zh aw **School of Health Professions**

Reflections on the Parkinson's Project:

Learning Experiences with the Gibbs' Reflective Cycle

Leanna Schoch
18669614

School of Health Professions
Institute of Physiotherapy
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Academic Supervisor: Judith Tobler-Harzenmoser

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Abstract (English)

Background: In April 2020, I participated in the Parkinson's Project of the Hallamshire Physiotherapy Sheffield Clinic (UK). Due to the lockdown, the in-person Parkinson's exercise classes were prohibited. Therefore, online classes for the participants were developed. I and one other student had the opportunity to join this project, in the context of which we participated in and evaluated Parkinson's online exercise classes, also analysing a survey completed by the participants. As a result of this project, a research paper and a Professional Practice report were written.

Objective: In my bachelor's thesis I analyse seven situations from the Parkinson's Project with the Gibbs' reflective cycle.

Analysis: The first part of my thesis describes my experience of learning through observing and participating in the online exercise classes for people with Parkinson's. The second part reflects on the process of writing the two articles.

Conclusions: By writing this reflective thesis I realised how much I have learned during this project and also that reflection is an integral step in deepening this knowledge and being able to adapt it for another time.

Keywords: people with Parkinson's (pwP), online exercise classes, Professional Practice report, research paper, Gibbs' reflective cycle, physiotherapy

Word Count: 195

Leanna Schoch

Abstract (German)

Hintergrund: Im April 2020, nahm ich an einem Parkinson's Projekt der Hallamshire Physiotherapy Sheffield Clinic (UK) teil. Auf Grund des Lockdowns mussten die wöchentlichen Parkinson's Trainingsklassen vor Ort eingestellt werden, weshalb als Alternative Onlineklassen für die Teilnehmenden entwickelt wurden. Zusammen mit einer anderen Studentin hatte ich die Möglichkeit an diesem Projekt teilzunehmen, bei welchem wir in den Parkinson's Online-Trainingsklassen partizipierten und sie anhand von Videos und einer Umfrage unter den Teilnehmenden evaluierten. Als Ergebnis des Projekts schrieben wir einen Forschungsartikel und einen Berufspraxisartikel.

Ziel: In meiner Bachelorarbeit analysiere ich sieben Situationen des Parkinson's Projekts anhand des «Gibbs' reflective cycle».

Analyse: Der erste Teil meiner Arbeit reflektiert meinen Lernprozess durch Teilnahme an und Beobachtung der Onlineklassen für Parkinson-Betroffene. Der zweite Teil handelt von den Erfahrungen mit dem Schreibprozess der beiden Artikel.

Schlussfolgerung: Durch das Schreiben einer Reflexionsarbeit wurde mir deutlich, wie viel ich dank diesem Projekt gelernt habe. Zudem hat es mir aufgezeigt, dass Reflexion ein wesentlicher Schritt zur Festigung dieses Wissens ist und eine wichtige Voraussetzung, um es für das nächste Mal adaptieren zu können.

Schlagworte: Parkinson-Betroffene, Online-Trainingsklassen, Berufspraxisartikel, Forschungsartikel, Gibbs' reflective cycle, Physiotherapie

Wortzahl: 184

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THIS THESIS IS DEDICATED TO BHANU RAMASWAMY –
WITH ALL MY THANKS!

1. Introduction

In April 2020, I was supposed to begin with my very first physiotherapy placement. Unfortunately, 2020 was not a typical year. In February, the first people in Switzerland tested positive for the coronavirus disease 2019 (COVID-19). As we were facing a pandemic, actions had to be taken quickly. On the 16th of March, the country went into lockdown: schools, restaurants, leisure activities, non-essential shops, etc., everything had to close. My physiotherapy placement that would have started two weeks after the lockdown was announced could not take place. Although I understood the reasoning, I was still disappointed especially also because I did not get a chance to do my small part in keeping the health care sector going.

But from this anomalous situation, an excellent opportunity arose: One of the significant changes during these extraordinary circumstances was that projects crossing national boundaries suddenly became easier as most meetings moved online, allowing people to join in from another country without having to travel. This allowed me to participate in the Parkinson's Project of Bhanu Ramaswamy[1], a physiotherapist in Sheffield, United Kingdom (UK). Bhanu is a longstanding family friend who visited us after the World Physiotherapy Congress in Geneva in 2019, and we had the opportunity to speak about my upcoming physiotherapy placements. Knowing my situation during the pandemic, she offered me the possibility to join a small project she was doing with a Master's degree student (Laila El Haddad) at Sheffield Hallam University. Her aim was for Laila and myself to gain some practical experience in physiotherapy even though the placements had been cancelled. The project involved the two of us participating in one of the weekly online Parkinson's exercise classes via Zoom.

As the lockdown prevented in-person classes at a single venue, the Hallamshire Physiotherapy Sheffield Clinic where Bhanu works, looked for an alternative to support clients whose long-term conditions may otherwise deteriorate due to lack of exercise over a longer period. When I joined the project Bhanu allocated me to a group (unlike the other two group classes she was running), in which the participants had not yet met each other. They had only had one session of the online class before

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[1] Dr Bhanu Ramaswamy OBE, DProf, FCSP, Independent Physiotherapy Consultant, Affiliations: Sheffield Hallam University (Honorary Visiting Fellow)

I joined, so the operational aspects of an online exercise group were still very new to everyone including the class instructor (Bhanu). Out of this constellation and the tutorials Laila and I attended with Bhanu, what was originally a teaching opportunity soon evolved into a research project. The charity that funded the classes wanted to gain insight into the benefits of online classes for people with Parkinson's (pwP).

Here I would like to add a short note on the use of the word "Parkinson's": In the UK, Parkinson's UK changed the use of how to refer to the condition after a member-led campaign in 2011. The charity now asks professionals to use the full term "Parkinson's disease" only if talking about the pathological process, but where the context involves the life of a person, to simply use the word 'Parkinson's', which was considered to be less stigmatizing (B. Ramaswamy, personal communication, January 30, 2021). Therefore, I also adhere to this new practice in my bachelor's thesis (BA thesis) and will refer to it as Parkinson's, not least of all as the project gave me invaluable insight into what it means to be living with the condition, as well as knowledge of the disease process and symptoms it caused.

Since the charity was interested in insights into online classes for pwP also for after the pandemic, our project grew. The project objectives for us students ultimately consisted in the following:

1) Observe the classes, learn to recognize the symptoms and problems of living with Parkinson's and see how the class participants deal with them.
2) Discuss ethical and professional issues that could arise from using Zoom as a platform for online exercise classes.
3) Design, develop and analyse a survey sent to the participants in which they were asked about their experience of online classes via Zoom compared to the in-person classes usually attended before the lockdown.

Our ultimate aim was to write a single joint article on the basis of the data collected and to submit this research paper to a physiotherapy professional network, ACPIN[2] in September. The research paper (Ramaswamy et al., in press) (see appendix A) was "accepted as presented" by the reviewers and will be published in the winter edition of *Synapse*, the network's journal. Since we had more valuable data than anticipated that was going to be especially of interest to other physiotherapists who wanted to start online exercise classes for pwP, we also wrote a Professional

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[2] Association of Chartered Physiotherapists in Neurology, a professional network of the Chartered Society of Physiotherapy, the professional body for physiotherapists in the UK

Practice report (see Appendix B) and submitted this to the same journal. The Professional Practice report is currently under review with *Synapse*.

I decided to follow up on my first experience in research and chose to write a reflection on this project as my BA thesis as it allows me to revisit and thoroughly analyse specific situations and thus gain additional insights as well as increase my awareness of what I have learnt. A further benefit is also the possibility to reflect further on what could have been alternative actions that might be even better the next time I am in a similar situation. For reflective work, it is essential to have a specific structure in order not to get lost in the number of things one wants to convey to the audience. Therefore, this paper follows the recommendations on the website of the University of Edinburgh about the structure of academic reflections (2020b). My thesis is structured into two parts: In the first part, I will talk about my experience in working with pwP. My reflections include how I gained knowledge on Parkinson's, how I transferred this knowledge to the observations during the online exercise classes, what I gained from the opportunity to lead the class, and the experience we gained from the project regarding online classes. The second part concerns the experience involved in publishing the two articles, including every step of the process (obtaining theoretical knowledge, data analysis, article writing).

It is likewise advisable to have a reflective model that allows an analysis of these different situations in a structured manner. So, I researched which reflective model would benefit me the most for working through certain parts of the project again. The main models I considered were:

- ERA cycle (Experience, Reflection, Action)
- Driscoll's Model
- Kolb's experiential learning cycle
- Gibbs' reflective cycle
- Reflexionsspirale

The ERA cycle (Jasper et al., 2013) and the Driscoll's Model (The University of Edinburgh, 2020a) I had to dismiss as they were too basic and straightforward for an in-depth analysis of the different situations. Kolb's experiential learning cycle (Institute for Experiential Learning, 2020) focuses on implementing different ways of handling the same or a similar situation and analysing the effects of these implemented changes. As my work is written retrospectively and our research and the online classes have been concluded, this was not ideal either. The last two of the above models offer both complex enough frameworks for nuanced analyses of a

given situation. The Reflexionsspirale[3] (Gibbs, 1988, as described in Hilzensauer, 2008) focuses on generating many alternative options for how one reacts in a given situation. In comparison, the Gibbs' reflective cycle (Gibbs, 1988, as described in The University of Edinburgh, 2020c) focuses on an in-depth analysis of a given situation at different levels generating only one action plan for the future. Both models have their advantages, but I decided to use the Gibbs' reflective cycle as I wanted to focus on a comprehensive analysis of certain key aspects of the Parkinson's Project. Furthermore, we also used Gibbs for the second article. The Gibbs' reflective cycle consists of 6 stages: description, feelings, evaluation, analysis, conclusion and action plan. In table 1, I describe each of the six stages. In the following, I will be working through selected situations from the research project according to this model to gain a more differentiated perspective on individual stages in my work with pwP. This allows me to be more conscious of my learning experiences as well as to formulate action plans and changes I want to implement for the future.

Table 1

The Six Stages of Gibbs' Reflective Cycle (Gibbs, 1988, as described in The University of Edinburgh, 2020c)

Description	Feelings	Evaluation	Analysis	Conclusion
Describe the situation in detail from an objective point of view.	Reflect on the subjective point of view by describing your feelings and opinions.	The whole situation is evaluated by determining what worked well and what did not work. It is important to evaluate both the positive and the negative and be honest with yourself.	Analyse why something went well or why it did not work out. Can also include academic literature and compare the situation with similar situations described in the literature.	Summarize the other stages by highlighting what you have learnt from this situation.

Action Plan: Plan for the next time you are in a similar situation. This can also include learning new skills or improving them for when they are needed in future.

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[3] the Reflexionsspirale (reflection spiral in English) is based on the Gibbs' reflective cycle

2. Working with People with Parkinson's for the First Time

In this chapter, I reflect on the experience I gained with Parkinson's and with the online exercise classes. We had a tutorial approximately every fortnight. The first one was carried out by just Bhanu and myself, but from the second tutorial onwards we had joint tutorials with Laila, the second student on the project. Most importantly, we had tutorials for discussing each step we went through with the Parkinson's Project. The discussions in these tutorials covered basically all our work, from the medical text, to our findings during the observations in the classes and how we wanted to improve the classes and the process of writing.

First, to establish a basis, I had to gain some knowledge of the Parkinson's disease as I hardly knew anything about it. Therefore, I read literature on the topic. The tutorials were then very helpful to learn how to recognise the symptoms and problems of Parkinson's and see how the pwP dealt with them. After some time, Laila and I as class participants tried to experience the participants' perspective. Throughout the project, I contributed to changes to make the classes easier to follow, and towards the end of the project, I had the opportunity to take the class lead in my last two sessions after having assisted Bhanu a few times. As we video recorded the online classes with the participant's knowledge and consent, we had the chance to analyse retrospectively how we carried out the online exercise classes for pwP thus being able to further improve the classes.

2.1. Situation 1: Gaining Knowledge about the Parkinson's Disease

Description: Not yet having had the neurology module in my study course, I basically knew nothing about the Parkinson's disease. As Bhanu was aware of this, she gave me some literature to read on this condition and other relevant subjects. We read the following articles: Ramaswamy & Graziano (2018) on Parkinson's disease, Ramaswamy et al. (2018) on the importance of exercise for pwP, Rossi et al. (2018) to understand what is essential for group fitness programmes for pwP, and last but not least Hau et al. (2020) on telemedicine and COVID-19. At first, the tutorials were used to discuss the texts that we had read and talk about what kinds of symptoms we observed during the exercise classes. Later, we started discussing ethical aspects of the online classes.

Feelings: At the beginning, I knew almost nothing about the disease. All I was aware of was that tremors were a typical symptom, which is also what most people associate with Parkinson's disease. I greatly appreciated getting some texts to read to gain a better understanding. While I could have done some research myself, it is invaluable to have an expert in the field who knows the relevant literature. Luckily, I had just taken the e-neuro module with the neuroanatomy, so I had some basic knowledge to understand the causes of the symptoms, because without knowing at least in part how the brain works, I would not have had any chance understanding the effects of the disease. Nonetheless, the chapter on Parkinson's disease in a book on neurological conditions (Ramaswamy & Graziano, 2018, Chapter 11) was challenging, but also provided an excellent understanding of the disease. The tutorial sessions were not just helpful to discuss the texts and ask questions, Bhanu also shared with us her own experience with pwP. I enjoyed the sessions and was able to profit immensely, so I am very grateful for this opportunity and the extra work Bhanu took upon herself to hold these tutorials with us.

Evaluation: The e-neuro module gave me a good basis for understanding Parkinson's disease. Reading the texts and then discussing them in the tutorials worked very well.

Analysis: Chapter 11 of "*Physical Management for Neurological Conditions*" (Ramaswamy & Graziano, 2018) was very informative and offered key information on the disease pattern in Parkinson's. Knowing the disease patterns helped in turn both during class observation as well as for a general understanding of how the participants deal with the disease. To discuss what is necessary for an exercise class and what adjustments may be essential for us to make in our classes, we read the article about group fitness for pwP (Rossi et al., 2018). Those two articles helped me to gain a basis for my knowledge concerning this neurodegenerative disease, whereas the classes helped me gain experience in interacting with pwP.

Conclusion: The texts I read helped me with the different aspects of the project and gave me a good knowledge base. Reading literature is very important for one's physiotherapy praxis. The tutorials were beneficial to give professional insight and develop new ways of seeing things as an aspiring professional.
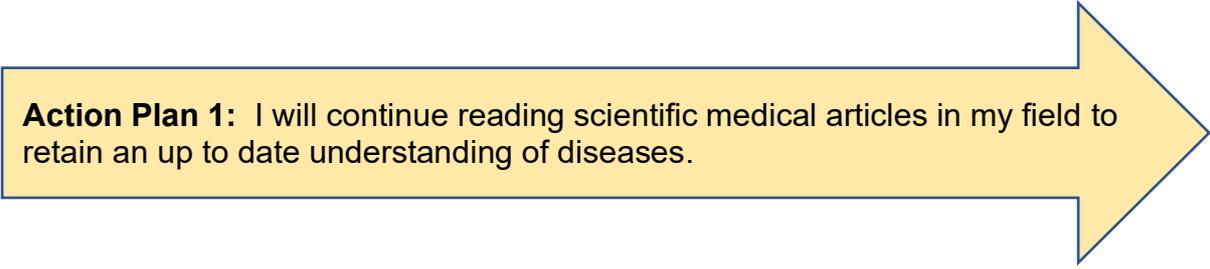
Action Plan 1: I will continue reading scientific medical articles in my field to retain an up to date understanding of diseases.

2.2 Situation 2: Obtaining Knowledge through Observation of Online Classes

Description: Concurrently to the reading of texts on Parkinson's, I started observing one of the three online exercise classes. The class I observed involved only three participants, which is why it is called the "small group"[4]. Unlike the other two classes, which had taken place in-person before the lockdown, the three participants of this group previously only had one-to-one physiotherapy clinic sessions with Bhanu. The observations enabled me to transfer the acquired knowledge to how the participants dealt with their symptoms. This is also a very important third aspect of understanding Parkinson's in addition to the medical aspects mentioned in 2.1. (reading of medical literature and professional exchange through tutorials). Observing the interactions of pwP and how they support one another gives crucial insight into the social aspect of living with Parkinson's.

Feelings: As I joined the project at very short notice, I had not read anything about the symptoms of Parkinson's before attending the first exercise class. Therefore, it was difficult for me to recognize anything in this very first session and if I observed something that seemed a bit odd, I could not quite figure it out. For example, I noticed that SG2 did a lot of adjusting movements, making it look like dancing. Once I read about the symptoms, I realized that it was probably a mixture of core instability, a Parkinson's specific issue called dyskinesia[5], plus difficulties with balance that contributed to this dancing movement. On the other hand, it was interesting to see what I could observe without having specific features to look out for.

The first couple of times, I felt incapable of understanding what SG1 said as he had dysarthria[6], a quiet voice (a common issue with pwP) and a strong accent

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[4] For anonymity reasons the participants of the "small group" will be addressed as in our analysis SG 1 to 3
[5] involuntary muscle movements
[6] dysarthria is a motor-speech disorder that results in unclear speech

particular to that region of the country. So, I was glad when Bhanu summarized what he said. By the end of the project, I felt I could understand him much better and did not have to rely on translation.

Another thing I found particularly difficult with the set-up was that I had to observe everything via the laptop. While I was familiar with video conferencing, observing class participation is different as people are not directly placed in front of their camera with simple head and shoulder shots. During exercises, participants often stand far away from their screen to get most of their body on camera, which meant fairly small pictures of each participant. Furthermore, the lighting and the contrasts sometimes made it quite difficult to recognize details. But even here, I could discover more and more details as the classes progressed. The easiest symptom to spot was the tremor as one of the most obvious ones. But I noticed that SG3 often hid his hand behind his back as soon as it started to tremble.

Evaluation: The technical set up was a challenge and influences what and how we can observe in classes. All three of the participants showed typical Parkinson's symptoms, including difficulties with coordination and balance, as well as distinguishing between right and left. These symptoms I was able to recognize quite well. But other symptoms were much harder to identify both because I am still learning and because of technology. Furthermore, in the beginning, it was very difficult to understand the person with dysarthria, especially with the poor sound quality. With time we were able to fix the problem with the audio and I also became more attuned to this specific speech situation.

Analysis: The "small group" that I was observing and participating in consisted of members who were well adjusted with their medication. This made it harder to recognize some of the symptoms. With two of the participants, I could tell which side was affected, because of the tremor, but with the other one, it was a mere guess. With time I recognized that unlike the other two participants, who obviously showed symptoms of bradykinesia[7], SG1 tended to show tachykinesia. This means that he speeds up the movements and does them somewhat more exaggeratedly. But the symptoms that stood out the most were dysarthria and hypophonia[8]. The poor sound

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[7] slowness of movement
[8] hypophonia is a week voice, which results in quiet speech

quality contributed to making it even harder to understand SG1. Luckily, we also discovered that in the catch-up part of the session when SG1 switched off the speakers he used during the exercise part, the sound quality was much improved, which also contributed to me being able to understand him better.

Another thing I noticed with time is that especially while doing the marching movements the arm pendulum of the participants was often ipsilateral instead of contralateral. This is something that should be automatic but becomes less so for pwP. That is why they usually mix it up if they do not conscientiously think about it. But I noticed while participating in the exercises that if I did not think about it, it automatically was contralateral to the feet, but as soon as I was thinking about which arm would go with which leg I sometimes also did it the wrong way round. Participating in the online exercise classes in addition to just observing helped me better understand how they differ and can be more challenging to follow than in-person classes.

Conclusion: It was very interesting to observe a class for the first time without having hardly any knowledge about Parkinson's and just observe the differences I could see without a pre-defined mental list of what I should be looking out for. Retrospectively, I found this an excellent way to start into the project, although it was just down to circumstances. Furthermore, it is much more difficult to understand a person with dysarthria and hypophonia if the sound quality online is poor. With some practice one can get better at it, but it might also be worth investing time to ensure a functional technological set-up.
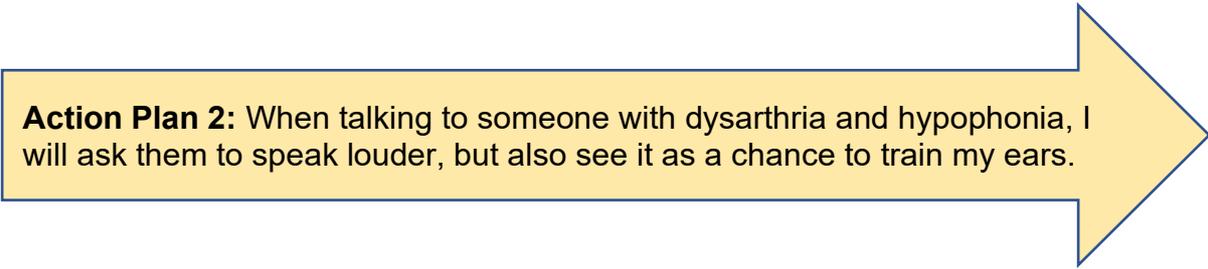
Action Plan 2: When talking to someone with dysarthria and hypophonia, I will ask them to speak louder, but also see it as a chance to train my ears.

2.3 Situation 3: Taking the Lead of the Class

Description: Towards the end of the three months, the class instructor asked if we would also want to help lead the classes and maybe even take over the role as instructor once. I liked the idea and started to assist, especially in taking the count or doing the warm-up. Towards the end, I had the opportunity to lead two exercise

sessions. In my further analysis, however, I am going to focus on the first of these two sessions.

Prior to leading my first online exercise class for pwP, I watched the recordings of the last few classes to put together my programme. I kept most of the exercises, but added two new ones and altered two.

On the morning of the classes, I started getting ready an hour in advance: I had printed out the programme and taped it to the mirror in my room so I could directly see what was next without interrupting the class to check on my computer. I started class with a small chat until all were ready. But during the exercise part of the session everyone was muted. After the exercises, I planned time for the participants to socialize and exchange the week's news, as we always did.

Furthermore, all classes were recorded so that the person taking the lead had the opportunity to analyse afterwards and to reflect on their performance (e.g. clarity of instruction and demonstration; watch specific individuals who were less visible during the class for feedback at the next session).

Feelings: While preparing the class, I felt it would be better to keep most of the exercises similar to the ones everyone was already familiar with so as not to lose too much time explaining, especially as pwP often need more time to adjust to new exercises. But, nonetheless, I also wanted to introduce a few new exercises, especially ones that focus on coordination. In addition, someone had suggested in the survey that it might be nice to do the counting in another language. I also liked the idea, however, I decided against it as it would have been too difficult for me to count in Swiss German and then switch to English to explain the exercise during my first time leading a class.

I was not nervous, but rather very excited and very much looking forward to leading the class. I felt that the experience I had with teaching kids' Karate classes would help me a lot, even though I was confronted with two main differences. Firstly, my Karate classes were always in-person and thus I had no experience with online classes. Secondly, the participants in the pwP exercise classes experienced physical and cognitive challenges.

Having the programme on the mirror gave me confidence and made keeping track of the order of the exercises much easier. Nonetheless, the session really needed my full focus. One thing that worried me was giving the instructions while

simultaneously staying on the metronome beat in my counting. An additional challenge was also that while English is by far the foreign language I speak most fluently, it was still more challenging than doing the session in Swiss German. Luckily, as I realised afterwards, I did not also have to give feedback to the participants during class – Bhanu corrected the participants. At first, I thought it might irritate me if Bhanu gave the participants feedback while I was leading the class, but it did not. Indeed, it made it much easier as I had more than enough work in keeping to the plan and communicating what we were doing. What I found difficult, however, was how quiet it was. Because all the participants were muted, I did not receive any auditory feedback. I really had to get used to only hearing myself and the metronome.

The next day, it was very helpful to be able to analyse the class on video, as I did not have time to see how the participants did, especially with the newly introduced exercises. I was also able to analyse my own performance of leading the class. While I really do not like watching myself on video and especially hearing my voice on a recording, I knew it provided me with valuable insights in order to improve leading the class and to see how others perceive me.

Evaluation: Leading the class went even better than I expected. It was a good mixture of new exercises and of ones the participants were already familiar with. Furthermore, taping the programme on the mirror worked really very well. Having the recordings of the class to analyse afterwards was very useful, especially because I could watch a sequence multiple times.

I noticed that I had no chance to register if the participants did the exercise correctly, as I had to focus on so many things. If I had been on my own it would have been a big loss if that essential aspect was missing, but as Bhanu was there everything worked well. Something else that was a bit troublesome during class was the delay in sound transmission, at times it was even cut off.

Analysis: The variation of new and old exercises worked well as the class flow was not interrupted too much by explanations, while also providing the participants with some fresh input. One of the participants reported later that one or two of the newly introduced exercises were a bit too difficult. With time and more experience with working with pwP, he said I will develop a better feeling for an adequate difficulty.

My solution with taping the programme to the mirror also made the class appear more professional as I did not have to interrupt the flow to check the next step. I think the participants did not notice that I did not know the programme by heart as I kept looking in the direction of the camera while I was looking at my notes.

Two factors that contributed to me not being able to give feedback was, firstly, that I had to stand quite far away from the laptop for the participants to see my whole body and not only part of it. Secondly, I had them on gallery view so I could see all of them, something that is very important when leading a class. But that resulted in me only having a tiny picture of everyone. Furthermore, with the teaching, I also simply did not have additional cognitive space to observe how the participants were doing the exercises. But here also more experience will make the multi-tasking easier.

After class, Bhanu and I discussed whether it could be an idea to actually have everyone counting in the following couple of sessions. This is indeed also a desire voiced of one of the participants, namely to incorporate using their minds while exercising, which indeed is an issue with Parkinson's. Therefore, the next time we tried out not muting the participants during the exercise part of the class. Astonishingly, also the overall sound quality throughout the session improved. So, from then on, we did not mute the participants anymore.

Analysing and reflecting on performance after for example leading an online exercise class for the first time is a crucial step in improving professional practice. Nishamali Jayatilleke and Anne Mackie (2012) write in their literature review: "There is limited but growing evidence to suggest reflection improves practice in disciplines allied to PH [public health]. No specific models are currently recommended or widely used in PH" (p. 1).

Conclusion: I enjoyed leading the class, but also realized how much focus it required and how much it differed from teaching an in-person class (as for example my kids' Karate classes). Surprisingly, it worked quite well that one person was the instructor of the class while the other person gave feedback. Technical limitations such as lighting combined with the small pictures on screen make it far more difficult to see how each participant does the exercises. Therefore, for the moment if I were to continue leading the classes, I would prefer two physiotherapists in the class to share the tasks. But with time, I would like to be able to give the corrections myself during the class as feedback is very important for exercise classes.

As it worked out very well with taping the programme onto the mirror, I can only recommend this strategy, unless one plans to memorize the sequence of exercises or one has enough experience to be able to spontaneously decide what exercise to do next.

If I were to continue leading online exercise classes, I would also continue analysing and reflecting on how I performed and additionally would start asking the participants from time to time for their opinion on what could be improved. My experience with all three participants was very positive as the feedback that I received from them was constructively reflective and they gave me useful input.
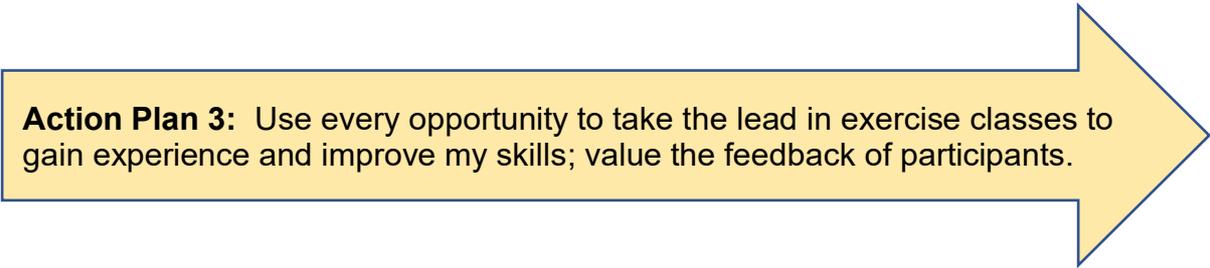
Action Plan 3: Use every opportunity to take the lead in exercise classes to gain experience and improve my skills; value the feedback of participants.

2.4 Situation 4: Improving Online Exercise Classes

Description: With time, we made some adjustments to the online classes. Many of the suggestions for improvement for online exercise classes for pwP, we laid out in our Professional Practice report (Appendix B). We chose the format of that report to fit in with another project Bhanu was involved in, in which she is seeking to inform and improve standards that were set when online classes were hurriedly introduced at the start of the pandemic on a forum for exercise professionals working with pwP.

As it was the first time any of us did an online class, a couple of things were not done optimally at the beginning. For example, we continued to use music as the instructor did in in-person classes. But later, she found out that this was not allowed without special licenses due to different music use regulations. Therefore, we tried out the metronome and noticed that this actually worked even better for the classes themselves.

Feelings: After writing the research paper (Ramaswamy et al., in press), we still felt we had much valuable experience concerning the running of online classes for pwP that would be worth sharing with other physiotherapists. We think that the adaptions made due to the coronavirus will make it more likely that online classes will continue

even when we have the virus under control. The research paper (Ramaswamy et al., in press) focusses on the view of the participants on the online classes, so we felt the second report should complement the first article, thus we wrote up our learning experiences to share with other practitioners confronted with a similar set-up.

Evaluation: Not only the tutorial but also the survey helped us improve the classes as it gave us the participants' perspective. Also, it gave them the chance to bring any suggestions for class, some of which we in turn could implement with time. The Professional Practice report was an excellent tool to be able to share our gained experience, but it was difficult to meet the *Synapse* journal's word limit, as there was a lot of information we wanted to share with others.

Analysis: We did not find any information on doing online exercise classes for pwP, so we had to find out ourselves, what worked and what did not and make adjustments accordingly. Discussing how the classes went in the tutorials and bringing up issues or suggestions we could implement the next time helped us to improve the classes. As Laila and I were observing and even participating in one of the classes, we had a different perspective on the online classes and therefore could offer different input than Bhanu already had from the perspective of leading three classes. For example, through participating myself in the class, I noticed that the instructor always started with her right side. All the participants mirrored the exercise because it is easier like that but this resulted in us starting with the left side. Naturally, as I am right-handed like most people, I am better at learning new movements with my right side. In the tutorial, Bhanu told us that distinguishing between right and left is often more difficult for pwP. Therefore, we discussed if it would help the participants if they could start the new exercise with the right side. But we also brought up the point that the participants' better side may vary depending on which side is affected. Nevertheless, the class instructor switched to always starting with her left side so that the participants could start with their right.

Another thing I found difficult while participating in the exercise class was keeping to the metronome beat, because, for one thing, I am not very talented with rhythm. But for another the distortion or even loss of sound that occurred from time to time during class made things very difficult. Towards the end of the project, we noticed that somehow the sound quality is much more stable if no one is muted during class.

Conclusion: I am very grateful for all that I could learn in this project when it comes to running an online exercise class for pwP. Especially with a project on a subject where there is not yet much research available, it is vital to analyse one's experiences and find a way to share them with other people. Like this, we as a community of researchers and practitioners can continuously improve and others can benefit from learning experiences without having to go through the whole process again. Therefore, it is also imperative that one always wants to improve what one is doing. When we started with the online classes, they already worked reasonably well. Still, we wanted the classes to be even better to provide the participants with the best possible experience. Before this project, I would have always favoured in-person exercise classes and would not have considered online classes, but they might also be a viable option.
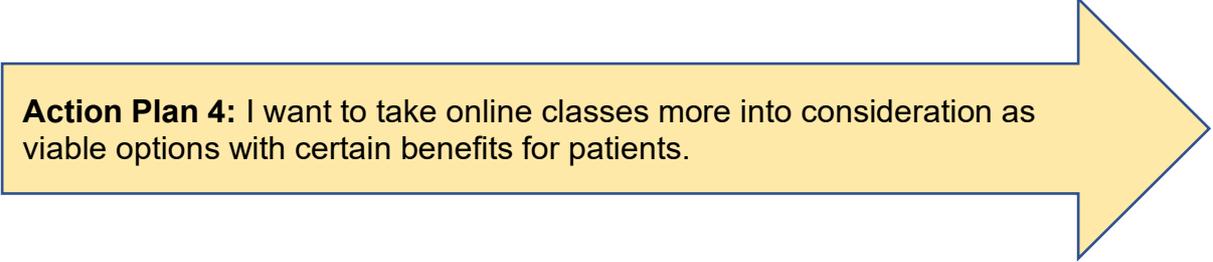
Action Plan 4: I want to take online classes more into consideration as viable options with certain benefits for patients.

3. Gaining First Experiences in Writing an Academic Article

In this next chapter, I reflect on different aspects of the writing process of the two articles. As it was my first time co-authoring a journal article, I gained quite a lot of new experience and many new insights. My reflections pick up on the three most essential steps: learning the basics of writing an academic article including understanding different article formats, how we collected and analysed the data of the survey, and the actual writing of the articles.

3.1 Situation 5: The Use of Tutorials for Collaboration in Academic Writing

Description: To learn the basics of writing an academic article there were two tools that we made use of: joint tutorials under the guidance of Bhanu and the use of other articles as reference points. When we started the writing process, the tutorials were used to explain in detail the next steps that had to be undertaken. Furthermore, the tutorials allowed us to discuss any work (analysing, writing) we had completed at a given point and Bhanu could give us feedback.

Additionally, we used the articles that we had read about different aspects of Parkinson's as a first step to understanding how research articles should be written, how they are structured, and how they present their material. As I had previously had to write a literature review on a small scale at school for the interprofessional module, I was already familiar with the IMRaD (Introduction, Methods, Results and Discussion) format as a standard way to structure research papers. The Professional Practice report, however, was a bit trickier, as Laila and I were both unfamiliar with its structure. Therefore, as a guide we wanted to find literature on the subject, which turned out to be trickier than expected. During earlier tutorials, we had agreed it should be an audit report; it took me some time to actually manage to find an article that explains how one can structure an audit report (UHBristol Clinical Audit Team, 2009). So, Laila and I aimed to follow it, but with revisions the end result differed quite a bit. Nonetheless, it was a useful starting point to draft an audit report. With time, it became clearer that we were reflecting on our professional practice and not on an audit process, so the focus of the paper altered.

Feelings: For the writing process, the tutorials were for me far more important than the articles; I found the sessions incredibly helpful for gaining clarity and for knowing

how to proceed to the next step. Although sometimes, just having arrived home from a strenuous day's work at the placement, I usually enjoyed the tutorials as I could always profit from the exchange and the input. Additionally, Bhanu has the knack of cheering one up. The tutorials helped bring the group together and thus provided an excellent basis for collaboration. Likewise, I felt that the research articles we had read and the one we had written in school helped me to understand the structure of research articles. Therefore, I felt prepared to co-author the article structured in the IMRaD format. However, since the Professional Practice report was a different case and an unknown format to us, it was more frustrating, especially since we wasted a lot of time looking for an article on how to structure an audit report. So, I was glad that, in the end, I found something that could guide us in the writing process.

Evaluation: The tutorials worked well for all of us to discuss how to write the articles. The research Laila and I did into the structure of an audit report did not turn out as we had wished initially, but in the end, we still managed to get a well-structured audit report. By the time the report style changed to the one in Appendix B, Bhanu noted that I seemed more confident and comfortable with the writing process.

Analysis: The tutorials were beneficial to the writing process as Bhanu could explain what the next steps should be and we could discuss how to divide the work or could ask questions directly. During the analysis part, we completed one example together in a tutorial session so that Laila and I really understood what we were expected to do, which was extremely helpful. Likewise, the previous experience with research articles helped with the writing. When I researched the audit structure, I found information on conducting an audit but not presenting the data in an audit report. I looked at the database we had access to via our school, but I found nothing relevant there.

Conclusion: We were provided with enough material to be able to actively help write the two articles. Especially the tutorials were a great format to directly profit from the know-how Bhanu has accumulated over the years from writing research articles in her field. Discussing the next steps in the tutorial and even doing an example together helped me. The overall process was quite challenging, thus, for both the papers and the data analysis, it was always useful to have an excellently structured guiding document.
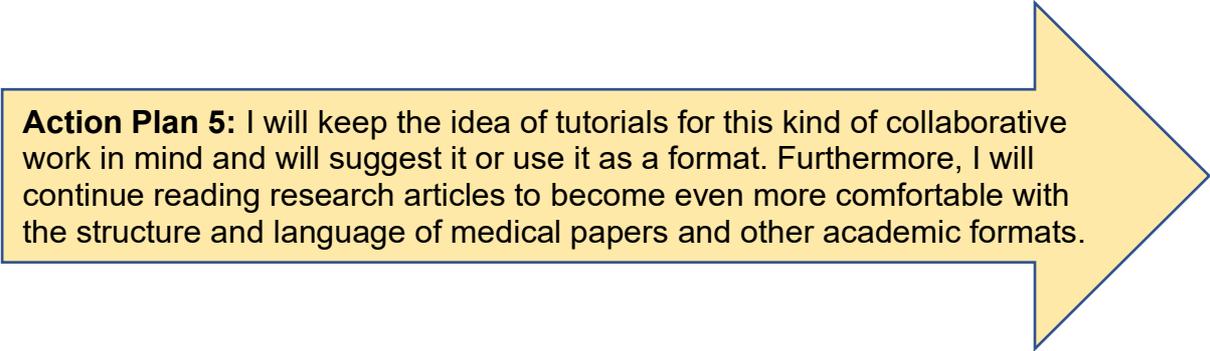
Action Plan 5: I will keep the idea of tutorials for this kind of collaborative work in mind and will suggest it or use it as a format. Furthermore, I will continue reading research articles to become even more comfortable with the structure and language of medical papers and other academic formats.

3.2 Situation 6: Collecting and Analysing Data

Description: To collect data, we made a survey asking the participants about their experience of the online classes in comparison to in-person classes. The questions required free-text responses and participants were able to choose if they wanted to reply by e-mail or handwrite their answers. As we decided to ask open questions, we needed to analyse qualitative data. Therefore, Bhanu provided us with an article about thematic analysis (Nowell et al., 2017), which gave us all a good overview of the different steps to process the data from the raw form to themes we could use in the article.

To be able to analyse all the data, we shared the task between us. Each of us analysed all the answers of one to two questions of the survey. In stage three of the thematic analysis, we started to cluster labels into a theme to then communicate our data according to themes and not to questions, as we noticed that the themes were spread throughout different questions. Each of us had a different set of data to work on and after completing each stage, we sent each other the results, which we then discussed, especially if we did not agree or did not understand the result.

Feelings: The article on the thematic analysis (Nowell et al., 2017) gave me a good overview of how to proceed and helped me grasp the different steps. Still, it was a very complex task and entailed much more work than I had initially anticipated. Also, I found it tricky with qualitative information, as there are many different ways to interpret it. We found analysing the data and discussing the different steps via Zoom quite challenging and difficult. The three of us noticed that sometimes each of us had interpreted a statement differently or seen a different emphasis. Especially this last point also shows how important collaborative work can be when it comes to qualitative data, as the resulting interpretation will be more broadly grounded.

Evaluation: The survey was successful as we had 83% (20 of 24 surveys sent out) response rate and could use all answers. Furthermore, ultimately, our collaborative work probably let to better results, but analysing and discussing qualitative data via Zoom was definitely not ideal.

Analysis: To discuss which statements of the participants belonged to the same label (or later theme), it would have been much easier if we discussed in-person, which would have allowed us to lay out all the statements on paper instead of having always only one shared document open on Zoom. We even contemplated if maybe Bhanu and Laila would want to spend one afternoon together to do that. If the borders had not been closed because of the Coronavirus, I would probably have gone to England for a week to analyse the data with the others. Discussing parts of the articles we had already written via Zoom was okay as we only had one document, but for the analysis, we had to manage five different Microsoft Word documents. It helped me to have my part of the data printed out and spread over the table while discussing it via Zoom. But for all of us sitting around a table it would have definitively been much easier and less time-consuming. Furthermore, our results would probably have been even less biased if everybody could have analysed the complete data set rather than dividing it up amongst us, but it would have meant even more work. However, to have more validity we asked a colleague of Bhanu's, Karen Hodgson, a lecturer-practitioner to do a peer-review of the data and our interpretation.

Conclusion: It was quite challenging to bring all the different answers of the participants together to determine the main themes for the article. Likewise, it was very challenging, arduous and time-consuming to have the discussions of our data analyses via Zoom.
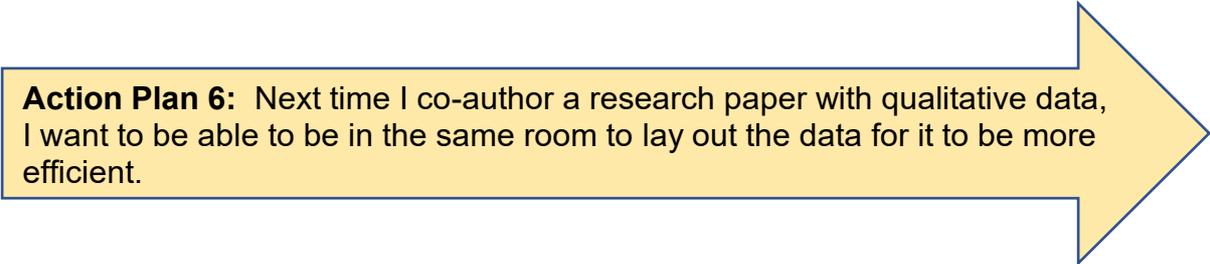
Action Plan 6: Next time I co-author a research paper with qualitative data, I want to be able to be in the same room to lay out the data for it to be more efficient.

3.3 Situation 7: Writing and Revising the Articles

Description: For the research paper, we discussed what to write for each section, but Bhanu did most of the actual writing as she was the first author and very experienced. Both Laila and I, however, had the opportunity to contribute to the discussion section, where we divided the writing for the different themes between us. After each had written their part, we held a tutorial and discussed them. To fit the three drafts for the discussion section together, Bhanu rewrote them to ensure the style matched the rest of the article. Laila and I then revised the article and afterwards we discussed it in a tutorial. Bhanu made further adjustments to the text and awaited another round of comments from the two of us, followed by more tutorial meetings. The process continued like that until the beginning of September when we were all happy with the finished article. As Bhanu had done most of the writing of the research paper, Laila and I wrote most of the first draft of the Professional Practice report, although Bhanu took over two parts that concerned her more than us (the question of payment and the support between classes). Furthermore, while in the first article, Laila was second author, in the second one, I was given the chance to be second author, reflecting the additional contribution I was now able to make.

Feelings: It took me a long time to write my part of the discussion on the social aspects as I invested a lot of time into finding sources and theories that explained or underlined our findings. Even though the final text turned out quite different from my first draft, I felt proud that when we discussed the parts each of us had written and noticed that everyone had a very different writing style, Bhanu actually liked how I had done my part, stating she was impressed with my depth of analysis style, suggesting we all used the same style. Even though the part I wrote is quite different to the one in the finished article, it was a good experience for me to write about the social aspects in the discussion section on the basis of the data we had collected and analysed.

I had to learn that it is in the nature of texts to change quite a lot during writing, especially if there are multiple authors. At first, it annoyed me slightly that I could not directly recognise the part that I had written in the final version. I had put myself under a lot of pressure thinking that I have to be recognizable in the article's actual words, especially as I wanted it to be a part of my BA thesis and at that point, I did not yet know what role the article would play in it. This might also be why Laila and I

each wrote a part of the discussion section – because I had the feeling I needed to have some of my words be a part of the final product. Therefore, I asked Bhanu to share the actual writing more, as I felt it would not be enough to say that I helped with the article if I could not say precisely this is the part that I wrote.

As I was eager to participate in the writing, I appreciated Laila and me initially having the lead part in writing the Professional Practice report, which started as an audit report. But I also found it challenging as neither of us had any experience with this format. As so often during this project, however, we were supported in the way we needed it. And by the time Bhanu rewrote the report and we had revised it a couple of times, I did not mind that the text had evolved. I also very much appreciated the openness Bhanu showed us when we revised the parts of the articles she had already written. Even though she has so much more experience, I never felt I could not say what I thought about the text. Likewise, she was very open to our feedback and adjusted the text accordingly. She always said: "As you know girls, nothing of mine is written in stone."

Evaluation: We were a good team at writing the articles. But it took me a while to accept the changes a text undergoes when writing collaboratively.

Analysis: Bhanu rewrote the articles after everyone had finished their part to make it more coherent as each of us had very different levels of experience in writing and different writing styles. This resulted in very different text parts which would have disturbed the overall flow of the text. By rewriting, she brought the different pieces of the text together and made the style coherent. While it would have been a good learning opportunity for me to rewrite the final version of the Professional Practice report, it would not have been practical for any of us. Firstly, I would not have had sufficient time to do so while working 100% as a physiotherapist in training. Secondly, it would have taken me much longer than Bhanu to write it and she would have still had to give me a lot of guidance while still having to do a final revision. Thirdly, Bhanu was writing for a journal she knew the style of, so she was at an advantage.

Conclusion: Writing articles needs a lot of practice. But seeing the parts that I wrote in the articles evolve to new texts gave me a good insight into how to adapt and improve my writing. I learned that it is quite helpful to be creative and try different

ways of rewriting the texts and not just stick to the first style. In this way, one's text will evolve to become clearer for any interested readers.
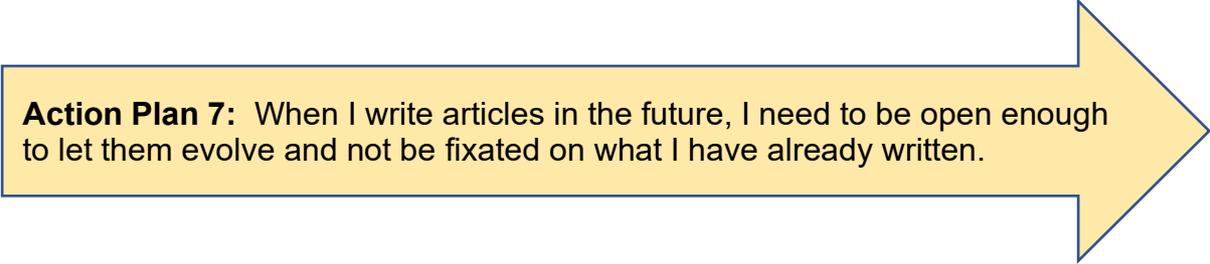
Action Plan 7: When I write articles in the future, I need to be open enough to let them evolve and not be fixated on what I have already written.

4. Conclusion

Despite all the difficulties and problems COVID-19 brought, it also gave me the opportunity to participate in this project, and I am very grateful for getting a chance to learn so many new things. Although it entailed a lot of work, especially as I was working 100% as a physiotherapist in training while writing the two articles, I enjoyed the project tremendously. I fully committed to it because it was such a significant opportunity to gain more experience, especially as Bhanu supported us with all her expertise. It is very rare to get the chance to actually be able to observe an experienced scientific writer at work and be part of the process of writing an article and not only get to see the finished product.

Writing a reflection on the Parkinson's Project made me feel even more gratitude for being part of the project. The analysis helped me to become conscious of many of the things I had learnt and experienced that I was not fully aware of before. In my opinion, the benefit of reflective analyses such as this paper is generally underrated and therefore not often promoted, even though it can be a substantial asset for professional formation.

I found Gibbs' reflective cycle (Gibbs, 1988, as described in The University of Edinburgh, 2020c) useful for analysing situations as it offers both depth and good structure. But sometimes I had the feeling I was repeating myself too much as I had to go through the six stages with basically the same information, even though of course there is always a different focus in each stage and thus the perspective shifts. However, having to formulate an action plan for each of the seven situations I analysed clarified what I resolved to do (differently) the next time. Tables 2 and 3 recapitulate the action plans from chapters 2 and 3.

Table 2

Action Plans Chapter 2 – Working with pwP for the First Time

Theoretical Knowledge	Practical Experience	Taking the Class' Lead	Option of Online Class
I will continue reading scientific medical articles in my field to retain an up to date understanding of diseases.	When talking to someone with dysarthria and hypophonia, I will ask them to speak louder, but also see it as a chance to train my ears.	Use every opportunity to take the lead in exercise classes to gain experience and improve my skills; value the feedback of participants.	I want to take online classes more into consideration as viable options with certain benefits for patients.

Table 3

Action Plans Chapter 3 – First Experiences in Writing an Article

Theoretical Knowledge of Article Writing	Analysing Data	Writing and Revising Articles
I will keep the idea of tutorials for this kind of collaborative work in mind and will suggest it or use it as a format. Furthermore, I will continue reading research articles to become even more comfortable with the structure and language of medical papers and other academic formats.	Next time I co-author a research paper with qualitative data, I want to be able to be in the same room to lay out the data for it to be more efficient.	When I write articles in the future, I need to be open enough to let them evolve and not be fixated on what I have already written.

The Parkinson's Project has influenced my formation in many different ways. The most obvious one is that it contributed to my BA thesis. Additionally, I learnt much about Parkinson's itself, such as recognising the symptoms and experiencing working with pwP, which will help me theoretically (e.g., neurology module) and practically (any neurology placement I will have). Similarly, the objective of writing the research papers helped me become more familiar with the academic writing process and improving my writing skills. Furthermore, it gave me an excellent insight into the analysis of qualitative data. This may not be so relevant for a bachelor's degree but for a master's degree it might be essential.

Very importantly, I had the opportunity to practice practical physiotherapy skills even though my placement was cancelled. As these take time to nurture, every opportunity to practice is very precious.

Once more, I learnt how important exercise is for the human body, especially if it is affected by a disease like Parkinson's. The participants in my group told me how they just feel better and usually have fewer symptoms after they have done some training and also how important the social aspect is for them even though they did not know each other beforehand. I appreciate having had the chance to work with the three participants in my exercise class as I could also learn from them and build a friendship with them. I appreciated that the three participants each gave me feedback when I took on the class leadership. In return, I thanked them for all that I could learn from them and motivated them to keep exercising. For the participants, it was essential to have those online exercise classes when in-person classes were prohibited. It was a unique opportunity to assist the class instructor in providing the online classes and helping her improve them and, therefore, do my small part to support the health care sector during these difficult times.

I think exercise is the key to slowing down the progression of many diseases as it makes our body stronger (physically as well as mentally). This project helped me in my resolve to motivate my future clients to move and exercise regularly. It does not have to be an hour of intensive training in the gym every other day, but rather to find something that the client is motivated to do every day. Better a moderate daily training such as going for a walk for half an hour than a single strenuous training session once a week.

During this last year, I have learnt so much about Parkinson's and gained a lot of very precious experience working with people who live with the Parkinson's

disease. One take-home message for me was to have experienced the difference of leading an online class compared to instructing an in-person class. I believe online classes have potential, not only for situations such as during the lockdown but also as an alternative to keep in mind for my future career as a physiotherapist. Up to now physiotherapists rarely consider offering online classes, I suspect a key reason is that they are simply not familiar with the format. But offering online classes in addition to in-person session has some advantages (such as for example participants do not have to travel far and thus will not already arrive exhausted), and they might gain in popularity even after the COVID-19 period.

And last but not least, I appreciate how forthcoming Mrs. Tobler-Harzenmoser was in letting me write a thesis on my reflective work in regards to the Parkinson's Project even though it does not fit in with the standard formats for a BA thesis. Furthermore, the school was very supportive and forthcoming, which meant that I could benefit significantly from my BA thesis. Being given the possibility to undertake this unique project has been highly motivating.

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List of Tables

List of Abbreviations

ACPIN	Association of Chartered Physiotherapists in Neurology
BA thesis	bachelor's thesis
COVID-19	coronavirus disease 2019
ERA cycle	Experience, Reflection, Action cycle
IMRaD	Introduction, Methods, Results and Discussion
pwP	people with Parkinson's
UK	United Kingdom

Word count

8993 words (excluding abstract, tables, lists and appendices)

Acknowledgements

Appendix

Articles are included in the form they were submitted to the journals. However, contact details of the authors were removed for privacy reasons, and the layout has been adjusted to the guidelines of the ZHAW.

Appendix A: Article 1 submitted to Synapse

Investigation into the suitability and acceptance of online-delivered exercise classes for people with Parkinson's[9]

Authors:
1. Dr Bhanu Ramaswamy OBE, DProf, FCSP
Independent Physiotherapy Consultant
Affiliations: Sheffield Hallam University (Honorary Visiting Fellow)

2. Laila El Haddad
Faculty details: MSc Physiotherapy student, Department of Allied Health Professions, College of Health, Wellbeing and Life Sciences, Sheffield Hallam University, Collegiate Campus, Collegiate Crescent, Sheffield S10 2BP

3. Leanna Schoch
BSc Physiotherapy, ZHAW (Zurich University of Applied Sciences) School of Health Professions, Katharina-Sulzer-Platz 9, 8400 Winterthur, Switzerland

Conflict of interest:
B. Ramaswamy in a Committee member of the Sheffield Branch of Parkinson's UK, plus paid class leader for the Branch and for Hallamshire Physiotherapy Ltd.

Contribution factor:
Each author contributed equally throughout the research process and with the writing of this article.

Ethical permission: No permission was required through the University Research and Ethics Committees.

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[9] We received in print' confirmation from the Synapse journal for 2021.

Abstract

Title: Investigation into the suitability and acceptance of online-delivered exercise classes for people with Parkinson's

Introduction: Exercise is an essential means by which people with Parkinson's (pwP) better manage some symptoms and remain mobile (Ramaswamy *et al,* 2018).

The Corona Virus Disease (COVID-19) restrictions curtailed access to exercise for people with long-term conditions like Parkinson's, altered how professionals delivered exercise services, and interrupted the ability of physiotherapy students to continue with clinical placements.

In March 2020, some exercise classes for pwP were trialled in Sheffield using the digital platform, Zoom, also providing two physiotherapy students an opportunity to observe the classes.

To investigate the scope to run more Zoom classes, the Committee of the Sheffield Branch of Parkinson's UK requested a survey of the suitability and acceptance of online-delivered exercise classes for pwP.

Method:

1. Thematic analysis of a questionnaire sent to the 24 participants of three Zoom classes
2. Comparison of field notes of the class leader and students (article authors BR, LEH and LS respectively).

Results and findings

20 questionnaires (83% response) were returned.

Four broad themes were identified revealing:

1. An overall positive reaction to Zoom's suitability, and ability to overcome related technical or technological factors
2. Acceptance of delivery of exercise through Zoom
3. Emphasis on the importance of a social dynamic
4. Ideas about exercise class delivery into the future

Group comparisons indicated differences in social and exercise expectations between class types.

Conclusion

Whilst class participants clearly favoured the single-venue delivery of exercise as experienced together pre-COVID-19 outbreak, there was an agreement that in these circumstances, the Zoom online class was both suitable and acceptable.

There was also a wish for both types of classes to be made available to them as restrictions diminish, something the Sheffield Branch will consider for the future.

What does this article contribute to the existing literature?

Exercise in Parkinson's is an essential means by which people might manage symptoms and remain mobile.

Our investigation into what made Zoom a suitable and acceptable platform by which to deliver exercise to people with Parkinson's (pwP) highlighted that:

1. A pre-existing dynamic of class goers creating a strong incentive to take up exercise through a digital platform many had previously felt incapable of trying, thus maintaining exercise through the COVID-19 lockdown

2. Inclusion of family members during the exercise component or after-exercise chats and a quiz have added a positive energy to the online classes in this time of isolation

3. Group participant responses emphasised differences in social elements and exercise expectations between class types.

All can be considered motivators for pwP to engage in and maintain exercise into the long term.

Introduction:

Two fundamental abilities of physiotherapy clinical practice include the art of observation and the capacity to adapt intervention to suit the needs of individuals (Health and Care Professions Council [HCPC] 2013, Chartered Society of Physiotherapy [CSP], 2012).

The Coronavirus disease 2019 (COVID-19) outbreak from early 2020 created a period where clinical placements offers were withdrawn to students, with Higher Education Institutes requiring alternatives so students could continue to acquire key skills.

The imposed restrictions (self-isolation, social distancing and remaining indoors for non-essential activities) curtailed access to exercise for people with Parkinson's (pwP) beyond time scales enforced on less vulnerable members of society. Exercise for pwP is necessary in managing symptoms (Ramaswamy *et al,* 2018), so changes were sought in delivery of exercise across health and voluntary sectors to keep pwP fit and active during the lockdown.

Digital technology as a concept is neither new in healthcare (World Health Organization [WHO] 1998), nor in undergraduate education of physiotherapists (Røe *et al,* 2019). Until the COVID-19 outbreak however, it was more common in the United Kingdom (UK) that exercise for people with a long-term condition was

accessed through physically-present classes based at a single venue; multiple users engaging in synchronous, online classes was a seldom-adopted approach.

A project opportunity arose for two students in physiotherapy programmes in different countries (LEH in the UK and LS in Switzerland) to observe the newly established Zoom exercise classes run by a physiotherapist (BR) for pwP in Sheffield.

It was assumed that these classes would run for a 3-month period, but in June 2020, the charity extended the suspension of single-venue events until October 2020. Prior to lockdown, five weekly exercise classes were offered, but only two class leaders (also referred to by class participants as instructors, or tutors) had tried the online classes in the short term. The uptake of the Zoom classes suggested to the Branch Committee that there was scope to run most of its classes via the digital platform until such time people could gather at single-venue classes.

In addition to considering their own learning via this setting, the authors agreed to explore the perspective of the Zoom class participants, prompting two clear project questions:

1. This article responds to the question whether the online-delivered exercise classes for people with Parkinson's in Sheffield were a suitable and acceptable undertaking. The outcome, through a survey and observational research methods, would inform the establishment of other classes, and

2. A follow-up article questions what professional practice learning elements with this client group, and under these circumstances have the three authors experienced. The outcome is to provide reflective clinical practice credits towards undergraduate courses for one of the students, and add to a set of guidance for class leaders using Zoom under development by BR at the time of writing.

The aim of this article is to explore the suitability and acceptance of Zoom to pwP participating in three Sheffield Branch online classes.

Two clear biases of note are the requisite to investigate the issue for the Sheffield Branch of Parkinson's UK, and the writing as a consensus through lens of three authors, two students with little prior exposure to pwP, and a clinician with prolonged engagement exercising with each group prior to the COVID-19 lockdown.

Method:

Design: Mixed methodology research, utilising two main methods:

o A survey of participants of classes for pwP, via a questionnaire with analysis that explored their response to the use of Zoom for exercise.

o Observational research by the authors of the classes between April and July 2020. Comparison of field notes, then discussion from varied viewpoints allowed researcher reflexivity to shape ideas about the classes in an iterative manner over the course of the project.

Analysis: Descriptive statistics and thematic analysis was used to identify main themes and examine group differences.

Procedure:

o **Participants and classes:** All three weekly Zoom classes were led by BR, funded by the local Branch of Parkinson's UK (the Foxhill general exercise class with 12 households[10] in attendance), or run through the Hallamshire Physiotherapy Clinic, a private practice (PD Warrior session with 9 households in attendance; and a small group of three individuals who had not exercised as a group before the pandemic).

Participants received education about Zoom from BR prior to classes commencing. The sessions were an hour long comprising 40 minutes of exercise, and the remainder for set up and a catch up.

o **Procedure for the researchers to collect and share information**:

LEH and LS participated in allocated sessions, observing as many as they were able. Regular communication was established between the authors to take forward project aims.

Materials: The Zoom platform was chosen as in use by both the Sheffield Hallam University (SHU) and the Hallamshire Physiotherapy Clinic.

Participants used varied digital devices to access the class: TV, tablets, laptops, desktops and phones.

The survey process:

o A pilot questionnaire of free-text responses was designed asking participants to describe their experiences of the delivery of exercise via Zoom. This was sent to two members of the Parkinson's UK (Sheffield Branch) Committee, who requested the addition of two questions relating to how the service might be provided in the future.

o The amended (8-response) questionnaire was emailed or posted, according to participant preference (Appendix 1).

o Returned questionnaires were explored following Nowell *et al's* (2017) four-phase approach of thematic analysis. Each phase outcome was discussed at tutorials before moving to the next phase of analysis.

➢ Phase 1: Responses and respondent details were transferred to a spreadsheet. 8 word documents were created to house responses to each question, underlining key phrases and anonymously coding the question number to the class they attended e.g. 1: F1 related to the first question, and the first respondent in the Foxhill class. The division of classes allowed pattern

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[10] Household refers to the fact that some spouses or other family joined in with the online class

identification according to class differences where participants had known one another prior to the COVID-19 outbreak or not.

➤ Phase 2: Phase 1 key phrases were labelled, and numbers of same type statement or idea counted, in part to apportion commonality of response.

➤ Phase 3: Merging identified themes/ labels common across all 8 documents

➤ Phase 4: A revisit of this article's aims against which to ascribe the themes; agreeing specific quotes of interest as supporting evidence.

Results

All members of the previously run single-venue PD Warrior classes took up the Zoom offer; three of the previously run Foxhill class did not participate, as they either did not have Internet connection (2), or a device through which to access the Zoom class (1).

20 of the 24 questionnaires sent out were returned; an 83% response rate.

11/20 respondents (55%) favoured the single-venue group classes over online provision, 2/20 (10%) liked both too much to state a preference, and 2/20 preferred the online option (travel convenience [1], and exercise access more often than before [1]). As was obvious in their engagement with classes however, 18/20 (90%) of the respondents acknowledged the suitability or their acceptance of Zoom in these circumstances.

The responses, supplemented by field note during the exercise session observations, fell into four broad themes:
1. Reaction to Zoom as a digital platform, and related technical or technological factors
2. Delivery of a class, or exercise through Zoom
3. The importance of a social dynamic
4. Exercise class delivery into the future

With regards class differences, social attributes were identified as important by respondents with pre-formed relationships from previously held single-venue classes, but unmentioned in those who had formed into a new exercise class. Instead, they ascribed more importance to the exercise content, and prior knowledge of the class leader. The PD Warrior class participants were more aware of the need for regularity and discipline of the exercises, compared with others, as per the programme philosophy.

Finding details

1. Zoom as a digital platform
The notion of suitability and acceptance of Zoom was apparent from the high uptake and adherence levels to the weekly classes. This was pleasing to the authors, as technology use was envisaged to be a potential barrier at the start of this study; all but two of the participants were of the older generation, and had expressed concerns in trying Zoom, despite Internet consumption noted as increasing in this generation (Office for National Statistics, 2018). The initial one-to-one support session was seen as helpful, with requests on questionnaire responses for more support to better understand Zoom. Some people reported that the technology became easier to use after set-up and a short period of familiarisation, although a few people depended on others to attend:

> *'I have family that set me up, every week. Without their help I wouldn't be able to join the class'* 2: F5

The many positives about Zoom including convenience of the platform features:

> *'…mute, gallery options, chat'* (2:F1)

with one person stating:

> *'Also it is helpful that the name of the person speaking is displayed at the bottom of the screen so it is actually easier to learn names in Zoom than in class'* (4c:F6)

External influences making Zoom more acceptable, more often noted by the older participants, or those who had Parkinson's for longer, included:

> *'It also has a personal advantage to me as I don't drive and would therefore have to travel on public transport, (a three hour round trip), which at the present time, with the coved virus I am reluctant to undertake'* (1:W7)

Voiced frustrations were around the practicalities of the technology:

> *'[Zoom technology is limited by] the speed and bandwidth of your local WiFi connectivity and its stability and consistency of performance during the day'…
> 'I have experienced both image freezing and delay (at both ends leader / attendee) and sound distortion/loss which obviously make it difficult to follow what is going on'* (2:F8)

the tardiness of others' connecting:

> *'It is quite frustrating to lose a chunk of time because individual people have difficulties setting up or signing in each week'* (2:F3)

and possible aspects governing security, especially from those who work with technology:

'I understand some large corporate organisations do not permit installation or use of this software on office computers due to potential privacy and security issues with Zoom, especially if the equipment is linked to a PC or computer network' (2: SG3)

Respondents however, pointed out their ability to overcome these issues, with no lasting impact on acceptance and adherence to Zoom.

2. The delivery of a class, or exercise through Zoom

Regardless of the general preference for the return to single-venue classes in the future, responses to current delivery qualified the Zoom class with words or phrases such as '*suitable*', '*excellent*', '*as good as*', '*easier*', or '*no difficulties*' for online access.

Knowing the person leading the classes (more important in the newly formed group), and of prior friendships with other class participants (more in the Foxhill and PD Warrior groups) made engagement with online-delivered classes easier.

'The online class feels different to the posture class, which I attended prior to Covid 19. I took it up because Bhanu suggested it, and I knew she would be running it' (1:F9)

'I joined the online class to maintain a degree of continuity with the exercises, the leader, the group' (1:F6)

Exercise delivery comments spanned issues like class routine and regularity (noted more by the PD Warrior participants), time held, and context:

'The on line sessions are clearly suitable. The objective … is that people with Parkinson's receive structured exercise led by a qualified physio; this is achieved' (2:W3)

The exercise was noted as being able to maintain wellness, fitness and management of the Parkinson's symptoms:

'The need to exercise and protect my fitness in dealing with Parkinson's is a[s][11] *beneficial to me now as it has been for a long time. An online class is a great way to do this'* (1:W9)

although preferences of exercise style differed:

'I enjoy the class - to be honest, do not miss the introductory exercises. This is partly because I like 'pace' (1:F6)

'I think Zoom has its place in these difficult circumstances and I've really enjoyed class but do miss the relaxation sessions and personal observation and intervention' (1:F3)

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[11] Writing and grammar corrected by authors where necessary and identified in quote [brackets].

as did thoughts about seeing, and being seen by the class leader, as well as means of feedback:

> *'As the instructor is visible all the time, it's more like having your own personal trainer in the comfort of your own home. Therefore the instructor can watch what all the participants are doing and provide feedback'* (1:W7)

> *'I am not sure if Bhanu can see me all of the time as my image is small on my computer'* (1:W5)

> *'The difference is that you miss the expertise of Bhanu being there to adjust and help you with the exercise positions'* (1:W8)

3. The social dynamic of exercise delivery.

The social dynamic emerged strongly, threaded throughout each of the questions asked by the questionnaire. Participants soon started using the pre- and post-exercise periods for purposeful 'catch-up' to check up on one another, at times joined by other family. Even those who were working from home were observed to remain the full hour for time to socialise, with some logging in early to chat in the Zoom 'Waiting room':

> *'All of this is social side of the class and it is the social interaction that builds trust, friendships and allows people to share experiences not only about their condition but family, holidays etc'* (1:F8)

> *'… it is lovely to be able to chat to people in the flesh and being physically present seems to offer greater comradeship'* (1:W4)

> *'Socialising with other Parkinson's sufferers is supportive and informative'* (5: F3).

Those who formed a new group during lockdown, whilst not mentioning friendships, equally noted the importance of social contact:

> *'… it allows easy participation and benefit in exercising together with social interaction and confidence in the instructor'* (3a:SG2)

and one person noted the social aspect as their reason to join the Zoom class:

> *'Simple as we went into lockdown and social isolation, Zoom provided the perfect opportunity to maintain a degree of normality and social connectivity. I would have hated to have come back to Foxhill for face to face sessions and not have any insight into how my fellow attendees had been faring in the interim'* (1: F8)

The mute feature requested initially was found to affect their enjoyment:

> *'Clearly I miss the group comments, fun and laughter we have during a real class'* (2: F3)

> '*The on line classes are more impersonal compared to the face to face sessions as one obviously misses out on the banter, humour and repartee that exists in the face to face sessions. Part of the enjoyment is listening to the moans and groans of your fellows*' (1:F8)

as did the use of 'Speaker view' to watch the class leader, creating an impression of losing the group setting:

> '*I would quite like to work as a group rather than an isolated individual*' (3a: F3).

Over time, the Foxhill and Small Group members agreed to remain unmuted throughout the exercise section of the class. The sound quality was surprisingly maintained (a reason the participants were initially muted), and the sound of others motivated participants to exercise harder.

The decision by the class leader not to make use of the break-out rooms for individual conversations meant people noted the reduced freedom to socialise on a one-to-one basis, especially those new to the class:

> '*In the 'face to face' environment, the new attendee can circulate to affect introductions and strike up one to one or one too many conversations without this limiting other conversations taking place. In the same way, jokes are shared, repartee and friendly banter is exchanged which one may not feel comfortable doing with everyone listening in the 'on line' environment*' (4c:F8)

> '*I think for the first time the face to face class would be a much better experience it is actually quite difficult to join the conversation online I find it a challenge*' (4c: W4)

A positive innovation, to retain an aspect of prior competitiveness, was that the Foxhill group introduced a quiz at the end of the exercise section:

> '*The opportunity to chat post session is still important and I think has been improved by the addition of a small degree of competition in terms of the quiz.*' (3a:F8).

4. Class delivery into the future

The Parkinson's Branch Committee was keen to understand the use of digital platforms for the post-lockdown period; hence requested specific questions added to the questionnaire about the future for exercise classes supported by the Sheffield Branch.

There was an acknowledgement of the usefulness of Zoom under specific circumstances, including poor weather conditions to travel, workloads for those at work, and class cost:

> '*The 'on line' class circumvents other issues that might prevent attendance [no transport to class, minor illness or temporary caring responsibilities or need to stay in the home for a delivery/engineer etc*' (4b:F8)

> '*In the winter months, would appeal to me*' (4b:F6)

and for a provision of both styles of delivery, with practical proposals put forward:

> '*How about a mixture: 3 weeks of virtual meetings followed by a face-to-face one?*' (4b:F6)

> '*An easy to use booking system would be required to alternate between the on-line and face-to-face classes*' (4b:SG2)

> '*Is it possible to do some relaxation classes too (sort of Pilates/ yoga)?*' (4c: F3)

Two issues were highlighted as potential drawbacks for new membership to an online class: the impersonality of Zoom communication between individuals, and although noted that the friendliness people were greeted with would soon put them at ease, an online class would still be less attractive proposition to new participants in the way a face-to-face class might.

Since our questionnaire was sent out, the Boxing training and the Pilates classes have resumed via Zoom, plus a Tango class has been set up as a trial via Zoom.

Discussion:

Digital technology is increasingly used to deliver health and educational services. Groups most used to the use of digital technology in daily life, suggest a preference in the use of multiple options over a single choice (Røe *et al,* 2019) as reported by our respondents looking to how they might access exercise classes in the future.

Adoption of telemedicine and telehealth[12] (services provided by doctors or by other health professionals respectively) creates challenges associated with systems and behaviours recognised by the slow uptake of such innovation within healthcare, and resistance among professionals to integrate digital technology into their practice (Safi *et al,* 2018). This includes concerns voiced about the security of data transfer and maintenance of patient confidentiality (Laver *et al,* 2020).

In primary and secondary care settings, face-to-face consultations have been interchanged with telehealth appointments for individual or family consultations e.g. in paediatric settings, and used between professionals (physician-physician) to refer or discuss cases (Williams *et al,* 2017, Deldar *et al,* 2016).

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[12] The authors have adopted the WHO way of defining telemedicine and telehealth, but Williams *et al* (2017) make further distinction of: **Telemedicine**: communication via video-conferencing platforms; **Telehealth**: remote monitoring of clinical biomarkers and **Telecare**: remote monitoring via devices, alarms, sensors, reminders to categorise them as components of technology-enabled care.

Pre-COVID-19, remotely accessed exercise interventions were gradually being tested using digital platforms. Research has been undertaken in groups partaking in cardiac and pulmonary rehabilitation, severe obesity management, in breast cancer survivors, and for Parkinson's, where the effectiveness of interventions has been shown to be at least as good as in control groups (Baillot *et al,* 2017, Galiano-Castillo *et al*, 2016, Garcia 2016, Rawstorn *et al,* 2016, Stickland *et al*, 2011, Stone 2016).

Many of our respondents experienced similar positives to those mentioned in other research, such as the avoidance of the need to travel, and cost or time savings (Eisenberg *et al*, 2018), especially for those in rural communities (Orlando *et al*, 2019, Wilkinson *et al,* 2016). There were comparable difficulties reported in telehealth literature such as hearing or communication problems with the provider (Baillot *et al*, 2017), especially in the larger classes (Calefato and Lanubile, 2010), or where participants were using smaller devices i.e. a smart phone (Norris *et al*, 2009), some raising concerns of the safety (security of data transfer) of the use of the technology (Laver *et al*, 2020).

From the perspective of class leader, real time feedback proved difficult to give due to screen distortions, visibility of participants, and the class leader's need to concentrate on exercise delivery. There was an inability to use tactile feedback instead of, or as well as verbal feedback to guide a body into a better position (Giguere 2019); some noted this as a missing element.

Co-production is essential for the success in evolving service delivery (Williams *et al,* 2017). Participant feedback and engagement affected how the classes were run over the three months. There was consensus that the noise distortion, screen freezing (and the legalities of the music licences for online versus live class) necessitated a move from the use of music to motivate the vigour of participation in exercise (Lim *et al,* 2014) to the use of a metronome beat. Although a strong cue for timing (important for pwP), the monotonous beat was not considered as much fun (Rose *et al,* 2019).

Peer support for pwP is an affirmed essential with exercise delivery, permitting means of exchanging experiences, or identifying with others diagnosed with Parkinson's (Claesson *et al,* 2019, Rossi *et al,* 2018). Our respondents demonstrated willingness to cope with the difficulties with Zoom to continue to be included within the exercise groups (Lowenthal, 2010, p 4), and because of their trust in the class leader (Harvey and Griffin, 2019).

Our questionnaire results, whilst adding to this literature, make comparisons with prior online-class delivery research difficult for the three reasons:

1. The researched programmes accessed via our literature searches were designed and delivered as a one-off online provision to new participants. We offered an opportunity for those already exercising to continue to do so, and mainly with class leaders and participants they had already formed relationships with. Whilst we recorded no clinical measures during the 3-month Zoom trial, the high levels of adherence, plus the reports of suitability and acceptance demonstrated that the

participants found the classes an effective means of maintaining their exercise regime and managing Parkinson's symptoms.

2. Subjects in trials were recruited as individual patients to investigate the effectiveness of one means of service delivery. Our classes were inclusive of the 'household', so the exercise participants might comprise of another family member, offering insight into dyadic relationships, whilst introducing the family member to the exercise of benefit to the pwP. In one case, this included a 3-year-old grand-daughter being baby-sat at the same time as class. The mute feature of Zoom minimised class disruption, and in subsequent conversations, the couple revealed that the grandchild would now hand grandma her resistance band every time she went to visit!

3. We have been able to make (limited) group comparisons with information from members of a pre-existing single general exercise and posture class; from those who were part of any of two PD Warrior classes, so knew one another before, but were now mixed to exercise with people from another PD Warrior class (self-selected around the convenience of the time and day the class ran); and a small group of three people brought together as a newly formed exercise group.

Conclusion

Whilst there was a clear preference for single-venue exercise classes, the respondents and participants of the Zoom classes expressed a belief that in these circumstances (COVID-19 lockdown), online-delivered sessions were acceptable and suitable in meeting their physical, emotional and social needs.

Having become accustomed to its use, Zoom was seen as providing a means by which exercise classes could be continued even once restrictions were lifted. New exercise restrictions include a reduction in class numbers at single-venues, with exercise spaces having to respond to social distancing and sanitization requirements, affecting the return of all prior participants.

Considering the findings of this study and existing evidence that suggests home-based exercise delivered via telehealth is and could be effective in mild to moderate Parkinson's populations (Flynn *et al*, 2019, Garcia 2016, Stone, 2016), online exercise classes may provide a cost-effective, convenient, alternative method of delivering exercise to pwP.

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APPENDIX 1: Questions asked for survey:

1. About your experience of participating in the online classes: Can you tell us your thoughts about the suitability of the online class for you?

(For example, how different does participating in this class feel compared to the face-to-face exercise sessions you did before COVID-19; why did you take the offer up of this Zoom class?)

2. About your experience with the technology: How are you finding Zoom?

(For example, what are the good, the bad and the indifferent points to highlight; what device are you using; and issues with the technology on this device, or setting up the class?)

3. To help us make the online class a better experience over the coming months can you tell us:

a) What keeps you coming?

b) What are the changes that could be made to the online classes over the coming months?

4. About online classes into the future, and how we engage new class members

a) Is there anything that makes it difficult for you to attend?

b) It may be in the future you have a choice between both sorts of classes running i.e. a face-to-face class and an online class, and you can change which class you choose from week to week. Which class would you choose and why?

c) Thinking about the first time you went to the face-to-face class and met the class leader as well as other class members - would you find it harder or easier to interact with people online for the first time? Would this influence whether you joined the exercise class?

5. Is there anything else you think we should be taking into consideration?

Appendix B: Article 2 submitted and currently under review with Synapse

Reflection on the delivery of online classes for people with Parkinson's from a professional practice development perspective

Authors:
2. Dr Bhanu Ramaswamy OBE, DProf, FCSP
Independent Physiotherapy Consultant
Affiliations: Sheffield Hallam University (Honorary Visiting Fellow)

2. Leanna Schoch
BSc Physiotherapy, ZHAW (Zurich University of Applied Sciences) School of Health Professions, Katharina-Sulzer-Platz 9, 8400 Winterthur, Switzerland

3. Laila El Haddad
Faculty details: MSc Physiotherapy student, Department of Allied Health Professions, College of Health, Wellbeing and Life Sciences, Sheffield Hallam University, Collegiate Campus, Collegiate Crescent, Sheffield S10 2BP

Conflict of interest:
B. Ramaswamy in a Committee member of the Sheffield Branch of Parkinson's UK, plus paid class leader for the Branch and for Hallamshire Physiotherapy Ltd.

Contribution factor:
Each author contributed equally throughout the research process and with the writing of this article.

Introduction

This report explores the professional practice learning elements of the three authors, who ran and/or observed newly established online exercises classes hosted via the digital platform, Zoom, for people with Parkinson's (pwP) in and around Sheffield between April and July 2020.

Two of the authors (LEH in the United Kingdom [UK] and LS in Switzerland) were studying to be physiotherapists at the outbreak of the Coronavirus disease (COVID-19); restrictions in early 2020 halted their participation in clinical placements. BR, the third author and a clinician, offered the students a temporary solution of gaining clinical practice knowledge through participation in, and observation of classes being offered to pwP with whom she had been working with prior to the lockdown. The three exercise groups under consideration (named Foxhill, PDWarriors and Small Group) consisted of a total of 24 participants with Parkinson's (and in three cases, family members often accompanied them as they exercised) with different relationships prior to lockdown, and diagnosis lengths, and for some, the period they had attended classes with BR ranged from over 20 years to 3 months.

The Foxhill group had been running for over 20 years with new members joining as old ones left. The PDWarrior group had pre-existed for three years as two single-venue groups now distributed into three online classes, mixing attendance according to the days people could join in; only the PDWarrior online class lead by BR was part of this report. The third group (Small Group) comprised three participants who had previously received one-to-one physiotherapy sessions with BR, so had not known each other beforehand. Each student observed at least one group.

The sessions were recorded with participants' consent permitting field notes and videos to be used for discussion at fortnightly tutorials. Ethical and professional practice issues were explored, alongside practical suggestions of delivery improvements. By the project end, LS assisted BR with the running of the Small Group class, twice taking the lead position, giving her insight as to actual delivery issues encountered by the class lead.

Aim of the report

To use the observation and an incidental research opportunity (a survey of participants responses to the new online provision) during the project period to reflect on professional learning (knowledge and skills) and professional practice (behaviours and identity) (Grace and Trede, 2013) that could inform the revision of existing guidance documentation setting out basic direction for professionals conducting online exercise classes for pwP.

Methods used to reflect and illustrate professional practice learning

The reflective element of this report adheres to the professional development standards 3 and 4 of the United Kingdom (UK) physiotherapy regulating body, the Health and Care Professions Council (HCPC 2017) in using Continuing Profesional

Development (CPD) to enhance practice, service delivery and be of benefit to the service user.

A guidance document for professionals starting or running exercise classes online for pwP, co-authored with BR, was drafted in March 2020 for the Exercise Professionals Hub[13] (Exercise Hub). At the time of writing this report, the guidance document was under review, and hence provided the basis of the reflective report.

The Exercise Hub guidance document identified six good practice areas for professionals to note:

1. Maintaining safety of participants (encompasses insurance, information necessary from pre-, during- and post-class)

2. How participants access the classes (encompasses digital platform, technology and pre-class support sessions)

3. How participants should prepare for the class (encompasses ideas for preparation and also class format)

4. Choice of background sound

5. Charging people

6. Support between classes (encompasses maintaining exercise and promoting other support mechanisms)

This report uses Gibbs Reflective Cycle (Paterson and Chapman, 2013, Gibbs 1988) to demonstrate reflective practice (description, feelings, evaluation, analysis, conclusion and action) on one specific aspect in each good practice area. The Action from each reflection has been collated into a Recommendation section to be taken forward and inform the next iteration of the Exercise Hub document.

The six good practice areas have been illustrated as a set of figures (Figures 1 – 6) for this report with the exception of Good Practice Area 1. This is written in full to allow the reader insight into the depth of conversations that took place during tutorial sessions. A report of all six conversations written in the full format is available on request from the corresponding author.

Findings in each good practice area

1. Maintaining safety of participants (Figure 1)

- **Description:** Maintaining safety during classes is a physiotherapist's duty of care to the participant. It requires a protocol to follow should the participant report or become injured/ ill prior to or during the class, particularly if alone in the house. The current Exercise Hub guidance advises the exercise professional to have a record of participants' addresses, contact particulars, General Practitioner (GP)

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[13] The Exercise Professionals Hub (Exercise Hub) is a subgroup of the UK Parkinson's Excellence Network who aim to raise standards for professionals working with people with Parkinson's through the national charity, Parkinson's UK. The Exercise Hub comprises mainly physiotherapists, exercise professionals, and occupational therapists.

details and relevant medical history, plus a clear view of the participant to ensure optimal observation.

BR has experience working with most of online participants, with insight into their exercise capabilities so the paperwork assisted decisions made about individual adjustments to exercise e.g., options in the seated or standing position.

The authors identified the following issues as affecting safety:

a) The (in)ability to keep the exercise participant in view of the camera, particularly for floor exercises, where space or a change of camera angle affected the view of the participant, compromising their safety.

b) To understand where duty of care extended towards family members who chose to join in with the classes

c) To consider numbers participating online, affecting the ability for the class leader to observe everyone sufficiently.

Figure 1: Summary of reflection on maintenance of participant safety

Description	Feelings	Evaluation	Analysis	Conclusion
Avoiding or managing injury or illness (numbers, view of participant and family participation)	Concern over ability to monitor the situation, and intervene in a timely manner	Existing relationship with participants enabled understanding of capabilities	That stopping floor exercises would reduce risk where people consistently dropped from view or found transitioning between positions difficult	Ensure paperwork of participant medical issues and contacts for emergencies is up to date prior to class, and full view of participant during class

Action: (see Recommendation section)

▪ **Feelings:** The concern was in upholding the ethical principles of beneficence and non-maleficence. In pre-existing single-venue exercise classes the leader had monitored participants closely, physically adjusting unsafe practice and gauging exertion levels. They could also offer direct care or ensure intervention from necessary services in the event of injury or illness during the course of the class, something less easily monitored or dealt with in online class delivery.

▪ **Evaluation:** In a participant survey conducted with this group investigating acceptance of online classes, several participants made the point that the pre-existing relationship with the class leader increased their confidence in the leader's capability to monitor for participant safety during class due to familiarity with their needs. This was the case, so BR monitored against complacency, and

adequately observe participants i.e., if BR could not see them, could they see her properly?

- **Analysis:** Tutorial discussions advocated a change in practice to cease floor activity where participants could not alter camera angles to be seen adequately or were deemed unsafe transitioning between upright and floor positions.

- **Conclusion:** The class leader is not physically present in online classes but must still take action if an injury or illness occurs. Relevant and regularly updated paperwork is necessary, as is the ability to observe the participants throughout the class, making necessary adjustments when appropriate.

- **Action:** See Recommendation section.

2. How participants access the classes (Figure 2)

Description: Online class participants had to learn new skills about digital platforms, devices and supportive technology required to access classes. The current guidance document suggests that people might benefit from a trial run through the technology to familiarise themselves with its use. BR therefore offered participants an initial one-to-one session on the use of Zoom prior to joining class.

Figure 2: Summary of reflection on how participants access the classes

Description	Feelings	Evaluation	Analysis	Conclusion
Use of digital platforms to access classes was new to all participants so an introduction to Zoom was offered to individuals	1:1 training to set up and use Zoom reduced reluctance in the use of the technology and increased participant confidence to join in online classes	Initial and subsequent 1:1 training was appreciated by participants, but may be impractical to arrange for some professionals	Family helping with access for those still having difficulty could be a solution. Connectivity and sound/visual distortions may continue to be issues	Ensure guidance is provided to help people set up their technology and access classes

Action: (see Recommendation section)

3. Preparation for the class (focus on equpiment used) (Figure 3)

Description: Online classes required that the participant take responsibility to ensure they had necessary space, water, a phone and possibly certain equipment for use during the session. Not all of the three classes started with people using equipment, however, over the course of three months effects of deconditioning and worsening Parkinson's symptoms due to the restrictions to incidental activity were noticeable in many participants (Simpson *et al,* 2020). The class format altered to include

strengthening and balance exercise as well as posture, necessitating the addition of resistance equipment.

Figure 3: Summary of reflection on the use of equipment for the classes

Description	Feelings	Evaluation	Analysis	Conclusion
Participants were becoming deconditioned over time, necessitating the addition of equipment to build strength and alteration of class format	Insufficient weights e.g., bottles of water, tins of beans, resulted in ineffective exercise. Conversely, those weaking due to lockdown restrictions risked injury if the resistance was incorrectly gauged (too heavy)	1. Difficulties in online testing made it hard to provide correct resistance equipment, plus screen monitoring negatively affected ability to work people to a high enough intensity 2. Appropriate equipment was needed if exercise online was to be continued into the long term	1. Introduction of a basic leg strength and endurance test helped people monitor their physical state and judge how to push themselves. 2. Purchasing weights raised questions about whose responsibility it was to provide equipment.	Dialogue allowed agreement of exercise expectation and adaptation of mindsets of people from established classes to the exercise style and equipment requirements. Participants admitted to enjoying the occasional change in the exercise routine

Action: (see Recommendation section)

4. **Choice of background sound** (Figure 4)

Description: The choice of background sound (including tempo) motivates people differently to exercise (Patania *et al,* 2020) and BR had always used music (under license) at classes. Music that complied with online licensing laws to keep people to time/ push exercise intensity, and gradually increase participants' tolerance to a longer duration class (from 30 minutes to 45 minutes) was tried. Distortions experienced due to Internet services creating a time lag between participants' screen view and sound made it hard for them to follow the exercise to music, with participants agreeing that the use of a metronome offered a solution.

Figure 4: Summary of reflection on the choice of background sound

Description	Feelings	Evaluation	Analysis	Conclusion
Background sound motivates people to exercise but is less easy to follow online. The	Music choice and tempo seemed harder to deal with due to competing attention using	Adjustments were made to the tempo and repetitions allowing the pwP more time to	Trials of 75 beats per minute (bpm) suited the warm-up and cardio section. More repetitions were	Background sound must be adapted to the group ability, and class participants given time to

metronome beat offered a solution	an online platform. The steady, monotonous tone of the metronome helped	adapt to new exercise with the metronome	added to allow a cognitive response to transition from one exercise into another. 60 - 70 bpm suited the balance and strength training	adjust physically and cognitively to a new way of exercise

Action: (see Recommendation section)

5. Charging people (Figure 5)

Description: The original Exercise Hub guidance document states: *'It is not for this group to suggest prices for running online classes. What is charged will depend upon your nature of employment, and whether you are already being paid to run the classes, or whether this is part of your existing business.'* Many physiotherapists however still work for a free-at-the-point-of-delivery health service, so charging raises ethical dilemmas. The Foxhill class provided by the Sheffield Branch of Parkinson's UK was free to participants, with the class lead paid for through Branch funds. Participants of the PD Warrior and the Small Group were charged variable prices set by the Private Practice to cover the costs of the class lead and the Zoom license.

Figure 5: Summary of reflection on charging people for classes

Description	Feelings	Evaluation	Analysis	Conclusion
Participants were charged differently depending on the provider and class costs	Prices charged should allow class costs to be met, yet be affordable for participants	Extension of the lockdown period beyond the anticipated 3 months necessitated a review of class costs	Participants were more open to discussion about cost rises in class than BR had anticipated. Affordability was not a barrier to participation	BR had to confront and overcome her personal mentality regarding judgements about class cost

Action: (see Recommendation section)
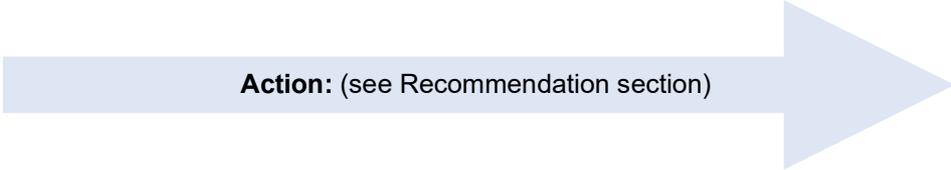
6. Support between classes (Figure 6)

Description: Maintenance of exercise between the periods that online classes were delivered required wider support mechanisms such as non-live online opportunities from the main charity (Parkinson's UK), Local Authority provision or through other private providers.

Figure 6: Summary of reflection on the use of materials to support exercise between classes

Description	Feelings	Evaluation	Analysis	Conclusion
Maintenance of exercise between classes was attempted by providing participants with supportive exercise material to access online	BR was frustrated by the lack of participant follow-up of her numerous suggestions of ways to supplement these classes with different exercise, sent in varied format	Lockdown had a profound effect on participants' physical and mental health affecting motivation and uptake of different activity	The lack of social support affected engagement in non-live exercise with peers however well promoted	Promotion for ways to remain active continued as discussions at the after class 'chat' sessions; BR had to accept the difficulties people were under to engage in exercise

Action: (see Recommendation section)
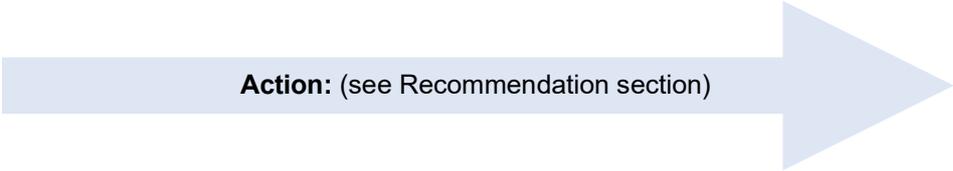
Recommendations

It is essential that professional practice considers a wider perspective than covered in this reflective report. Examples include an alteration in privacy and professional boundaries created through participants gaining access into the lives (and homes) of the professional and other participants when delivering/ accessing online classes from home; consideration of where our responsibilities and duty of care lie when family members join in with the exercise class; deliberation on how to maintain an all-important social aspect to the group forum.

From the six areas of guidance under inspection, the following recommendations will be taken forward to update the Exercise Hub documentation:

Action 1: Maintaining safety of participants: Consider the conduction of an effective online assessment of the physical and cognitive ability of the participant, and their capability of setting up a safe environment from which to participate in online classes.

Action 2: Participants' access to class: People should have guidance about their device, the technology used, and its secure use. This can be provided through one-

to-one support or where this is unavailable, to ensure a link can be sent for the participant to read the guidance prior to joining a class.

Action 3: Preparation for class: Participants using equipment should be responsible for ensuring it is in good condition. The class leader should use varied means of ensuring participants exercise effectively and safely according to their differing capabilities.

Action 4: Choice of background sound: Considering the use of music, or in the first instance, a metronome, with differing cadence according to the type of exercise component worked on, and setting the number of repetitions according to the ability of people with slowed responses.

Action 5: Charging people: No suggested change to the wording in the guidance document about class charges, but possibly suggest ways to open the conversation about covering class costs.

Action 6: Support between classes: Recommend the updated guidance document pushes harder for the 'drip-drip' approach feeding information gradually, but constantly to class participants, including exercise sites, downloadable Apps, the Parkinson's UK Helpline and local group details so people can do keep up sufficient activity.

As the social aspect is paramount for wellness, to support the set-up of buddy systems where a group 'at the end of class chat' is not viable, so participants can continue to engaging in their own social networks and maintain contact with other group members.

Conclusions

Although some people may be getting used to the use of online platforms by which to communicate with friends and family, it is a different experience to trying to follow a live instruction during an online delivered exercise class, where not only are both parties moving, but are not close up to the screen.

The findings from our observations and iterations have permitted the authors to make recommendations on how aspects of the current standards in an Exercise Hub guidance document for exercise professionals running online classes can be modified to carry out safer, more effective online exercise classes for pwP.

Joining the UK Parkinson's Exercise Network and Exercise Professionals Hub

- Join the Parkinson's UK Excellence Network at:
  https://www.parkinsons.org.uk/professionals/uk-parkinsons-excellence-network
- If interested in, or deliver exercise for people with Parkinson's, sign up for free membership of the Exercise Professionals Hub by emailing:
  excellence@parkinsons.org.uk.

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