whilst it is an issue for many PGRs, it can be a particular issue for those studying part-time [32]. It is recognised that part-time and distance learning will be useful ways to study for some, especially those who live in remote and rural environments, and those with caring responsibilities or disabilities. But, these students acknowledge they experience a lack of belonging [12]. According to Gardner and Gopaul, this is most apparent to PGRs in their lack of contact with their peers. They therefore recommend cohort groups which can offer support [48]. Deen and Brehony also recognise that part-time students have more challenges accessing peer cultures [49] (p. 162). It is incumbent, therefore, for supervisors to have regular contact with their part-time students, as they may be the only regular support the PGR has within their department [50] (p. 303). There is some evidence to suggest that students from lower-income families have higher attrition levels, due to ongoing financial difficulties. They struggle to maintain their studies with the requirement to undertake paid work [51]. However, whilst Golde found that financial distress was a challenge, few students identified it as the reason for their attrition [52]. Thus, it is worth noting that even where careful monitoring of students enables the discussion of outside pressures which may adversely affect their progression, not all will discuss these with their supervisor. This is perhaps particularly the case with international students.

International Students and Pastoral Care Monitoring

Universities across the UK, like other Western countries, increasingly recruit international students from wide cultural, social and political backgrounds [53,54]. Conscientious supervisors will be keen to act in such a manner as to support their PGRs in a culturally appropriate manner [55]. Whereas home students may be comfortable speaking about personal matters with academic staff, this may not be the case with international PGRs who may consider discussing such issues outside the family as inappropriate [56]. The need therefore to consider ethnicity, culture and country of origin is critical to the supervisory and therefore monitoring process [57]. Recent initiatives from the UKCGE on equity, inclusivity, and diversity may help support this. The UKCGE will host its first conference on this vital area of PGR supervision in November 2023 [58].

Concerns that discussing non-academic issues with academic staff—such as marital problems, worries over the ill health of parents, limited finances or worries with childcare—is disloyal to the family is prevalent amongst some international students. Some international students' cultural requirement to show deference to their supervisors [56] as part of their academic development, may therefore be at odds with the concomitant requirement for privacy on personal matters. In such cases, administratively led systems may not be sensitive enough to support the PGR's progress. However, that does not mean that the systems should be ignored, or that those colleagues whose role it is to monitor progress from a regulatory perspective in the university should be sidelined. Rather it is incumbent on the supervisory team and administrative staff to work with the PGR to create supportive mechanisms that allow for non-disclosure but enable progression. Failure to do so can lead to attrition, which will be explored below.

3.3. Supervisor Engagement with Progression Monitoring

Academics are busy people with multiple demands on their time. They are required to teach undergraduate and postgraduate programmes, write and run research grants, undertake leadership and administrative roles, review publications for academic journals,

review grant applications, support research staff and post-doctoral colleagues and support doctoral students' research and thesis creation. The engagement with administratively led progression monitoring can be seen by some as an unnecessary burden and one that could be dispensed with in lieu of other more pressing work. De Beer and colleagues reflect on what they consider to be the four dimensions of supervision: advisory role, quality control, supportive relationships and guidance [43]. If any one of these falters, the student's performance can suffer. Poor success rates are often blamed on poor relationships between the PGR and supervisor [57]. Supportive relationships and guidance can be achieved through frequent and interactive supervision meetings, which promote both the research culture and acculturation into postgraduate research work [44].

Administrative monitoring systems are therefore valuable tools for ensuring progression, but they are no substitute for the conscientious supervisor. Whilst I recognise that other papers in this special volume are considering the supervisor–student relationship in detail, it is worth considering its importance as a tool for monitoring progression. Ali and colleagues note that the supervisor needs to be both emotionally and technically supportive, they also need to engage in a critical way. Laissez-faire supervisors are understood by PGRs to be particularly ineffective [57]. Where the doctoral student is part of a laboratory, post-doctoral researchers and more senior PGRs can help to balance the needs of the neophyte student if the supervisor is not present. In the social sciences and humanities, where the relationship is on a more one-to-one basis, this is not possible [14] (pp. 326–327). Given that students are heavily dependent on their supervisors when they start, it is essential that the supervisors adopt appropriate styles of mentorship [59] (p. 9). High rates of attrition are linked to poor supervision and poor student–supervisor relationships [60] (p. 58). Nevertheless, the purpose of doctoral study is to prepare the PGR for independent research. As argued above, supervisors need to promote cognisance of the 'messiness' of research in order to prepare their students for the post-doctoral world [18] (p. 259). But, preparation for the challenges does not mean poor supervisory engagement. The critical aspect of good supervision is to enable the PGR to manage the 'swampy ground' of research and offer support when the PGRs struggle with the mire [61] (p. 689).

In order to create an environment in which the challenging ground can be managed, a good supervisor needs to quality control the PGR work by supporting the production of high-quality research and research writing, the quality of the PGR work cannot be assessed without careful monitoring. Thus, milestones related to the production of the literature review, or first-year report, sometimes referred to as a transfer (from MPhil to PhD) or continuation report are central to quality control. However, one of the simplest methods of engaging with student progression monitoring is via any taught components of a doctoral programme.

3.3.1. Taught Components as a Method of Successful Student Progression Monitoring

Saleem & Mehmood argue that supervisors need to understand the doctoral candidates' level of research training before they begin their studies, as knowledge, understanding and previous training tend to be over-estimated [59]. The North West Social Science Doctoral Training Partnership offers an Economic and Social Research Council, one + three doctoral programmes, in which PGRs undertake a master's course for the first year, followed by their research degree [62]. These degrees can be invaluable for home students without the necessary research skills to begin a PhD. It is not unusual for international students with professional backgrounds to come with excellent knowledge about their field, but limited research training. In these instances, it can be useful for the HEI to offer four-year programmes in which the first year the focus is almost entirely on research training. Monitoring of attendance can be achieved through the usual university systems for taught programmes, which means careful surveillance in the first year as the student settles into postgraduate student life. Ensuring the students will manage the rigours of doctoral study by setting the pass mark for such courses at a higher level can be another beneficial tool in the selection and, thus, the hoped-for attainment of the research degree.

Such processes can improve the success rate of the doctoral study and enable students to acculturate into the university space amongst other students before embarking on the more individual work of doctoral study.

3.3.2. Monitoring and Supporting Failing PGRs

Unfortunately, even with careful monitoring and engaged staff and students, failure to progress can occur. Monitoring systems therefore need to contain mechanisms to support students when they are struggling. McAlpine and Amundsen identify multiple reasons why PGRs may struggle to progress in their studies, including funding, programme requirements, supervisor relationships and the academic climate [60]. It is the purpose of university monitoring systems to note when problems arise, so they can be mitigated. Sometimes, despite interventions on the part of the supervisors, students do not progress and the monitoring systems can be used to identify any remedial actions that are required. According to Mullins and Kiley, PGRs should not fail their PhDs at the viva stage as the supervisors should be aware of problems long before this point. Good monitoring systems can highlight these problems, but only if the supervisors engage with them [63]. One key predictor of failure is when students fail to submit work for review [64]. Whilst much of this is informal, the literature review and end-of-year reports which are often official milestones form part of monitoring systems and can therefore be logged easily. When students look like they are struggling with their studies, supervisors should engage the director of graduate studies or their delegate to organise informal or formal meetings to ascertain the problems. An informal meeting with deadlines set at one to three monthly intervals for up to six months can usually put the student back on track. These meetings must be logged carefully in the monitoring systems, so that supervisors, directors of graduate studies and the PGRs themselves can be certain the goals have been met. When the student is unable to fulfil the requirements of the informal deadlines, a more formal 'Progress Committee' is often needed. It is at this juncture that the reliability of good monitoring is essential. If the supervisors have not kept track of the interactions with the PGR, including their work and their engagement with the programme, it is virtually impossible for the Progress Committee to take any definitive actions to remove the student, if that is the decision that is reached. If they discontinue the PGR without sufficient evidence of continued poor work and engagement, an appeal process is likely to be successful.

4. Conclusions

The substantive body of this entry-level paper ended with a warning that poor supervisory engagement with monitoring processes could lead to an appeal process if the PGR is not successful. Given the laborious and labour-intensive nature of university appeals processes, this is to be avoided where possible. However, to focus on this as the rationale for good monitoring is to miss the essential nature of monitoring student progression. Thus, this paper has sought to discuss the essential aspects of progress monitoring, including the need to engage both the supervisors and PGRs in the process. Doctoral study is part of the process of academic life, through to post-doctoral positions and into permanent academic posts [60]. It is therefore important that staff and their PGRs take monitoring systems seriously and engage with them fully. Formal guidelines between the supervisor and PGR need to be made and adhered to, in order to mitigate attrition and poor theses [59]. PGRs commit several years to their studies, often at their own expense [17], or via sponsorship from employers or governments. If the latter, then failure may lead to the necessity to pay back funds and almost certainly the PGR will lose 'face' [61]. Both the supervisor and the student also therefore need to create relationships conducive to ensuring successful progression. It is acknowledged that the supervisor, as the senior and in effect more powerful member of the dyad, needs to be cognisant of the emotional, intellectual and technical needs of the student. However, this does not mean that the student bears no responsibility. The development of the PGR from neophyte to independent scholar is a critical part of the process and one in which PGRs themselves must actively engage. When

they do not, they must be accepting of the interventions written into the processes for monitoring progression. As the paper argues, PGRs often find that they struggle not only with their studies, but also external and personal issues. Although cultural sensitivities need to be acknowledged when asking for students to be open about any challenges, it is essential that they inform their supervisors in order for support to be put in place.

Graduate education and research studies are part of the bedrock of university work [8]. Doctoral students alongside their postdoctoral colleagues are vital for the future of our scientific, social science and arts communities. Whilst not all will stay in academia, a reasonable proportion will. Careful monitoring of their progression will support them in their studies and provide good role modelling for their futures.

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