MEETING THE DEMANDS OF PHD SUPERVISION BY CHANGING SUPERVISION PRACTICE – A SUPERVISOR'S REFLECTION ON DIDACTIC CHANGE

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Abstract

This article presents a PhD supervisor's reflections on a didactic change in supervision. The change included adding digital collaborative supervision activities to meet expectations, demands, and prerequisites for PhD supervision. Small-scale changes in supervisor didactic practices, such as online monthly group meetings and online retreats, can be useful for the progress of PhD students and for improving the working situation for supervisors. Collaboration is a key feature that ensures shared responsibility, meaningful focus, and better use of both traditional and new supervision meetings and activities. Furthermore, PhD students appear to have positive outcomes regarding social life, academic belonging, academic skills, academic leadership, and academic friendship. The findings from this small, pragmatic quality improvement project provide useful insights for PhD supervision. Reflections on a supervisor's experience from a didactic change with digital, collaborative supervision can provide useful learning relevant to other PhD supervisors, PhD students, and graduate schools.

Keywords: Digital Didactics, Digital Supervision, Digital Writing Retreat, Group Supervision, Student Networks

1. INTRODUCTION

The most important predictor of successful PhD projects is the quality of supervision (Raffing, Jensen & Tønnesen, 2017); therefore, continuous quality improvement of supervision is essential. PhD supervision includes several types of activities with multiple values, expectations, and discourses that may be in tension (Trowler, 2021). A recent UK survey shows that a large majority of PhD supervisors find supervision rewarding, enjoyable, and valuable for their research. However, approximately one-quarter are dissatisfied with their ability to be effective supervisors and have not been allocated enough time to support PhD students (UK Council for Graduate Education, 2021). Major societal changes, such as the COVID-19 pandemic, influenced the process of PhD supervision (Elliot & Makara, 2021; Guerin & Aitchison, 2021; Wisker *et al.*, 2021), but minor organisational or personal work changes also affected supervision and revealed the need for development and quality improvement of supervision. However, the workload of PhD supervisors can pose challenges to both the quality of supervision, and opportunities for the individual development of supervision skills and processes.

Before becoming a PhD supervisor, my knowledge of the formal requirements for PhD supervision was limited. Having worked in practice rather than in academia, my PhD supervisors were supportive, while simultaneously providing me with the freedom and flexibility to plan my projects independently. My PhD was externally funded by my employer, which made me less dependent on funding from my supervisor and project leadership. In hindsight, working half-time during my PhD studies meant that I was less connected to the academic institution and adjoining academic networks than I would have been if the project had been funded and led by my supervisors.

As part of my PhD, I participated in the interdisciplinary PhD programme 'Voice', during which I learned about the wide-ranging diversity of PhD studies in different fields. Presence at the institution was one such example, where the expectation at some institutions was that PhD students should be consistently present in the lab, while other institutions preferred that PhD students attend only occasional supervision meetings. During the PhD programme 'Voice', participating PhD students planned and completed a research report on PhD students' views on continuation or leaving an academic career and what made them want to drop out or stay in academia (Areskoug Josefsson *et al.*, 2016). The outcome of the report was that the main reason for both leaving and staying in academia was their supervisors. The importance of supervisors for completing PhD studies, for well-being during the process, and for inviting PhD students to join valuable research and practice networks was clear.

According to Skopek, Triventi and Blossfeld (2022), the completion rate of PhD studies depends on the frequency of supervision and support together with structured programmes with clear deadlines and sufficient funding. The findings from the 'Voice' project showed a stronger focus on the supervisor's importance, but this may be due to the investigated university already having structured programmes, clear deadlines, and specific funding regulations.

The 'Voice' programme impacted on me as a person, widened my views on academia and became the starting point for formulating how I would like to supervise. However, the 'Voice' programme only consisted of PhD students from one large university in Sweden, and diverse student cohorts bring further complexity to supervision. Additionally, different countries and universities vary in their expectations, regulations, and organisational support connected to the supervision of PhD students, adding to its complexity (Wichmann-Hansen, Godskesen & Kiley, 2020). This diversity demands that supervisors adapt when supervising at other universities, collaborating with supervisors from other universities or countries, or relocating to a new academic position at a different university.

When I started working part-time in academia as an associate professor, I undertook supervisory courses and moved from co-supervisor to main supervisor. During this process, it became clear to me that the demands of supervision were not balanced with the allocated time and resources for supervision. I found it challenging to find solutions to deal with the situation. Providing more supervision time than is allocated may be possible with one or two PhD students, but it is almost impossible when having several PhD students with different research projects. To ensure quality supervision, the supervisor needs to be committed to the PhD student's work, the practice of supervision, and the relationship with the student. However, the frequency of contact between supervisors and PhD students is also important to ensure timely completion (Skopek *et al.*, 2022). There as to be a better way to meet the supervision demands and increase the frequency of supervision meetings while simultaneously limiting the workload of the supervisor. Good supervision, meaning supervision where difficulties can be resolved, is key to enabling PhD students to succeed during their doctorate (Guccione, 2018). If time to supervise is lacking, or if the quality of supervision is not good enough, there is a risk that these difficulties will continue.

Good supervision requires competent supervisors to develop and adapt their didactics according to their needs. There has been an individualist focus in research on PhD supervision, focusing on supervisors, supervisees, and their interactions (Trowler, 2021). However, a more collaborative perspective is necessary to improve the quality of PhD supervision. To collaborate is not simply a demand for the individual supervisor but a collaborative relationship among PhD students, supervisors, and the organisation, ensuring that needs are expressed and addressed accordingly.

2. RESEARCH FOCUS

This article presents a supervisor's reflection on didactic change in supervision. The change included adding digital collaborative supervision activities to meet the expectations and demands of the current prerequisites for PhD supervision.

3. NEW KNOWLEDGE CONTRIBUTING TO RESEARCH ON POSTGRADUATE SUPERVISION

The findings of this small, pragmatic quality improvement project can provide useful insights for PhD supervision practices. Reflections on a supervisor's experience of a didactic change involving digital collaborative supervision offer useful learning that may be relevant for other PhD supervisors, PhD students, and graduate schools.

4. A CHANGED METHOD OF SUPERVISION

With the lessons learned from the 'Voice' programme, I endeavoured to be as good a supervisor as possible. Structured supervision, reading logs, and PhD student-led supervision processes worked well, but time was insufficient. The solution was provided by chance during a collaborative digital meeting on 'Zoom' with two PhD students during the COVID-19 pandemic. The question thus arose: Why do we not have more such meetings?

I asked PhD students I supervised if they were willing to explore the value, we could find in a changed supervision process. This group of PhD students all had me as their main supervisor but had different
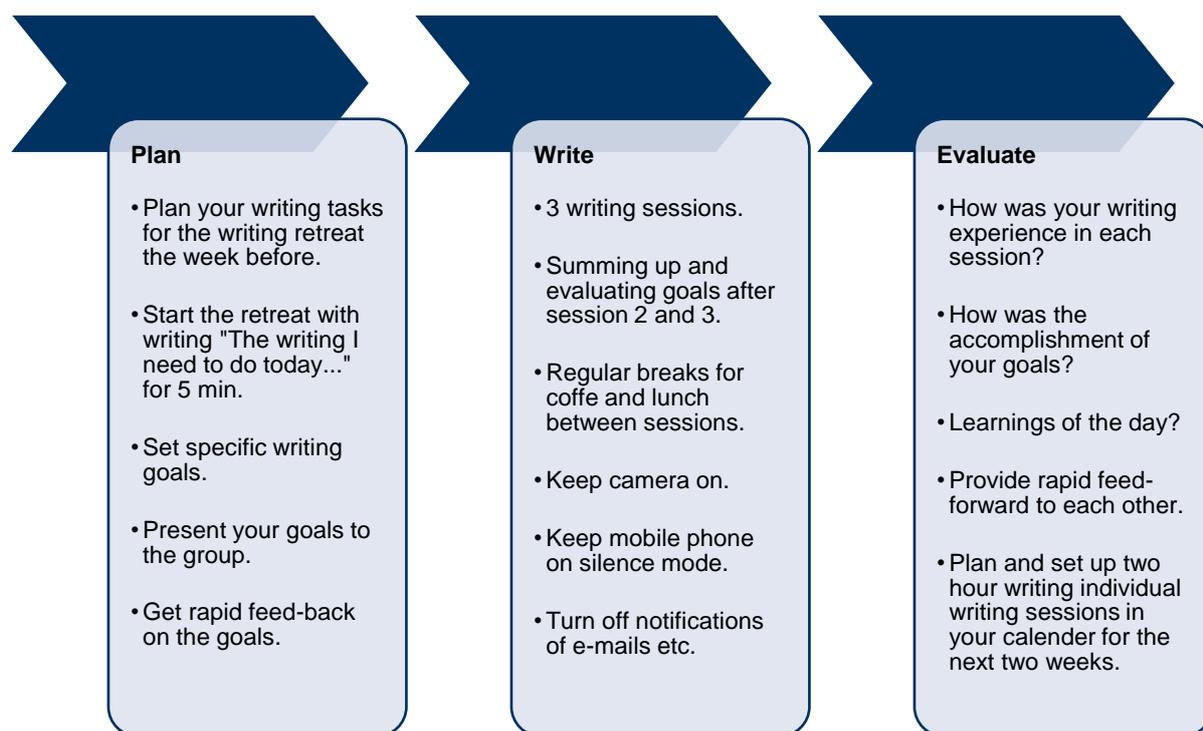
supervisory groups (two co-supervisors per PhD student). The PhD students responded positively, and we decided on a structure for new voluntary meetings, their aims, and how they were to be conducted. We decided to set up four monthly Zoom meetings, each lasting one hour. We quickly realised that it was easy to find shared key elements and possibilities for shared supervision, despite the PhD students being at different geographical sites, in different research phases, using diverse research methodologies and being involved in various research areas. The key elements for group supervision sessions opened with a focus on peer learning in addition to ordinary individual supervision meetings. Initially, this was an added supervision task, as other supervisory meetings were not replaced or were intended to be replaced.

The co-supervisors did not participate in these meetings. In these new meetings, the PhD students decided on the topics. Each PhD student took responsibility for a meeting, leading the meeting, sharing their learning needs, and what they wanted to achieve from the meeting. This task included the responsible PhD student organising the meeting and sending out material in advance (if relevant). We discovered problems with sharing documents when PhD students used computers from different universities and organisations. Therefore, we opted to use e-mails to send materials for Zoom meetings. Each monthly meeting was organised by the responsible PhD student, who suggested the topic of the meeting to the group via e-mail. The group then collaboratively decided on the topic, and shared suggestions for how to work on it.

The meetings were varied and included inviting external partners (researchers/experts on data management), journal clubs, practising presentations, reflecting on how to work with reviewer comments and conversations about well-being as a PhD student. After the first four months, we agreed to continue our new shared supervision meetings. As we proceeded, it became clear that our new meetings decreased the need for additional 'emergency' supervision meetings/e-mails, and that PhD students used this network to collaborate, to be each other's critical friends, and to support one another in tasks related to their PhD studies. This meant a shared workload for issues such as how to work with formal documents from graduate school, handling sensitive data, and support in article submission processes, etc.

For me, as a supervisor, the value of the network was clear. The PhD students acted more independently, sharing their skills, learning from each other, and supporting each other´s well-being in the PhD process. The group worked in an open atmosphere for success and failure, learned how to handle doubts and rejections, and how to celebrate each milestone. The sense of belonging in this PhD group seemed to improve the sense of belonging in academia, which may have been especially important when universities closed due to the COVID-19 pandemic.

This pragmatic, practical approach was the starting point for the change to increased digital, collaborative, and interdisciplinary supervision. I found Guccione's guide for online writing retreats (Guccione, 2020) and asked the PhD students I supervised whether they would be interested in trying this event. The PhD students were open to this idea, and we decided to conduct a one-time trial for those interested in participating.

Plan

- Plan your writing tasks for the writing retreat the week before.

- Start the retreat with writing "The writing I need to do today..." for 5 min.

- Set specific writing goals.

- Present your goals to the group.

- Get rapid feed-back on the goals.

Write

- 3 writing sessions.

- Summing up and evaluating goals after session 2 and 3.

- Regular breaks for coffe and lunch between sessions.

- Keep camera on.

- Keep mobile phone on silence mode.

- Turn off notifications of e-mails etc.

Evaluate

- How was your writing experience in each session?

- How was the accomplishment of your goals?

- Learnings of the day?

- Provide rapid feed-forward to each other.

- Plan and set up two hour writing individual writing sessions in your calender for the next two weeks.

Figure 1: Structure of Online Writing Retreat

The online writing events were structured sessions, and participants were informed of the structure and timetable before the session (see Figure 1).

The participating PhD students were positive about their academic writing outcomes and returned with requests to continue the activity after the first event, preferably with monthly online writing retreats. As a supervisor, this initially sounded time-consuming, but I also experienced the development of a positive and productive writing session at the writing retreat. This was possible because these active writing retreats were based on friendly, peer-pressurised, but focused sessions, while the sessions also gave me, as supervisor, protected, productive writing time. Thus, we continued these sessions, which have been ongoing for more than two years.

In the second phase of the online writing retreats, PhD students (where I was a co-supervisor) and two potential PhD students were invited. The intention of inviting the two potential PhD students was to give them an opportunity to gain insight into the writing required during their PhD studies. Thereafter, PhD students with whom I did not have a supervisory relationship joined the sessions. These newcomers asked to join after hearing about it from a fellow PhD student or because they had a supervisor who recommended that they explore whether this type of activity would work for them. The participating PhD students at the writing retreats are thus from a 'loose network', where they send me an e-mail if they wish to attend, and they are then informed about the process of the online writing retreats in a standard e-mail invitation. After the first time, they could sign up for future online events. Some PhD students are regular participants, while others participate occasionally. The aim is to have no more than 15 PhD students at each retreat; most often, there are eight to ten participants. As their PhD studies proceed, some students complete their PhDs, which provides room for new participants.

In one of the online writing retreats, one of the PhD students enquired whether we could have a reflective online retreat. The participants in the session agreed, and the PhD student who had raised the idea was tasked to plan the session in collaboration with me. The reflective online session consisted of five blocks of topics of importance to PhD students. Each block was led and planned by different PhD students, and the task was to engage their peers actively in reflection on the topic. This retreat attracted fewer participants (seven PhD students) than the writing retreats, but the participants described the retreat as a positive experience. As a supervisor, it was a learning experience to see how the PhD students handled the tasks, and it gave me additional insight into how they experienced their PhD

situation and their plans post-PhD. These insights can be useful for me as a supervisor to assist PhD students at an individual level.

While trying new online supervision activities, I had other supervisors join in to observe the setup and see whether these activities could be of use to them. Both the monthly meetings and online writing retreats received positive feedback from observing supervisors, which strengthened my view of these being valuable activities in supervision.

4.1. Digital supervision and peer support

New supervision activities took place during the COVID-19 pandemic and were, therefore, digital. However, since the PhD students I supervise do not live close to the university and all are doing a part-time PhD combined with working, digital solutions would probably have been their only attractive and practical option. Digitalisation in higher education is rapidly increasing, and there is a need for an increased focus on digital didactics (Ossian Nilsson, 2019). Since digital didactics encompass not only the practical didactical use of digital tools but also an understanding of how the digital format can be a barrier or a facilitator for learning (Areskoug Josefsson *et al.*, 2022), supervisors need to reflect on and address these perspectives to optimise digital supervision. Understanding the principles and activities that facilitate learning in a digital setting is crucial (Ossian Nilsson, 2019); therefore, supervisors should be given opportunities for competence development in digital didactics as well as digital tools useful for digital supervision.

Both perceived facilitators and barriers in digital didactics (Areskoug Josefsson *et al.*, 2022) are relevant to digital supervision. Perceived barriers to digital supervision can differ in supervision situations compared to teaching at the undergraduate level in terms of needs and expectations. For PhD students who combine work and studies, the time gained from not having to travel to university may be more important than that for full-time students. Digital literacy can also be less of a problem at the PhD level as these students have more educational experience. However, part-time PhD students may have a greater need to find peers and partners with whom to collaborate, which can be more difficult when not on campus. It is common for PhD students, especially part-time PhD students, to experience difficulties fitting into the academic world (Falk *et al.*, 2019; Areskoug Josefsson, 2021). Therefore, it is recommended that social interactions with peers be included in online activities for PhD students.

Establishing national and international peer groups can be supported through digital collaboration when the participants are from different geographical locations (Øvreås *et al.*, 2021). In the online activities (as discussed in the present article), PhD students from six universities in Norway, Sweden, and Russia have been participating alongside supervisors from Norway and South Africa. This would not have been possible without a digital setting, especially since the activities were cost-free and did not imply any additional funding. The diversity of the participants presented an opportunity for all participants to gain intercultural skills valuable to supervision and research collaboration, which has been noted as necessary for supervisors (UK Council for Graduate Education, 2021).

The collaborative element of new activities has been essential, both for positive outcomes and for considering the time set for such new activities. If I, as a supervisor, had taken on the responsibility of leading, organising, and planning every activity, the time needed to do so would have been a major issue to resolve. Instead, through sharing and collaboration, the PhD students were enabled to direct their activities concerning issues of direct importance to them and learned to lead these activities. Collaboration is continuously negotiated in online sessions with participants to ensure its value is understood. The collaborative element can be seen as supporting autonomy for PhD students by providing the space and opportunity to make their own choices and treat the PhD students' ideas with respect. The perceived autonomy of PhD students can lead to greater satisfaction, continuance of PhD studies, and increased research self-efficacy (Van Rooij, Fokkens-Bruinsma & Jansen, 2021).

As scientific publishing is an important part of research, the pressure to publish research as a PhD student is also part of supervisory discussions (Areskoug Josefsson & Nordin, 2021). Even though there are several publications on how to write scientific articles (Hoogenboom & Manske, 2012; Kennedy, 2018; Rogobete, 2016), there is less guidance on how to process supervising this task (Areskoug Josefsson & Nordin, 2021; Resta *et al.*, 2010). Academic networks with PhD students at various stages of the PhD process can support the writing process, which can lessen the burden on the supervisor. This may be enhanced by letting PhD students share their experiences and learn with each other how

to go about the writing process and ensure progression. Here, the support encompasses not only sharing success but also handling criticism from reviewers and creating a common understanding that rejection and resubmission are part of the academic writing experience and not a sign of extreme failure. This is especially important, as inexperienced academic writers risk using both ineffective writing processes and becoming resistant to criticism of the manuscript, thus increasing the risk of their articles becoming difficult to publish or demanding more supervision support throughout the process (Hoogenboom & Manske, 2012).

5. DISCUSSION

Even if the initiative to try new, digital, collaborative supervision activities happened on the spur of the moment, the development of these activities was based on research and experience from supervision practice, such as the online writing retreat design by Guccione (2020). It was a practical approach, developing supervision using carefully selected research-based tools and strategies and adapting them to the current supervision needs in a specific setting. It also used a quality improvement strategy, starting with a small pilot activity and expanding after a positive evaluation.

Digital meetings and online retreats have worked as a safe environment for PhD students and were created to work with issues of importance to them, together with peers. According to Guerin and Aitchinson (2021), there is a lack of attention to how remote supervision can develop academic writing skills; therefore, exploring the outcome of academic writing retreats is interesting. Well-prepared and highly motivated students are more likely to manage their PhD studies within the set timeframe, with the set resources, and fit well into a high-quality peer environment with collaboration, support, and academic networking (Skopek *et al.*, 2022). As the online tasks have set time limits, students set their own goals for each session and evaluate their outcomes. My experience has shown them their ability to progress, mainly in writing and academic administrative tasks that must be completed during their PhD studies. This has encouraged feelings of accomplishment, but also to reflect on why they might not reach set goals without experiencing setbacks.

The PhD students described peer support as highly valuable during digital meetings and online retreats. Motivation can be enhanced by accomplishing set tasks, which is important for PhD students' perceived self-esteem. The sessions demanded that PhD students prepare their work to enable them to set their goals for the day. In addition to the sessions enabling PhD students to progress with their work, they also included short (1–2 min) presentations of their set goals, accomplishments, and issues that they needed to reflect on more. This limited information-sharing enabled online collaboration between participating PhD students outside the sessions, thus increasing academic network activities among participants. I think the opportunity for international, cross-disciplinary academic networking will be valuable for PhD students in their future careers, and such outcomes should be further explored.

Joy at work is important regardless of work tasks, and the participating PhD students said that they felt joy at work, positive energy, and companionship during the sessions. As many PhD students struggle with feeling joy at work and instead experience ill-being connected to work (Van Rooij *et al.*, 2021), I think this positive feeling may be a reason to engage further in this type of online PhD activity. A sense of belonging as a PhD student is related to satisfaction, success, and good supervisor relationships (Van Rooij *et al.*, 2021; Byrd, 2016). My experience is that these new group supervision activities have not lessened the frequency of individual, traditional supervision with PhD students, but the progress of the PhD process has gained from the new activities, and the need for individual meetings and support for different PhD tasks has decreased as PhD students solve these more general issues together to a larger extent.

Therefore, my experience is that individual, traditional supervision meetings have become more efficient with shorter and more focused meetings. Thus, I conclude that that PhD students learn together and strengthen their academic relationships with peers in collaborative and digital activities. Therefore, as a supervisor, I can focus more on supervising specific issues than generic ones. Because supervisors often feel dissatisfied with their effectiveness and the time given for supervision (UK Council for Graduate Education, 2021), this can lead to experiences of more quality supervision and thus can increase joy at work for supervisors. Ensuring the quality of supervision is important, as insufficient supervision has a major influence on the completion of PhD studies (Raffing *et al.*, 2017).

When looking at how to develop PhD supervisors, the main issues include: "*1) the need for strong incentive structures initiated by the top management; 2) teaching principles that are aligned with the group of senior academics; and 3) a well-evaluated course that, in the long term, encourages supervisors to participate due to their inner motivation.*" (Wichmann-Hansen *et al.*, 2020). Those issues can also be recommended for digital and novel supervision activities, such as online group supervision based on 'loose' PhD student networks. If the organisation and management encourage supervisors' use of innovative and shared supervision, then learning together and supervision development can be achieved, promoting inner motivation through feelings of enablement and through mastering supervision skills.

It is worth noting that most PhD students in the presented setting would not have been present on campus even if the pandemic had not occurred. Therefore, the need for digital activities would most likely differ for PhD students who interact daily with their peers on campus in what are described as 'corridor conversations' by Palmer and Gillaspy (2021). However, the tried digital solutions can be useful for other PhD students with geographical distance from their university or whose presence at the university is problematic for other reasons. Remote PhD students are more likely to miss out on campus experiences and often need structured online activities to enhance academic writing and interaction (Guerin & Aitchison, 2021). The tried activities can be useful for institutions with a low level of interaction in the PhD programme and research environment to decrease the risk of PhD students feeling lonely, being too dependent on the supervisor, lacking academic input, and missing networking opportunities. In addition, Palmer and Gillaspy (2021) noted the possibility of building relationships digitally, even if there is additional value in meeting face-to-face. There are also challenges with digital activities, such as connectivity issues, that need to be addressed. In the attempted activities, we encouraged openness from the participating PhD students regarding such issues and assigned PhD students as co-hosts to ensure that the meetings could continue even if the host lost connectivity. There is a sharing of power by enabling PhD students to be co-hosts/hosts, as they can control all functions in Zoom. When the supervisor controls all functions in Zoom, there is a risk of exacerbating the power dynamics compared to physical meetings (Wisker *et al.*, 2021). Before the COVID-19 pandemic, I was used to teaching and supervising online, and I believe that my previous digital experience has been valuable and supported me in feeling confident in sharing power when conducting group supervision activities online.

Co-supervisors did not participate in new digital, collaborative activities. One reason was time resources, and the other is that this was not intended to be the same type of meeting as traditional supervision. In traditional supervision meetings, the focus is mainly on the research topic and the PhD project (the product), which was not the case in the digital collaborative activities where the focus was more on the process of being a PhD student and performing PhD student tasks such as academic writing. It can be discussed whether the new meetings should be called supervision or if they are more to be seen as PhD student collaborative spaces. However, I believe that the presence of a senior researcher is valuable; thus, there are supervisory elements in these activities. If co-supervisors had been invited, the balance between supervisors and PhD students would have been the same as in traditional supervision, where supervisors outnumber the PhD students. I believe that the change in balance and power, where the PhD students outnumber the supervisor, makes the PhD students take a larger responsibility and enables them to grow in their role as independent researchers. My experience is also that the changed group dynamic enables them to better express their competence in their field, as they practice doing so more often in digital meeting places.

The change process has been ongoing for two years (adding new PhD students). The gains are experienced on many levels: social and academic belonging, academic skills, academic leadership, and academic friendship. As a supervisor, I now spend less time on issues common to all my PhD students. I get the opportunity to gain experience with highly talented PhD students and develop further together with them — truly a win-win situation. Thus, PhD students are treated as junior colleagues more than students, contributing to shorter completion times and lower dropout rates (Skopek *et al.*, 2022). As the quality and quantity of supervision meetings are important (Van Rooij *et al.*, 2021), group activities increase the frequency of meetings with a limited added work burden to supervisors.

In addition to the intended learning for PhD students, online writing retreats have created learning opportunities for other PhD supervisors by allowing them to join as active participants in online writing retreats in the same way as PhD students. This allows attending PhD supervisors to observe in an authentic setting with peers and reflect with other PhD supervisors on the supervisory/learning activity, which has proved effective for the transfer of learning (Wichmann-Hansen *et al.*, 2020). Discussions on

digital, collaborative supervision activities with other supervisors after observations have also enriched my experience as a supervisor. Before the COVID-19 pandemic, I conducted online supervision and traditional face-to-face meetings. My experience with digital days was non-existent; therefore, the setup of online writing retreats would not have been tried if the pandemic had not occurred. However, after experiencing the value of online retreats, both in experienced personal outcomes and in limiting travelling, I intend to further explore digital opportunities in supervision and continue with the tried activities. Continuance of changes in supervision, which were obligatory during the COVID-19 pandemic, has also been experienced by other PhD supervisors (Elliot & Makara, 2021; Palmer & Gillaspy, 2021).

Looking at the journey from starting a PhD to becoming a PhD supervisor, there have been memorable moments and important milestones, as well as disappointments and rejections. However, it is necessary to reflect, learn from the process, and find potential improvements. To be able to critically self-reflect, important experienced events should be recognised and used to expand learning with others who are in the academic process of going from PhD students to researchers but also to continue to develop as a PhD supervisor. The supervisor's background can affect their level of open-mindedness to engage in development activities in supervision, where supervisors with prior professional practice are more open-minded (Guccione, 2018). Therefore, my previous professional experience is a potential resource for creating quality supervision by enabling the adaptation and development of supervision.

6. CONCLUSION

Small-scale changes in supervisor didactic practices, such as monthly meetings and online retreats, can be useful for the progress of PhD students and improving the working situation for supervisors. Using collaboration as a key feature ensures shared responsibility, useful focus, and better use of traditional supervision meetings and new supervision activities. The change process has been ongoing for two years (adding new PhD students and some completing their PhD studies), and the experienced positive outcomes from the digital, collaborative supervision activities are present on several levels: social and academic belonging, academic skills, academic leadership, and academic friendship. There are increased opportunities for PhD students for academic networking, and my experience is that the activities have provided more frequent, higher-quality supervision and substantial progress in their work. As a supervisor, I now spend less time on issues common to all PhD students and get the opportunity to engage, learn, and develop further with the highly talented PhD students – truly a win-win situation.

7. IMPLICATIONS FOR PRACTICE

Shared responsibility and collaboration on how to work with supervision between supervisors and PhD students can be useful ways of improving the effectiveness of supervision without adding to an experienced workload. Several digital tools work well under supervision, and the lessons learned during the COVID-19 pandemic could be used to further develop PhD supervision. Digital supervision should be part of supervisor courses to ensure supervisors can use digital tools optimally. Group activities can provide opportunities for more meetings as both the frequency and quality of supervision meetings matter. Further development could involve engaging other supervisors to work similarly and creating meta-level learning groups to exchange ideas for continuing digital supervision development.

REFERENCES

Areskoug Josefsson, K. 2021. Perspektiver på å gå fra praktisk arbeid i klinikken til forsker, og på å forske der en arbeider i praksis: Perspektiver på møte mellom forskning og praktisk arbeid. *Nordisk Tidsskrift for Helseforskning, 17*: 1-9.

Areskoug Josefsson, K., Bergenzaun, L., Fahlvik Svensson, S., Lundqvist, S., Peterson, P. & Lindberg-Sand, Å. 2016. *"Should I stay or should I go?" Tolvhundra doktoranders syn på avhopp och akademisk karriär,* Lund, Avdelningen för högskolepedagogisk utveckling, Lund University.

Areskoug Josefsson, K., Haarr, K.H., Eriksen, S.S. & Brossard Børhaug, F. 2022. Using Digital, Universal, and Intercultural Didactics to Improve Higher Education—A Project Protocol for a Norwegian Interactive and Collaborative Improvement Study Concerning Master's Level Courses in "Theory of Science, Research Methods, and Research Ethics". *Frontiers in Education,* 7.

Areskoug Josefsson, K. & Nordin, A. 2021. Supporting students in higher education in transforming their thesis into a scientific article. *Högre utbildning,* 11.

Byrd, J.C. 2016. Understanding the Online Doctoral Learning Experience: Factors That Contribute to Student's Sense of Community. *Journal of Educators Online, 13*: 102-135.

Elliot, D.L. & Makara, K.A. 2021. An online community of international scholars: Enabling spaces for reciprocal academic and psychological support. *Innovations in Education and Teaching International, 58*: 693-703.

Falk, L.L., Augustin, H., Torén, K. & Magnusson, M. 2019. Doctoral students' perceived working environment, obstacles and opportunities at a Swedish medical faculty: a qualitative study. *BMC Medical Education, 19*: 250.

Guccione, K. 2018. *Trust Me! Building and breaking professional trust in doctoral student-supervisor relationships. Project Report.,* London, United Kingdom.

Guccione, K. 2020. *Need some distraction-free writing time? How to run a writing retreat.* [Online]. Available at: https://gcuacaddevelopment.wordpress.com/2020/02/27/need-some-distraction-free-writing-time-how-to-run-a-writing-retreat/ (Accessed: 3 March 2020).

Guerin, C. & Aitchison, C. 2021. Doctoral writing and remote supervision: What the literature tells us. *Innovations in Education and Teaching International, 58*: 624-634.

Hoogenboom, B.J. & Manske, R.C. 2012. How to write a scientific article. *International journal of sports physical therapy, 7*: 512-517.

Kennedy, M. S. 2018. Journal Publishing: A Review of the Basics. *Seminars in Oncology Nursing, 34*: 361-371.

Ossian Nilsson, E. 2019. Innovative Learning and Innovative Learning Spaces. *Asian Journal of Distance Education, 14*: 98 - 116.

Palmer, C. & Gillaspy, E. 2021. Digital shifting in doctoral supervision: Different routes to the same destination. *Innovations in Education and Teaching International, 58*: 672-681.

Raffing, R., Jensen, T.B. & Tønnesen, H. 2017. Self-reported needs for improving the supervision competence of PhD supervisors from the medical sciences in Denmark. *BMC Medical Education, 17*: 188.

Resta, R.G., Mccarthy Veach, P., Charles, S., Vogel, K., Blase, T. & Palmer, C.G.S. 2010. Publishing a master's thesis: a guide for novice authors. *Journal of genetic counseling, 19*: 217-227.

Rogobete, A.F. 2016. Basic Guidelines in Writing a Scientific Article. *Journal of Interdisciplinary Medicine, 1*: 7.

Skopek, J., Triventi, M. & Blossfeld, H.P. 2022. How do institutional factors shape PhD completion rates? An analysis of long-term changes in a European doctoral program. *Studies in Higher Education, 47*: 318-337.

Trowler, P. 2021. Doctoral supervision: sharpening the focus of the practice lens. *Higher Education Research & Development*: 1-14.

UK Council for graduate education 2021. UK Research Supervision Survey 2021 Report.

Van Rooij, E., Fokkens-Bruinsma, M. & Jansen, E. 2021. Factors that influence PhD candidates' success: the importance of PhD project characteristics. *Studies in Continuing Education, 43*: 48-67.

Wichmann-Hansen, G., Godskesen, M. & Kiley, M. 2020. Successful development programs for experienced doctoral supervisors – What does it take? *International Journal for Academic Development, 25*: 176-188.

Wisker, G., Mcginn, M.K., Bengtsen, S.S.E., Lokhtina, I., He, F., Cornér, S., Leshem, S., Inouye, K. & Löfström, E. 2021. Remote doctoral supervision experiences: Challenges and affordances. *Innovations in Education and Teaching International, 58*: 612-623.

Øvreås, S., Kittilsen, S., Foyn-Bruun, E.E. & Bjerknes, A.-L. 2021. «Jeg ble langt mer skjerpet» – erfaringer med digitalt samarbeid om undervisningspraksis. *Uniped, 44*: 104-116.