Does one size fit all? A survey of preceptor perceptions and experiences with remote rotations

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Abstract

Background: During the pandemic, experiential rotations transitioned from in-person to remote rotations. **Methods:** The authors surveyed preceptors about their experiences and perceptions on remote rotations. Preceptors completed an online questionnaire divided into six domains: 1) General demographics; 2) Preceptor/student relationship; 3) Preceptor support and continuing professional development opportunities, 4) Technology; 5) Preceptor perceptions; and 6) Motivators and challenges. Responses were coded and analysed for emerging themes. **Results:** A total of 47 out of 157 preceptors (30%) responded to the questionnaire and most preceptors were willing to precept remotely again (85%). Student responsiveness (87%) and enjoyment of teaching (83%) were the greatest motivators. Major themes reflected preceptor's struggles in building rapport and facilitating in-the-moment learning opportunities. Preceptors identified guidance and on-going support as key factors to ensure preceptor and student readiness, and to manage expectations. The formula for a successful rotation included careful consideration of appropriate pedagogy, technology, and a dose of motivation. **Conclusion:** Preceptors reflected a positive experience in leading remote rotations. Traditional precepting approaches employed during in-person rotations need to be adapted and individualised for the context of remote rotations, highlighting that there is no 'one-size-fits-all' approach. Transitioning to a remote environment generates new opportunities and drives innovation.

Introduction

Experiential education is essential for pharmacy students to develop key competencies and meet educational outcomes of the accredited Doctor of Pharmacy (Pharm.D.) programmes in Canada (AFPC, 2017). At the Leslie Dan Faculty of Pharmacy, University of Toronto, fourth-year students are required to complete 35 weeks of advanced pharmacy practice experience (APPE) rotations comprised of direct patient care (DPC) and non-direct patient care (NDPC) elective rotations.

In March 2020, the global COVID-19 pandemic necessitated that most pharmacy schools, including the Leslie Dan Faculty of Pharmacy, University of Toronto, suspend all DPC rotations. It was determined that NDPC rotations could continue safely as these could be precepted remotely. However, there was a paucity of guidance regarding how to do this effectively. Prior to the pandemic, studies specific to remotely precepted rotations were scarce and focused on the implementation of this model in areas with limited resources or in underserviced communities (Johnson, 2019; Weddle *et al.,* 2020). Subsequent studies focused primarily on the student experience with remote DPC rotations. Montepara and colleagues (2021) summarised the remote APPE experience in a large hospital health system. Students from four pharmacy schools completed a structured curriculum led by a pool of preceptors with a focus on clinical activities such as patient case discussions and drug information questions. A survey was administered to capture

student perspectives, and they reported positive experiences in learning from a variety of preceptors. Zhu and Brown (2021) also surveyed students to ascertain best practices for remote NDPC rotations from the student's perspective. They concluded that setting clear expectations and building a strong rapport with the student are key strategies that preceptors can employ for a successful remote rotation. Law and authors described addressing the shift to remote rotations by designing a calendar of mock clinical activities for students (Law *et al.,* 2021). The researchers also created a variety of resources for preceptors, such as a COVID-19 guidance document and virtual APPE playbooks to facilitate the achievement of rotation requirements during the transition to remote precepting. Kang-Birken and authors conducted a formal evaluation of these remote rotation activities. Although these were primarily DPC-focused activities, their evaluation specifically included preceptors' and students' perspectives (Kang-Birken *et al.,* 2022). Both students and preceptors expressed a desire to include remote activities in APPE rotations post-pandemic (Kang-Birken *et al.,* 2022). There was only one commentary that focused on a preceptor's experience in conducting remote NDPC research-focused APPE rotations (Hundal *et al.,* 2021). They described their challenges and proposed solutions in areas including maintaining communication and student engagement.

The global pandemic accelerated the necessity to precept APPE rotations remotely, but it is still a relatively novel approach. Most of the literature focuses on the student experience in remote experiential rotations. However, as part of continuous quality improvement, it is incumbent to find out what this experience was like for preceptors. Addressing this gap is key to determining if this mode of delivery is viable to continue in pharmacy experiential education. Thus, the primary objective was to understand preceptors' experiences and perceptions of remote rotations.

Methods

The authors adapted a survey that explored best practices in remote rotations from pharmacy students' perspectives (Zhu & Brown, 2021). Informed by a literature review of remote learning and precepting in the health disciplines, the authors focused the questions to include aspects relevant to precepting remote rotations, including preceptor preparation (Ho *et al.,* 2021), the preceptor/student relationship (Rand & Pajarillo, 2015), access to technology (Johnson,

2019), preceptor satisfaction and professional development needs (Ackman & Romanick, 2011).

The survey consisted of 39 questions grouped under six domains:
1. General demographics
2. Preceptor/student academic relationship
3. Preceptor perceptions
4. Preceptor support and continuing professional development (CPD) opportunities
5. Motivators and challenges
6. Technology use

Response choices included a mix of Likert-scale, multiple-choice, and open-ended questions. The survey was pretested by faculty members, preceptors and experiential education staff. Ethics approval was obtained from the University of Toronto Research Ethics Board (RIS Protocol Number 39827).

All preceptors (n=157) who remotely precepted at least one 5-week NDPC rotation during the first three blocks of the academic year (May–August 2020) were invited to participate. Informed consent was obtained prior to the completion of the survey. Microsoft Forms was used to administer the survey anonymously. The survey was open for a three-week period from mid-October to early November 2020.

Quantitative data was analysed using descriptive statistics. Four research team members (BL, GS, ABM, DK), independently coded responses to the open-ended questions and analysed the data for emerging themes and subthemes (Erlingsson & Brysiewicz, 2017). The researchers collectively considered the independently coded responses and emerging themes and resolved discrepancies through consensus. This collective and iterative process was used to refine categories and themes.

Results

Forty-seven preceptors (30%) responded to the survey, and 51% of respondents precepted two or more students remotely (Table I). In the three years prior, 66% precepted up to 10 students, and 31.9% precepted more than ten students in person. Preceptors worked from home (45.5%) or a hybrid of home/work environments (29.8%). The most prevalent types of NDPC rotations included project (27.7%), research (10.6%), education (8.5%) or a mix (38.3%).

Remote meetings were as productive as in-person meetings for a large majority of preceptors (78.7%). Forming a preceptor-student relationship during a remote rotation was more difficult compared to in-person rotations (51.1%). Preceptors reviewed

expectations on the first day (46.8%) or partway through the rotation (34.0%). Additionally, they allowed students to set flexible hours (80.9%), had a system to track student progress on assigned work (89.4%) and reported their students always or mostly met deadlines (97.8%). Formative feedback was provided a few times per week (51.1%), daily (27.7%) or weekly (21.3%).

Table I: Characteristics of preceptors and rotation types

Number of responses	n=47 (%)
Number of students precepted over three years (in-person and remote)	
1	5 (10.6)
2	2 (4.3)
3-10	24 (51.1)
>10	15 (31.9)
Choose not to answer	1 (2.1)
Number of students precepted remotely during study period (May-August 2020)	
>2	15 (31.9)
2	9 (19.1)
1	23 (48.9)
Current work setting	
Remote from home	23 (45.5)
Hospital	6 (12.8)
Community pharmacy	4 (8.5)
Hybrid (combination of home and work setting)	14 (29.8)
Types of rotations*	
Combinations of the below types	18 (38.3)
Project	13 (27.7)
Research	5 (10.6)
Education	4 (8.5)
Drug use evaluation/review	2 (4.3)
Drug/ medical information	2 (4.3)
Advocacy	1 (2.1)
Pharmacovigilance	1 (2.1)
Choose not to answer	1 (2.1)

*Participants had the option to choose more than one type of rotation.

In the area of support and continuing professional development, respondents agreed that they received adequate guidance from the Faculty regarding precepting remote rotations (61.7%). The majority (78.7%) attended at least one preceptor forum. However, preceptors cited schedule conflict (68.1%), being too busy (57.4%), and already being familiar with topics (29.8%) as top reasons for not attending sessions (Table II). Factors that increased motivation to precept were student engagement (87.2%), enjoying teaching (83%), progress on projects/assigned work (83%) and a good relationship with students (74.5%). In contrast, workload responsibilities (68.1%) reduced their motivation to precept students. Despite this, most preceptors were willing to precept remotely again (85.1%).

Regarding technology use, preceptors discussed with their students if they had reliable internet service and devices (80.9%). Preceptors communicated with students via email (100%), video conferencing (97.9%), text messaging (40.4%), phone (40.4%) and online messaging (25.7%). Challenges with communicating with students remotely included not being able to communicate in-the-moment (48.9%) and students (27.7%) or their own (19.2%) internet connectivity. Sharing confidential information was easy for about half of preceptors (44.6%).

Table II: Survey responses relating to continuous professional development, technology use and motivation domains

Domains	n=47 (%)
Preceptor support and continuing professional development opportunities	
Reasons that prevented attendance of preceptor forums ‡	
Schedule conflict	32 (68.1)
Too busy	27 (57.4)
Already familiar with topics	14 (29.8)
Topic not of interest	7 (14.9)
Not applicable	1 (2.1)
Motivation	
Factors that increased motivation to precept ‡	
Student engagement	41 (87.2)
Enjoy teaching	39 (83.0)
Progress on projects/assigned work	39 (83.0)
Good relationship with the student	35 (74.5)
Daily routine	17 (36.2)
Set work hours	14 (29.8)
Guidance/resources to precepting a remote rotation	9 (19.1)
Factors that reduced motivation to precept ‡	
Workload responsibilities	32 (68.1)
Lack of student engagement	6 (12.8)
Lack of daily routine	5 (10.6)
Poor relationship with student	5 (10.6)
Lack of progress on projects/assigned	4 (8.5)
Lack of set work hours	4 (8.5)
Technology use	
Frequency of video (face-to-face) feature use vs. audio only	
Always	33 (70.2)
Sometimes	7 (14.9)
Rarely	4 (8.5)
Never	2 (4.3)
I choose not to answer	1 (2.1)
Challenging aspects of communicating with students remotely ‡	
Not being able to communicate in the moment	23 (48.9)
Student's internet connectivity	13 (27.7)
My internet connectivity	9 (19.2)
None	6 (12.8)
Time zone difference	4 (8.5)
Finding a mode of communication	3 (6.4)
I choose not to answer	1 (2.1)

‡Participants had the option to choose more than one factor or aspect

The authors identified three major themes and several sub-themes from the qualitative analysis (Table III). The first major theme revealed remote precepting is not a "*one size fits all*" approach, as traditional approaches to rapport building and teaching are limited in this environment. Preceptors experienced difficulty building relationships with students and gauging their progress and understanding. These would traditionally be accomplished through informal conversation or spur-of-the-moment teaching encounters.

The second major theme illustrated the need for preparation and ongoing support to ensure readiness

and manage expectations. Preceptors expressed wanting support in teaching and precepting and assigning an appropriate amount and scope of work for the student. Respondents reflected that greater preparation is required for students and preceptors in a remote rotation. Many suggested creating a student community of practice for peer support.

The third major theme centred on the recipe for a successful rotation, which included technology, pedagogy, and a dose of motivation. Reliable internet connectivity and suitable equipment were essential to enable effective student-preceptor communication and sharing of confidential information. Preceptors commented that they needed to adopt different teaching strategies for virtual education, particularly for in-the-moment learning. Motivation to precept was driven primarily by the enjoyment of teaching, student engagement and completion of assigned work.

Table III: Major themes and sub-themes with representative participant quotes

Theme	Subthemes	Representative quote
Theme 1: One size does not fit all – Traditional approaches to rapport building and teaching are limited	Difficulty in building informal relationship	*"miss out on the casual interactions where you get to know the student better – i.e. getting coffee, walking to and from meetings together."*
	Gauging student progress and understanding is challenging	*"[difficult] getting an immediate response about the project they were working on"*
	Less opportunity for informal teaching	*"I like to have my student beside me at most times so that ... we can chat freely about my actions, thoughts …"*
Theme 2: Preparation and ongoing support are needed to ensure readiness and to manage expectations	Wanting support in teaching and precepting	*"There needed to be guidelines about what a successful rotation looked like & how to deal with struggling students…"*
	Appropriate scope of work and workload	*"Better guidance on how to assign proper workload to the student… it would be nice to have some guidance to help ensure the work assigned is fair to the student"*
	Student and preceptor preparedness	*"Preparation is key. I spent more time than usual preparing, including copying textbook chapters that the student would not have access to, ordering a textbook to be delivered to student's address…"*
		"Need to make a community of practice for students and streamline types of presentations to help them have peer support."
Theme 3: Recipe for Success – Pedagogy, technology, and a dose of motivation	Adopting new pedagogy	*"It's hard at the beginning but we adapted and came up with better working solutions that we will be able to apply to future NDPC rotations."*
	Need access to reliable technology	*"Ensuring your students have the right technology before the rotation begins…One of my biggest challenges have been getting the students access to confidential information."*
	Motivation to precept	*"…I love to teach--this is an important part of my career"*

Discussion

When the pandemic interrupted experiential education, the Leslie Dan Faculty of Pharmacy, University of Toronto PharmD programme switched to fully remote rotations to ensure that students could safely continue to learn and progress toward graduation on time. This study explored early experiences with precepting NDPC remote rotations. The survey respondents were primarily experienced preceptors, which is advantageous as these individuals would have a solid understanding of what it means to provide an in-person experiential rotation as a comparator to their remote precepting experience. The authors identified three major themes centred on the preceptor-student relationship, preparation and ongoing support, and considerations for a successful remote experience. Overall, preceptors reported satisfaction in leading a remote rotation.

While most preceptors employed video communication and agreed that remote meetings with students were productive, half found developing relationships more difficult. This finding is significant as this study further demonstrates that the top motivators for preceptors included establishing good rapport and building student engagement. Similarly, as experienced in nursing preceptorship, Rand & Pajarillo (2015) noted that the development of social and professional connections is critical for successful precepting and mentoring. Similarly, various strategies related to enhancing teaching and relationship building in remote learning have recently been suggested in the pharmacy education context. Hundal and colleagues (2021) invited students to virtual orientations, conducted daily check-ins and connected with students to gain feedback on progress and concerns during the rotation to develop student engagement and motivation. From a student's perspective, Zhu & Brown (2021) demonstrated that students stayed motivated during rotations when they built a positive rapport with preceptors, and therefore, resources should be created to enable preceptors to achieve this.

Preceptors expressed a loss of in-the-moment teaching opportunities and found it more difficult to track student progress and gauge student understanding. This was further underscored by these findings that two-thirds of preceptors provided formative feedback infrequently. In-person rotations provide more wholesome opportunities for informal observation of impromptu interactions and activities, especially for "*soft skills*", including non-verbal communication and professionalism (Moreau *et al.,* 2021). Other health professionals similarly identified the importance of prompt yet formal and structured feedback and assessment, noting that it is more challenging to provide this in a virtual setting than in in-person rotations (Rand & Pajarillo, 2015; Abraham *et al.,* 2020;). Abraham and colleagues suggested the use of a checklist as a standardised way of evaluating each telehealth encounter during medical students' internal medicine clerkships. While additional learning often happens organically during in-person rotations, adopting strategies for a more structured approach may be necessary to create explicit learning and assessment/feedback opportunities that are limited in remote rotations. Law and authors implemented "*virtual APPE playbooks*" that included a schedule of weekly topics and tailored mock activities that aligned with learning objectives. For instance, the hospital pharmacy playbook facilitated learning through medication reconciliation role play and virtual cleanroom simulation (Law *et al.,* 2021). Similarly, studies have recognised the need for structured learning activities. Researchers have employed activities such as clinical debates, disease state presentations, patient case discussions, and journal club presentations, which are all activities that typically occur in traditional clinical in-person rotations (Montepara *et al.,* 2021; Moreau *et al.,* 2021).

To facilitate adapting to remote rotations, preceptors identified the need for preparation and ongoing support for both themselves and students. A paucity of resources existed during the study period. Since then, there has been significant growth in the availability of guidelines and best practice resources established by faculties across health professions to better support preceptors in the virtual learning environment (Northern Ontario School of Medicine, 2020; Law *et al.,* 2021). Recognising this deficit, the authors hosted weekly online forums for preceptors. The authors focused on the adaptations required to precept in a remote environment and covered topics such as assessment and feedback, creating meaningful learning objectives, work-from-home strategies and teaching tips. The authors also hosted open forums for participants to ask questions and share lessons learned regarding precepting NDPC rotations during a pandemic. Increased workload responsibilities and scheduling conflicts hindered attendance, while almost one-third of preceptors felt they were already familiar with the topics. Although most were experienced preceptors with leading in-person rotations, there are different skill sets and considerations as to what constitutes readiness for precepting remotely. Preceptors face various challenges related to adapting to uncertain situations, transitioning from the traditional work environment, and working with a lack of standardised guidelines to integrate students into remote APPE experiences (Cooley *et al.,* 2021; Law *et al.,* 2021). In future, consideration should be given to providing more flexible options for supporting preceptors and delivering preceptor development.

The third major theme related to how pedagogy, technology, and motivation enable success in remote rotations. Preceptors reported increased reliance on technology during remote rotations and the necessity of confirming that students had access to reliable internet and devices to facilitate communication and exchange of confidential information. Likewise, this was a central finding that resonated with several studies in remote learning (Fuller *et al.,* 2020; Johnson *et al.,* 2022; Louiselle *et al.,* 2020; Northern Ontario School of Medicine, 2020). As noted by Law and authors, the pandemic has necessitated the incorporation of creative strategies and teaching tools, such as mock clinical activity sheets and guidance documents, to pivot to remote precepting (Law *et al.,* 2021).

Remote rotations sparked innovation and generated new ideas for delivering experiential education. For example, social distancing requirements and competing priorities meant fewer staff were available at sites to attend presentations. The faculty shifted towards a remote presentation model using Zoom, which allowed us to invite the entire student class, preceptors, and their staff. The shift to completing experiential rotations remotely was unexpected and can be quite isolating (Strawbridge *et al.,* 2022). Several participants suggested creating a student community of practice to foster social well-being and shared learning. Similarly, findings from a survey of students who completed remote ambulatory care and community pharmacy APPE rotations rated their online learning sessions with preceptors and students highly (Hatcher *et al.,* 2022). This format allowed them to collaborate with peers and gain a diversity of perspectives from preceptors from multiple practice sites. Collaborative learning among students from different schools of pharmacy and facilitated by preceptors in various specialities can enable an improved learning experience (Montepara *et al*., 2021)

There are some limitations to this study. With a 30% response rate, the survey participants may not be representative of the preceptor group. The authors were cognisant of limiting non-essential communication as preceptors had added responsibilities related to the pandemic whilst adjusting to an unfamiliar model of teaching. The authors felt the response was sufficient, considering it was an experienced group with prior in-person precepting as a frame of reference. The study period occurred relatively early in the pandemic while there were many unknowns and stresses on the healthcare system, and the authors felt it was imperative to gain the perspectives of preceptors who were key players needed for these students to successfully complete their curriculum. Second, these findings were derived from NDPC remote rotations. Remotely precepted DPC rotations would likely pose additional challenges that the authors did not explore but have been recently well documented in the literature both within pharmacy (Montepara *et al*., 2021, Moreau *et al.,* 2021; Kang-Birken *et al.,* 2022), medicine (Hayes *et al.,* 2020, Ho *et al.,* 2021) and nursing (Johnson *et al.,* 2022). Lastly, the authors did not follow up with preceptors longitudinally, which may have enriched these findings and built a deeper understanding of their experiences.

This study contributes to the limited but growing body of literature focused on remote NDPC precepting, particularly within the pharmacy education context. Given the continued expansion of virtually-delivered healthcare services, remote experiential rotations will continue to be offered at the faculty. These results can help contribute to success for future rotations and are applicable to other health disciplines engaging in remotely delivered rotations. The importance of adapting in-person precepting approaches to the unique remote context and supporting preceptors throughout the transition were key findings. With appropriate technology, educational approaches, and motivating factors, the authors feel remote rotations are a meaningful and viable mode of experiential learning.

Conclusion

The COVID-19 pandemic disrupted education delivery. Remote experiential education gained momentum and uptake in the current climate of healthcare education programmes. Recognising the paradigm shift to remote learning, the authors sought to understand preceptor perceptions and experiences. Preceptors reflected on the need to adapt the learning experience, highlighting that there is no 'one-size-fits-all' approach. They also articulated the need for greater preparation and ongoing support to thrive in this new teaching experience. Preceptors identified the crucial components of a successful remote rotation. Remote learning has opened doors to new opportunities and innovation.

Acknowledgements

Conflict of Interest

The authors have indicated that they have no conflicts of interest with regard to the content of this article.

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