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THE OPEN CAGE: A FORCE FOR TRANSFORMATIVE LEARNING IN PROFESSIONAL DOCTORAL STUDIES DURING COVID-19

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ABSTRACT

Aim/Purpose	This paper explores how professional doctorate candidates responded to the restrictions and changed context of COVID-19. Using connectivism as a theoretical framework, it explores the ways in which their patterns of study were recalibrated in light of the restrictions caused by the pandemic. Specifically, this study aims to: explore the experience of the professional doctorate student during the pandemic; and demonstrate the ways in which networks are recalibrated and adapt to changing circumstances.
Background	In 2020, in response to COVID-19 many countries, including the UK, went into lockdown resulting in most doctoral candidates being confined to their homes and restricted to online contact with peers and supervisors. Part-time students have a finely balanced pattern of work which was required to be recalibrated and refocused which required considerable adaptation on the part of the candidates.
Methodology	A qualitative methodology was used comprising four focus groups, each consisting of four professional doctorate candidates. Participants were professional doctorate candidates and as such were all mid-career professionals from a variety of backgrounds. Purposeful sampling was combined with theoretical sam-

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	pling, which ensures the sample is deliberately selected and ensures the emergent development of the theoretical ideas. The focus groups were recorded and transcribed. Thematic analysis was used to analyse the data and identify the main findings, allowing themes to be identified.
Contribution	The findings indicated that professional doctorate candidates were highly adaptable and were able to adjust rapidly in response to COVID-19 restrictions. The networks they had previously established had to be refocused through adapting and adjusting patterns of study and developing digital skills to enable them to progress in their doctoral studies.
Findings	Three themes emerged from the analysis: recalibrating work-life-study balance; adaptivity in studies and research; and empowerment through Information and Communications Technology (ICT). To progress their doctoral studies, the networks they had previously established had to be refocused through adapting and adjusting patterns of study.
Recommendations for Practitioners	While lockdown was an unusual experience, some factors can inform future developments for doctoral education, mainly: the importance of establishing a pattern of study; the importance of connectivism and Information Technology (IT); and how such use can enhance and expand the research process.
Recommendations for Researchers	Adaptivity achieved through IT; connectivity and the recalibration of networks were key to enabling doctoral candidates to continue their research. The use of connectivism as a theoretical framework for research merits further exploration, as do methods for online learning and approaches to incorporating digital skills into doctoral studies.
Impact on Society	According to connectivism, learning is through the establishment of networks, and these consist of both the means of gaining and accessing knowledge and the work-life study balance. It is important to examine and improve these networks. Many of the changes imposed by the COVID-19 restrictions are here to stay and this study highlights the ways in which the student experience can be enhanced through digital learning.
Future Research	This research could be expanded through further analysis of how IT can enhance research practice. The interaction with digital learning sources could be explored and highlighted. The pattern of networks could also be explored and developed, and the positive and negative aspects could be highlighted.
Keywords	professional doctorate, ICTs, digital, COVID-19, higher education

INTRODUCTION

By 11 March 2020, the World Health Organization (2020b) had formally classified the outbreak of COVID-19 as a pandemic, indicating that the virus had spread on a global scale. On 23 March, the UK prime minister, Boris Johnson, announced that due to the rapid spread of COVID-19 the country would go into a period of lockdown. For students in higher education, this meant an almost overnight move to remote learning with all interaction taking place online. Doctoral candidates, like most of the population, were effectively caged, isolated, and confined to their homes. In response, many universities used connectivity and Information Technology (IT) with the goal of creating an 'Open Cage'. That is, although candidates were restricted in their movements, technology facilitated a means of interaction that allowed doctoral candidates to remain connected to their studies, peers, supervisors, and the research community, throughout the restrictions imposed by the lockdown.

At the University of Sunderland, an initial investigation explored the ways in which doctoral candidates were experiencing lockdown, which was undertaken in May and June of 2020 (University of Sunderland, 2020). This investigation took the form of an online survey with a response from 65 PhDs and 20 professional doctorate candidates. The focus was on candidate satisfaction with progress, technology, and overall support from the University. Contrary to most research on student experiences of the pandemic (as further discussed below), many of the respondents, particularly professional doctorate candidates, reported a positive experience of studying online, with 93% satisfaction with online delivery and 100% satisfaction with both online supervision and the overall student experience (University of Sunderland, 2020). This paper builds on this initial study and explores the experience of part-time professional doctorate candidates. The aims of the study were:

- Explore the experience of the professional doctorate student during the pandemic.
- Demonstrate the ways in which networks are recalibrated and adapt to changing circumstances.
- Four qualitative focus groups were organized and explored the professional doctorate candidates' experience during the lockdown.

Doctoral qualifications are the "pinnacle of university scholarship" (Gilbert, 2004, p. 299) and a "zenith in learning" (Lovat et al., 2004, p. 176). A PhD requires candidates to demonstrate the synthesis of new knowledge that merits publication (Abdulai & David, 2019). Although traditional PhDs are still the most typically achieved doctoral qualification, professional doctorates provide an alternative aimed at supporting the contribution of knowledge and practice by professions (Fenge, 2009; Hoddell et al., 2002). Professional doctorates take-up has been identified within three-quarters of traditional universities and a third of new universities and its adoption continues to gain traction (Jones, 2018). Like many universities, the University of Sunderland offers two doctoral programs: Doctor of Philosophy with 203 candidates, and the professional doctorate with 93 candidates (in 2019-2020).

A professional doctorate is "a programme aimed at practitioners who wish to develop their practice to the doctoral level" (Fulton et al., 2013, p. 10), and as such the professional doctorate program is a work-based, part-time doctoral programme where candidates, most of whom are mid-career professionals, explore work-based issues through the application of academic literature and an empirical research study. Candidates are typically mid-career professionals and as such are part-time students. Typically, the programme is structured into two components. First, a taught component with associated coursework, lasting 18 months. Second, this is followed by a research phase that can take from 18 months to 4.5 years to complete. The professional doctorate is run at the Sunderland and London campuses of the University as well as in partnership in Jamaica. Although candidates are based 'at' a physical centre, before the pandemic, many already studied remotely only attending the physical premises for taught sessions. It is worth noting that candidates undertaking the professional doctorate programme often have the dual challenges of work-related issues and significant family commitments imposing considerable demands on many during a particularly challenging period.

CONTEXT AND LITERATURE REVIEW

The conceptual framework, which gave this study focus and direction, is connectivism (Downes, 2008; Siemens, 2005). Connectivism is a comparatively new learning theory that can be described as a theory for the digital age (Siemens, 2005) and as such it reflects the increased diversity of options and the open communication that technology allows in today's world. Learning is not only an internal process, but it is about the interaction with external sources through the process of making connections and the creation of networks involving both human and non-human actors (Siemens, 2005). In this process of connectivity nodes, connected through a series of networks, an organised pattern of learning emerges. This pattern of learning, rather than the formulation of a model, resembles the growth of a plant (Downes, 2012, p. 87). Siemens (2005) draws on chaos theory to emphasise the dynamic nature of these connections and the ways in which networks change in response to external

events. To illustrate this point Siemens quotes Luis Mateus Roche, who defines self-organisation as the "spontaneous formation of well-organized structures, patterns, or behaviours, from random initial conditions" (Rocha, 1998, p. 3).

The professional doctorate student builds up a learning network both in terms of structure and process. In the professional doctorate, there were two distinct phases: the taught component, and the research phase. In the taught component, candidates attend face-to-face sessions which give opportunities to form networks and interact with fellow candidates. In the research phase, the candidates develop slightly more complex networks which could be a mixture of online and face-to-face interactions. In connectivity theory "learning connects specialized nodes of information sources" (Goldie, 2016). Most candidates, for example, like to attend the library to study while others prefer to study at home. Pre-COVID-19 restrictions, the meetings with supervisors and modules tutors were rarely online, rather were face-to-face with candidates attending the University and meeting supervisors in this way.

The advent of COVID-19 and the subsequent lockdown, in practice, necessitated a recalibration of the networks. This approach is particularly relevant to this study, which aimed to explore the experience of the individual in "lockdown" due to the COVID-19 restrictions. This inevitably curtailed their activities and there was an increased reliance on technology, previous networks were altered, and new networks had to be established. The participants were inevitably more reliant on technology.

This study aims to:

- Explore the experience of the professional doctorate student during the pandemic.
- Demonstrate the ways in which networks are recalibrated and adapt to changing circumstances.

The UK Government introduced the Coronavirus Act (Legislation.gov.uk, 2020) Schedule 16 on 16 March, which resulted in the temporary closure of educational institutions in England. This mirrored the global situation with UNESCO monitoring services identifying 160 countries sanctioned nationwide emergency lockdowns (Habe et al., 2021), impacting 87% of the global student community. The response to lockdown was a rapid re-crafting and systematic transition of teaching pedagogies moving from physical or face-to-face teaching to a hybrid approach (Iglesias-Pradas et al., 2021) and with further restrictions to online delivery or 'emergency remote teaching' (González-González et al., 2020; Rapanta et al., 2020). Institutional quality processes were revised in light of these changes (Hodges et al., 2020).

Doctoral candidates questioned and were sceptical about their government's responses to the pandemic (Fancourt et al., 2020). They were, however, generally compliant with lockdown rules, wearing face masks, social distancing, and complying with travel restrictions. However, compliance does not remove concerns, with candidates particularly vulnerable to the psychological effects of the global pandemic (Rajkumar, 2020; Wang et al., 2020, Xiao 2020). Fifty percent of students in the UK experienced increased mental health issues (National Union of Students, 2020) and this pattern was reflected globally (Wathelet et al., 2020). Students from undergraduate to the doctoral level were found to be experiencing enhanced virus-related fear (Alyami et al., 2020), increased levels of stress (Boyraz & Legros, 2020), social isolation (Tasso et al., 2021), depression (Baloran, 2020), diminished sleep quality (Altena et al., 2020), and symptoms of post-traumatic stress disorder (Elmer et al., 2020; Misirlis et al., 2020; Son et al., 2020). Between 2019 and 2020, symptoms of poor mental health within the student community increased two-fold (Chirikov et al., 2020). Specific triggers of such symptoms were associated with increased workloads, understanding virtual learning platforms, and weak internet connectivity (Horita et al., 2021).

Aucejo et al. (2020) identified a correlation between the economic impact of the pandemic and the financial pressures imposed on less affluent students who were heavily reliant on employment. There is also evidence to suggest that the pressures of lockdown created tensions amongst students who

are residing with their families (Giusti et al., 2020), which increased when family members either experienced symptoms of the virus or were classified as high risk (Alemany-Arrebola et al., 2020). Such symptoms and scenarios could hinder the progress of students and their performance (Iglesias-Pradas et al., 2021). Conversely, many students responded with effective coping mechanisms (Le Vigouroux et al., 2021; Zhang, 2020) in areas such as effective self-belief and physical fitness regimes, which are all effective attributes to maintaining a positive mental mindset (Coyle et al., 2020; Wen et al., 2020; World Health Organization, 2020a). Faculty members also experienced the rapid transition to remote supervision, workload demands, and a lack of clarity about shifting academic parameters (Tasso et al., 2021). All this could lead to anxiety which was often coupled with virus-related fears (Alyami et al., 2020). This was exacerbated by limited online training (Bonafini et al., 2017) and a lack of familiarity with online communication platforms (L. Hall et al., 2020).

An earlier study by Bolliger and Halupa (2012) stated that student online engagement and learning can be influenced by 'transactional distance', i.e., geographical distance, different time zones, lone studying, lack of face-to-face dialogue, and supervisors need to be mindful of this when engaging with candidates. Dixson et al. (2017) highlighted the importance of supervisory online communications in terms of verbal and nonverbal communication as important cues to sustain positive student engagement. However, work conducted by Campbell (2014) revealed that excessive supervisor face-to-face presence did not enhance student engagement, whilst research conducted by F. Martin et al. (2018) indicated that candidates rated prompt responses to their research as their priority in online supervisory engagement.

The literature specifically exploring the experience of the doctoral candidate during the pandemic, focused on the PhD student and therefore did not differentiate between PhD and professional doctorate candidates. Achieving a doctorate requires a substantial amount of finance, time, motivation, and psychological investment (Hill & Conceição, 2020). Doctoral candidates invariably embark on their doctoral journey with an intrinsic feeling of hope and ambition within their lives (Kasworm, 2008; Rockinson-Szapkiw, 2019). In the United States, 57.5% of postgraduate research candidates are part-time (Okahana & Zhou, 2018), including professional doctorate candidates who are also often working in a strategic role (Hill & Conceição, 2020). Interestingly, part-time students are not differentiated when the experience of the doctoral student is explored. For example, a recent report commissioned by the UK Council for Graduate Research (Smith McGloin & Wynne, 2022) does not specifically report on part-time students or the experience of the professional doctorate candidate.

Universities have a legal duty to assure and maintain doctoral quality standards (QAA, 2018) and to ensure the well-being of doctoral students. For example, in response to travel restrictions for students and the global transition in moving viva assessments and workshops online, the UK Council for Graduate Education (UKGE, 2020) provided supporting measures for online vivas in 2020. This online transition was achieved. Doctoral candidates have been reported as adopting a focused approach enabling many to successfully complete their studies (Imeri et al., 2021). However, in general, COVID-19 has slowed the progress of doctoral candidate research plans, specifically those associated with laboratory and field research activities (A. K. Hall et al., 2020).

The relationship between the supervisory team and research student is an essential element of doctoral completions (Grasso et al., 2009). Regular face-to-face communications between doctoral candidates and supervisors are viewed as key to retaining doctoral core values such as research, teaching, mentoring, and a strong culture (Persky et al., 2020). The move to online supervision in lockdown was evaluated. Imeri et al. (2021) identified that candidates were experiencing a lack of supervision and mentoring and that online supervision was proving challenging for some supervisors.

After lockdown restrictions were eased in early June 2020, universities promptly released COVID-19 secure operating protocols (Gressman & Peck, 2020; Regehr & McCahan, 2020). These enabled the incremental and highly regulated reopening of science laboratories and research facilities. However,

in the main, most doctoral researchers continued to study in the safety of their own homes reliant on online support (Gamage et al., 2020).

The professional doctorate candidates are all part-time, mid-career professionals, and the emerging literature that explored the experience of students treated university students as a homogeneous group. Again, the literature specifically focused on the doctoral experience and also treated doctoral candidates as a homogeneous group. This paper attempts to explore the professional doctorate student's experience during the period of COVID-19 restrictions, using connectivity theory as a framework to explore the disruption of a finely balanced pattern and its recalibration.

METHOD

The data was collected through focus groups which facilitated an exploration of the participants' experiences and responses to the COVID-19 pandemic. Ethical approval was given by the University of Sunderland Research Ethics Committee and informed consent was obtained from the participants.

The approach to sampling was purposeful sampling, which Patton (2002, p. 230) defined as "selecting rich information cases for studying in depth". This means the researcher deliberately selects a sample that will inform the researcher and in this way the researcher ensures an in-depth understanding is obtained. Patton (2002) developed a typology of purposeful sampling and, in this study, homogeneous sampling was the technique. A small group was selected which both "reduces variation, simplifies analysis and facilities group interviewing" (Benoot et al., 2016). The professional doctorate candidates are a homogeneous group: mid-career professionals. There were also differences, for example, in terms of gender, family circumstances, and stages in the programme. The selection process took account of the variation in the experience of students. Purposeful sampling was combined with theoretical sampling, which ensures the sample is deliberately selected to ensure the emergent development of the theoretical ideas.

Participants were contacted individually and asked to participate in the focus groups with no incentives offered. Focus groups are a means of gaining an in-depth understanding of social issues (Nyumba et al., 2018) and are defined by Stalmeijer et al. (2014, p. 1) as "a form of group interview that capitalizes on communication between research participants in order to generate data." The focus groups were held online (via Microsoft Teams) with 4 participants per group (giving a total of 16) providing a manageable number that would facilitate interactive discussion. The sample in a focus group should reflect the diversity of the population being studied (Barbour, 2008), and this principle was followed in the selection of the participants. With the professional doctorate having both a taught and a research phase, candidates were selected to represent both phases. Two of the focus groups had participants only in the research phase, one group of participants in the taught phase and one group was mixed. Each group was analysed on completion. The principle of theoretical saturation was followed (Glaser & Strauss, 1967), which is defined by Urquhart (2013) as continuing collecting data until no new codes could be generated. This point was reached after the fourth focus group.

A series of open-ended questions were formulated based on the issues in the emergent literature and the researchers' experience of the pandemic. The questions aimed to stimulate discussion about the effects of COVID-19 on candidates' experience of study. The questions were:

- How did COVID-19 and its restrictions affect your study?
- How did family commitments interact with your study during this period of lockdown?
- What worked well?
- What has not worked quite so well?
- Any suggestions for improvement?

Table 1 gives details of the 16 participants. To preserve anonymity a pseudonym for each participant has been used.

Table 1. Details of the focus groups

Group 1	**Gender**	**Age range**	**Phase of Programme**
Peter	Male	50-55	Research Phase.
Peggy	Female	40-45	Research Phase
Ali	Male	30-35	Research Phase.
George	Male	50-55	Research Phase
Group 2			
Sophie	Female	30-35	Research Phase.
Ian	Male	40-45	Research Phase
Phil	Male	40-45	Research Phase.
Matt	Male	30-35	Research Phase
Focus Group 3			
Mary	Female	30-35	Taught Phase
Sarah	Female	30-35	Taught Phase
Dan	Male	40-45	Research Phase.
Sheila	Female	55-59	Research Phase
Focus Group 4			
Elizabeth	Female	40-45	Taught Phase
Eileen	Female	50-55	Taught Phase
Gill	Female	30-35	Taught Phase
Peter	Male	45-49	Taught Phase

The method of analysis was thematic analysis, a flexible approach that is not linked to a recognized qualitative approach (Maguire & Delahunt, 2017) and one which allows exploration of the data as opposed to a summary of the data. In the literature, there is some debate as to whether the thematic analysis is a way of organising qualitative data or an approach that allows the researcher to examine the data through an interpretivist lens (Tanweer et al., 2021). The approach taken in this research is the latter. Braun and Clarke (2019, 2022) refer to this as reflexive thematic analysis. By this, they mean analytical techniques that reflect the subjective position of the researcher rather than a source of bias. The position of the researcher is an important part of the analytical process facilitating the establishment of the core themes.

The focus groups lasted one hour and were held via Microsoft Teams. They were facilitated by two members of the research team. They were recorded and transcribed verbatim. Quirkos (Turner, 2021), a tool for the analysis of qualitative data, organized this process of coding. The process is relatively straightforward. Each transcript is on the left of the screen, it is individually coded, and initial categories are established. As categories are established, a bubble is produced, which is on the right of the screen (illustrated in Figure 1). Quirkos produces a document containing all the thematic categories and respective quotations. This process allowed initial categories to be established. The research team read the transcripts several times thus familiarizing themselves with the data. One of the researchers coded the data and, through discussion and negotiation, gained agreement from the other researchers. The emergent themes were further refined and developed into final themes following the process outlined by Clarke and Braun (2014). The initial categories were *positives, introspection, taking from experience, technological challenges, online, effects on data, changes of plans, and practical restrictions.*

The second phase of the analysis was the development and establishment of the categories. Establishing themes is not a simple merging of categories but rather a close and critical examination of the data. This examination involves looking for broad patterns across the data set and through the analytic process allowing these broad themes to emerge. These themes aim to tell a coherent story and

encapsulate the analytic quality of the findings (Clarke & Braun, 2014). The three broad themes are discussed in the next section.

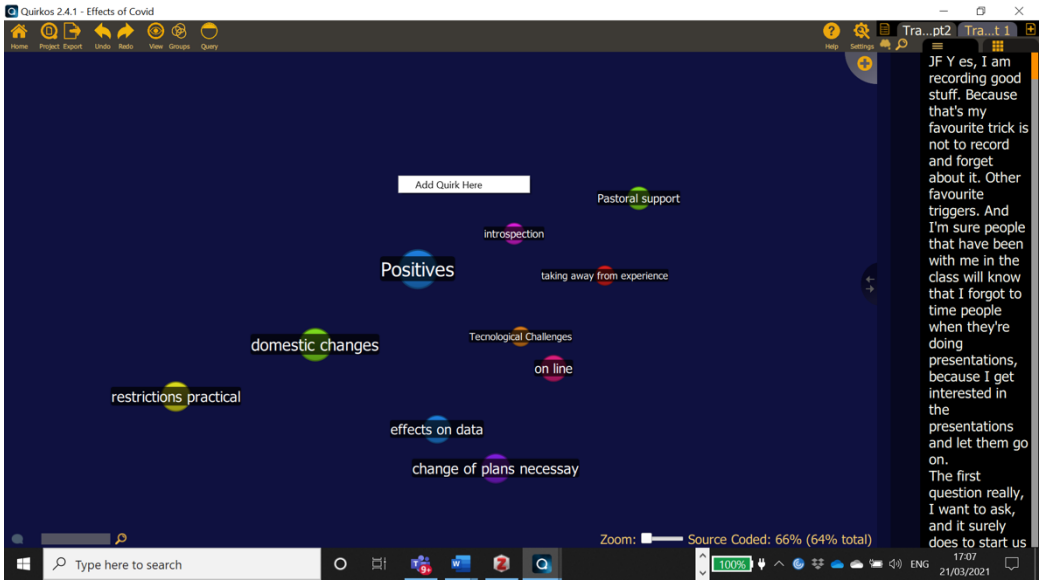

Figure 1. Example of Quirkos

FINDINGS

The theoretical framework for the study was the connectivity theory. This allowed the researcher to specifically focus on the networks and links that individuals make both in terms of their situation and the wider networks which aided and assisted them in their studies. This lens allowed the researchers to look at and examine the themes and the underlying issues, thus facilitating the development of the final categories. The lockdown and restriction imposed by COVID-19 affected the balance and equilibrium of previously established networks and this was reflected in the emergent themes.

The first theme is *Recalibrating the work-study-life-balance* and which, due to the disruption caused by lockdown, affected this finely-tuned balance and necessitated a recalibration. The second theme was *Adapting: Studies and Research Focu*s which specifically referred to issues around their studies both in the taught component and the research phase. The third theme was *Empowerment: Engagement with Information Technology*. Information technology is central to connectivity theory, and in the lockdown period even more important, facilitating these new relationships, strengthening networks, and empowering the candidates.

RECALIBRATING THE WORK-STUDY-LIFE BALANCE

Doctoral candidates undertaking part-time programmes must balance work, study, and family life. At the best of times, this is a balance that can be easily upset and overturned. A changed deadline, a dose of the flu, or even a few late nights, can easily disrupt a carefully worked-out schedule. The candidates were of an age where there were significant domestic responsibilities and, in normal circumstances, their lives were already a constant balance of work, home, and study.

In March 2020, lockdown required a significant readjustment of this balance and during the pandemic, this balance has had to be continually recalibrated. For candidates who already worked from home, life in lockdown became more challenging with the family now also at home and effectively in the workspace. The family being at home more was not viewed positively by candidates who wanted their own private, quiet spaces back:

> "I've had other members of the family who were students elsewhere who have had to come back home. So that has had an impact on my study time." *Ian*

Issues around children, homeschooling and caring responsibilities meant that life was thoroughly disrupted for many candidates with the time allocated for doctoral research reduced.

> "For me, it's been tricky working at home and doing the professional doctorate at home. Because I've got a son. So, with having him in the house most of the time, it has been really challenging to try and get my head into what I need to do." *Peggy*

The COVID-19-related increased demands on home life had radically changed, and so too had the demands of the workplace brought about radical change. Most of the candidates in the focus groups had experienced challenges in relation to work. For those in sectors such as health and education and for other key workers, the increased demands caused by COVID-19 meant there was much less time to study and research. Ian, who manages a care home stated:

> "I had to manage the staff and the residents. For all days, I think I was putting on about minimum 45-50 hours of work per week." *Ian*

Work pressures required a recalibration of many candidates' activities, resulting in a process of balance and renegotiation of boundaries on a daily basis. Some candidates highlighted, for example, that lockdown had impacted negatively on their doctoral ambitions, primarily due to a lack of time and the need to focus on more immediate concerns such as family and work responsibilities. With continuing restrictions, some candidates were intending to use annual leave for study rather than a holiday, recognizing that they have not had sufficient time to focus on their studies during the pandemic.

While this was the experience of the majority of respondents (12 out of the 16 respondents), the picture was mixed. For candidates with partners, without children at home and/or few caring responsibilities for parents, etc., life was calm offering structure and time for study. For some, the lockdown was beneficial providing time and space to focus on their studies:

> "… just myself and my wife, and very little in the way of family commitments, and my whole day is structured around an identical routine, pretty much. Managing the study aspect has been quite easy. It's sort of just naturally slotted into my working day." *Matt*

For some candidates, particularly those who had previously commuted, there were significant and extensive benefits from the additional time that had become available. Even with all the additional stresses brought by the pandemic, the potential of incorporating study into the day was productive. As one candidate, Sophie, commented:

> "now working from home, I'm saving two hours a day from the commute." *Sophie*

Adapting: Studies and Research Focus

This theme is interrelated with the previous theme of work-life-study balance. The lockdown restrictions forced candidates to stay at home. For some candidates, adaptation to total home study was a challenge as previously they had structured and maintained balance by leaving home to study, with the library a popular venue. Professional doctorate candidates are all part-time, and all had their own patterns of working, so the COVID-19 restrictions meant a recalibration of these patterns. In some cases, this was minimum, for example, George:

> I … always use the library resources electronically. So, I've always used it as a distance and rarely entered into the building. *George*

Peter, another professional doctorate candidate, liked to study in the library and saw it as a physical study space rather than a repository of books. This was in common with other students who lived locally:

> "From a personal point of view, there's been some impact in not having direct access to the library facilities the way that I was used to … I actually use the library quite extensively, or I did prior to Covid breaking out …" *Peter*

The lockdown had implications not only in terms of study but also for the research candidates were undertaking. Challenges were related to data collection or having to collect data online. However, for many, the physical restrictions meant a rethinking of their projects and their project plans. For example, Peggy, a university lecturer, had planned to explore with her students' novel ways of teaching and evaluate the effects on her students; Peggy, in the context of her research found the online teaching particularly challenging and at this stage thought it would require a refocusing of her study.

> "And obviously, teaching in a classroom, it's very different to teaching online. So, I can try to deliver what I need to deliver online and analyze it. But it will have a really big impact on the data that I collect and the results that I get. So, I'm going to have to refocus my study to include a section on online teaching." *Peggy*

Another candidate, Ali, was working in real estate and was examining patterns of behavior in buying and selling houses. He found that the changes due to COVID-19 set up quite a different pattern of behaviour in consumers.

> "I'm trying to analyse the consumer behaviors. And, of course, this is a big impact on people like the priorities has been changed, like everything is different right now …." *Ali*

He was also interested in nonverbal cues. As he had to carry out his research online, the dynamics changed. In practice, this required a major rethinking of his study.

Empowerment: Engagement with IT

The previous two categories identified the ways in which individuals responded and readjusted their networks to accommodate their studies. The third category was concerned with information technology (IT). It was part of the network of support both as an enabler and as a source of information, which is a powerful learning tool. IT opened the cage imposed by lockdown with candidates identifying significant changes in how they now engaged with IT, and they were overwhelmingly positive about this change. They engaged with IT in new and innovative ways, particularly in the use of video conferencing tools such as Zoom and Microsoft Teams. Before the pandemic, few candidates actively engaged with these tools but now they were being used daily. Initially, tools were used mainly as a means of communication but increasingly these tools were being used as part of the research strategy.

A good example of this is Phil who works in IT and was studying human-computer interaction:

> "I have been looking into video technology for 10 years now and I couldn't have anticipated we would have had this ground shift there has been more progress in the past 6 months than in 10 years or so … which is hopefully a good thing, but we will have to wait and see." *Phil*

The professional doctorate candidates were all positive about this increased use of technology. They were positive about their online engagement with academics and support staff. They found increased flexibility in gaining access and, whereas previously hour-long supervision with travelling to and from the University could take a whole morning, it suddenly became relatively easy to zoom in and finish after one hour.

Pre-pandemic there had already been significant development of the online provision and the use of e-books and other online learning resources. In lockdown, this was extended and enhanced particularly in relation to the range of e-books and online study resources. Although the physical library could not be visited, library staff were found to be highly supportive, knowledgeable, and flexible in providing excellent online resources. Appropriate policies were in place that reduced doctoral concerns. A good example of this was in the current regulations as regards student loans.

An issue for part-time candidates is engagement with extracurricular activities, and professional doctorate candidates were no exception. The physical buildings were closed, yet paradoxically candidates began to feel more aware of the university research community. Although all face-to-face teaching had been cancelled, for some candidates their interaction with peers had increased. Additional seminars such as the presentation of research studies were now online, and candidates could easily attend. The increased online activity meant candidates could interact with their peers, and attend extracurricular activities. Previously, with travelling, such activities could take a day or half a day but now candidates could dip in and out of sessions. Group meetings were also relatively easy to organise.

> "I can recall within a month of the pandemic starting we had a gathering of all the cohorts, from Jamaica and all over the world and that was great." *Ian*

In terms of data collection, many embraced the move online and the increased opportunities to collect data in new ways. The increased use of IT enhanced the research process and also speeded up the process of research. As one candidate described:

> I think we're in a different place this year, really. So hopefully, by the time I start to go, my data that we've embedded. I think it's definitely a good thing that these technologies are being embraced so quickly, because one of the big reservations I had about my methodology, which is going to involve focus groups, focusing on international audiences. So video is going to be a necessity. I was worried that the adoption of these technologies is going to be a major issue. But I think we're in a different place this year, really." *Phil*

Another exemplar was Sophie who wished to collect data from a sample recruited nationally prior to lockdown, had concerns about data collection.

> "I … remember having conversations … about could we use Skype? If we use Skype? Will people be familiar with that? … by the time I got to the interview stage, most people were using it [Teams] day to day. So, whether they liked it or not, they were kind of familiar with it by that point, because it was the new communication platform." *Sophie*

The use of online tools to collect data saved time and effort, increasing the range and scope of research studies and enabling candidates to draw on a broader range of respondents both in terms of numbers and geographical location. The full extent of such changes is as yet unexplored and will have great potential for the research phase of the professional doctorate. Like the rest of the country, there was a steep learning curve associated with the newer technologies, however, candidates rapidly recognised the benefits of using such technologies. This has inevitably resulted in an enhancement of their skills with the candidates developing proficiencies in accessing material online and using online tools, with considerable potential to raise the standard and quality of their studies.

Although participants were predominantly positive about the use of technology, there were occasions in which some candidates missed physical presence. For example, one candidate who had an online viva via teams in lockdown felt that they had not had the same experience as they would have had in a live situation. And that the online experience was somehow not as good. So, although technology does enable an open cage, for some candidates this will never replace face-to-face interaction.

DISCUSSION

The experience of the professional doctorate student in the lockdown due to COVID-19 has not been specified in the literature. This paper highlights both the challenges and the ways the candidates can adapt. Connectivity theory suggests that networks are an essential part of learning in the digital age. Nodes are formed which are linked to each other in the form of networks. Nodes are an important feature of learning (Siemens, 2005), and individuals establish their own networks of learning. This research study highlighted that networks can be practical in the sense that they support learning and that networks can interact with and facilitate learning. Lockdown and COVID restrictions

brought about a recalibration of the support networks and an enhancement of the learning networks.

The UK Council for Graduate Education (UKGE) has highlighted factors that may inhibit the progression of doctoral studies during a lockdown. These included combining homeschooling and/or working from home with study (UKGE, 2020), at least some of which have affected all of the professional doctorate candidates in this study. Findings from the qualitative study identified three main themes relating to how professional doctorate candidates responded to the restrictions and changed context of COVID-19: recalibrating the work-study-life balance; adapting studies and research focus; and empowerment through engagement with ICTs.

Many of the practical constraints and domestic challenges are being resolved as restrictions end; however, for many, significant changes wrought through COVID-19 will remain. Working from home is likely to continue for many and this, as our participants identified, was beneficial for their studies, freeing up time previously lost in the commute. Even though these are unprecedented times with massive changes in all aspects of life, nonetheless, having to change plans and research direction is not unknown and is one of the required skills for doctoral candidates (The Quality Assurance Agency for Higher Education [QAA], 2020). Further, most professional doctorate candidates have experience in responding to and initiating change within their domain of practice (Fulton & Hayes, 2017; Weiner, 2009). Adaptation and changing plans in response to unforeseen circumstances are necessary skills in most professional practice (Fergusson, 2019). The findings outlined in this paper indicate that such experiences helped to enable professional doctorate candidates in responding positively to the pandemic and adapting to the dramatic changes in their lives. Rather than COVID-19 having limited professional doctorate candidates, instead, it has required them to flex and pivot, to adapt and change, applying skills developed from practice and research with such changes of direction almost integral to the professional doctorate.

The professional doctorate candidates used IT with varying degrees of proficiency, and as with most of the population going online in lockdown, necessitated a steep learning curve (Watson et al., 2021). The prevalent rhetoric about digital competency in higher education focuses largely on students acquiring practical skills and competencies. However, in recognizing conceptual as well as standardized definitions (Lankshear & Knobel, 2015), some theorists emphasize that digital competency is more than practical skills but involves a complex range and interplay of sociological, cognitive, and emotional skills (Eshet-Alkalai, 2004; List, 2019). It is easy to reduce digital literacies to a set of skills, but it is how these skills are used that is important. For example, evidence can easily be accessed digitally but its appraisal and assimilation into the user's existing knowledge is where the key skills lie. A. Martin and Grudziecki (2006) identify three stages in the use of digital skills: the achievement of digital competencies; the ability to apply these competencies in academic, professional, and practical situations; and using the skills in an innovative and transformative manner. The COVID-19 restrictions have led to an increased usage of IT and an associated increase in digital competency. However, it is important that not only are these competencies enhanced but also that they are integrated with cognitive skills. The transformative aspects will inevitably follow but at present are an under-explored territory.

The COVID-19 crisis has moved many candidates along the digital skills continuum. Being forced to adopt new models and approaches to engagement has sped up the pace of transformational change. However, the ease with which candidates moved online and the positive response from candidates in the reported study and elsewhere (L. Hall et al., 2020), highlight the need to continue this transition. Blended learning and hybrid models are being posited in many institutions, yet contrary to the view that students want to be on campus, it can be recommended that instead the way forward, at least for professional doctorate candidates, should be mainly digital. The opportunity to meet face-to-face should be there; however, for many of the candidates, the cost and time in travelling to have a physical engagement will not merit the value of physical presence.

With a gradual return to the new normal, there are a number of lessons that can be learned from the pandemic and its associated lockdown. Firstly, there is a need for universities to continue to monitor and respond to the experience of professional doctorate candidates. As part-time students who may rarely come on campus, it is key that candidates are given opportunities to provide feedback on their experiences. The initial online survey assessing student satisfaction that highlighted the positive response to COVID-19 is run annually at the University of Sunderland with a "You said … we did …" approach used to inform candidates of changes made in response to feedback. Secondly, digital and online are here to stay with this change requiring that candidates are well equipped with sophisticated digital literacy and skills, and able to develop content, presence, and profile. Thirdly, as online increases, there will be a related reduction in physical engagement. The potential of online to provide a sense of community and increase student perception of research intensity reinforces its use as the main delivery channel; however, it will need to be enhanced and upgraded. At Sunderland, additional approaches include Virtual Writing Retreats that are being trialed with professional doctorates as well as doctoral candidates and faculty. The benefits of 'gentle' drop-ins and 'is all well?' communications – the equivalent of a coffee at the University – were apparent from the study. Candidates felt that the University was aware of them and really did care about their welfare. These weekly sessions have continued and are expected to continue indefinitely with students regularly attending, and engaging with their community, with many attending to hear issues rather than raise queries themselves. Finally, the key lesson is that we must not go back to how it was before. For digital to be more appropriately embraced by higher education has taken a long time. It is clear that online fits exceptionally well for most professional doctorate candidates, enabling them to gain a balance between work, life, and study, no longer tethered to the necessity of physical presence on campus.

The above discussion has highlighted the use of networks. To return to connectivity theory, networks can be defined on at least two levels. One is actual learning opportunities, and the second is learning opportunities such as ebooks, and material such as the online language learning programme *duo lingo*. In the professional doctorate, students are all part-time and as such must balance work, study, and their personal lives; as such, networks are built into this balance. The restrictions of the pandemic necessitated a recalibration of the networks mainly through the increased digitalization; for example, increased use of digital books, "blogs, wikis, and other open, collaborative platforms are reshaping learning as a two-way process" (Carreno, 2014, p. 114). Connectivity theory, and the articulation and exploration of networks, is an important tool in this analysis and as a way forward consideration of the networks and their formulation and reformulation is important.

COVID-19 had a significant impact on all students, yet as can be seen from the findings, not only did professional doctorate candidates continue to progress in their research but, for many candidates, the changed context resulted in an improved experience. IT enabled an 'open cage' with candidates gaining an increased awareness of each other, researchers, and academics and of belonging to a research community highlighting that intentional, rapid, and strategic responses in crisis situations can help to alleviate the negative impact of such situations. The study has revealed factors that have worked to mitigate the impact of the pandemic and resulted in unanticipated benefits. The findings from this study could help to understand the impact of the ongoing pandemic on academic programs and educational progress with findings having relevance to reimagining doctoral programs and retaining the quality, credibility, and value of doctoral education during crisis situations.

Limitations

This study was small-scale, with 16 participants. It focused solely on the experiences of professional doctorate candidates at one university. However, with a wide range of ages and practices presented in the focus groups, it seems likely that other populations of professional doctorates may have had similar experiences. The facilitators were members of the programme team, and the members of the fo-

cus group may have been inhibited when expressing their views. However, the programme encouraged full and frank discussion around issues, and this was reflected in the focus groups where the candidates spoke openly and frankly about their experiences of lockdown.

CONCLUSIONS

Three highly interrelated themes emerged from focus groups with professional doctorate candidates: (i) recalibrating the work-life-study balance; (ii) adapting: studies and research; and (iii) empowerment through ICT. Candidates were predominantly positive about their professional doctorate studies and experience in lockdown. This is related primarily to the unexpected benefits achieved through being digital and connected. Participants had adapted responsively and effectively to change at home, in the workplace, and in their studies. The findings highlight that candidates readily adopted technology with the resulting 'open cage' having positively impacted candidates with improved learning opportunities, removal of physical boundaries, increased opportunities for engagement, and a sense of research community. It can be suggested that these results highlight the requirement for online and digital to become the new normal for professional doctorate study and experience.

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