CASE STUDY

Strengthening a peer mentorship program for accelerated nursing students: Development of a quality improvement pilot project

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ABSTRACT

In nursing education, peer mentorship programs aim to develop students' clinical skills, encourage socialization within the program, and improve academic outcomes. This quality improvement project used the Plan-Do-Study-Act (PDSA) cycle to improve an existing student mentorship program within an accelerated nursing program in Ontario. Through a needs assessment, two areas for improvement were identified: (a) increased focus on accelerated students' social and academic needs and (b) evaluation of the mentor-mentee interface. As the first round of changes was implemented, qualitative feedback was obtained to facilitate future improvements. Findings from this project included identifying the benefits of adopting students as partners in quality improvement and generating successful improvement strategies that cater towards peer mentorship programs for accelerated undergraduate nursing students.

KEYWORDS

peer mentorship, accelerated nursing, education, quality improvement

Peer mentorship programs aim to support students in personal and professional growth by fostering equitable relationships. However, despite the benefits of peer mentorship in professional programs, we found it challenging to find rigorous data to guide the best implementation strategy for such a program (Rohatinsky et al., 2017; Wong et al., 2016). Consequently, we aimed to better understand the facilitators and barriers to effectively developing mentor and mentee relationships in the context of our institution.

Like many undergraduate nursing schools in Canada, our institution offers three streams of nursing education: a 4-year traditional stream for high school graduates, a 3-year bridging program stream for registered practical nurses, and a 20-month (i.e., five consecutive terms) accelerated stream for students who have completed at least 2 years of an undergraduate degree.

As part of the first-year nursing program orientation organized by our institution's student council, all students are provided with the opportunity to participate in a previously established

peer mentorship program. As described by the student council, this program's goal is to pair first-year students with someone who can help guide them through their first year of classes, placements, and the nursing program (McMaster University Nursing Students Society, 2016). Through this platform, first-year nursing students are partnered with an upper-year student (years 2 to 4) based on demographic data and interests collected upon application to the mentorship program. Students are paired with a mentor they meet during new student orientation and are encouraged to reach out to this mentor when they need support. In this program, students from all streams are intermixed when being assigned mentorship pairings.

While this program has many benefits, the experience of two of this paper's authors, Skipper, and Jacinto, and their accelerated-program peers highlighted challenges unique to the accelerated stream, which were not adequately addressed. The purpose of this paper is to outline the quality improvement (QI) initiative that took place over two academic semesters (Fall 2021 and Winter 2022) where student council representatives of the accelerated program (Skipper & Jacinto) partnered with accelerated-program academic leaders and educators (Pratt & Gandza) to adapt and implement a version of the mentorship program tailored to accelerated students. The Plan-Do-Study-Act (PDSA) cycle was selected as a QI framework for its flexibility and utility in factoring the context of our institutional environment and student population into the change-making process (Health Quality Ontario, 2012).

Throughout the design and implementation of this project, our institution's research and ethics board was consulted to ensure that all activities conducted by the project team and authors of this paper adhered to the scope of a QI project as outlined by our institution. This consultation included a review of our data collection methodology and data utilization.

PDSA IMPLEMENTATION

One model to assess for improvements is the Plan-Do-Study-Act (PDSA) cycle (Figure 1). This cycle aims to test change by planning, trying, observing, and acting on what is learned (Health Quality Ontario, 2012). This cycle consists of four stages: Plan, Do, Study, and Act.

Stage 1: Planning
The initial phase of the PDSA cycle, Plan, outlines the program's objectives, success indicators, involvement subjects, timelines, and predictions (Health Quality Ontario, 2012). The initial adaptations to the pre-existing peer mentorship program were discussed by Skipper and Jacinto with accelerated-program academic leaders Pratt and Gandza and implemented in the Fall of 2021. An upper-year standard-stream student (Siddiqui), who had been involved with the pre-existing mentorship program, was also consulted during this planning phase. Siddiqui provided input on the pre-existing program and later assisted the authors in facilitating the QI initiative literature searches, data collection, and QI design. The adaptations selected in this phase were informed by a needs assessment (see Figure 2) that was distributed to first- and upper-year accelerated-program students. The assessment aimed to target possible implementation strategies and identify which themes to address in adapting the peer mentorship program to better serve accelerated-program nursing students.

Figure 1. The model for improvement
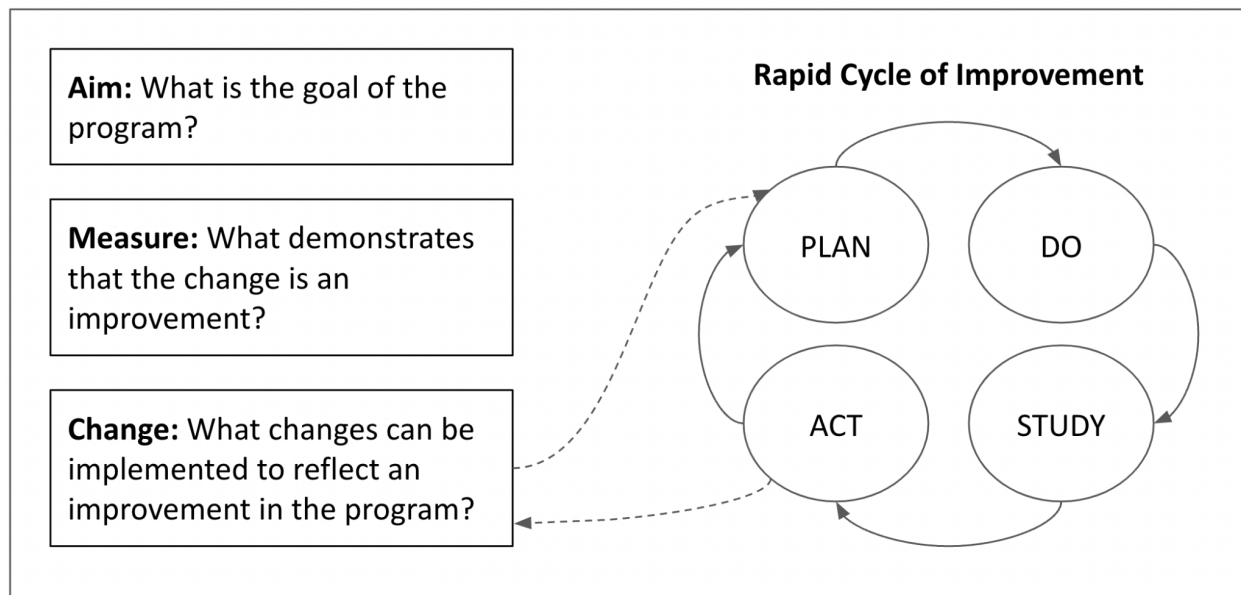
The PDSA cycle model for quality improvement was adapted from the Health Quality Ontario (2012) Model for Improvement as a framework used in this project.

Needs assessment for first-year and upper-year students

A questionnaire was distributed in the summer of 2021 to first-year and final-year nursing students in the accelerated program via the private social media group created for each cohort by our institution's student leadership society. The purpose of the questionnaire was to collect information regarding interest in the program, time commitment preferences, appropriate mentor to mentee ratios, focus areas of support/mentorship, and general feedback. Thirteen out of 113 upper-year students in their 4th semester and 22 out of 118 first-year students in their 1st semester of the five-term program responded to our survey. Figure 2 outlines the results of the needs assessment.

To tailor the mentorship program to accelerated-program students, the following change ideas were generated: creating student pairings specifically within the accelerated program, utilizing tailored mentor-to-mentee ratios and meeting frequencies, and planning events throughout the year that provided additional support for students in the accelerated program specific courses (e.g. first-year clinical techniques, nursing theory, and health sciences). The program team selected these ideas to ensure that first-year accelerated students were paired with upper-year students with program experiences that mirrored what they would be experiencing. They also adhered to the students' preferences stated in the needs assessment. In this way, first-year accelerated-program students would receive guidance from someone who had successfully transitioned into the program and could utilize their experiences to guide and support their accelerated mentee.

As supported by the literature (Rohatinsky et al., 2017; Wong et al., 2016), the authors also identified the need to evaluate the mentor-mentee interface during and at the completion of the first PDSA cycle. This understanding can inform how the program can be modified in future PDSA cycles to continue the goal of program excellence and sustainability. Utilizing these concepts and ideas for change, the first rapid cycle of improvements began.

Figure 2. Transforming needs assessment results into change ideas
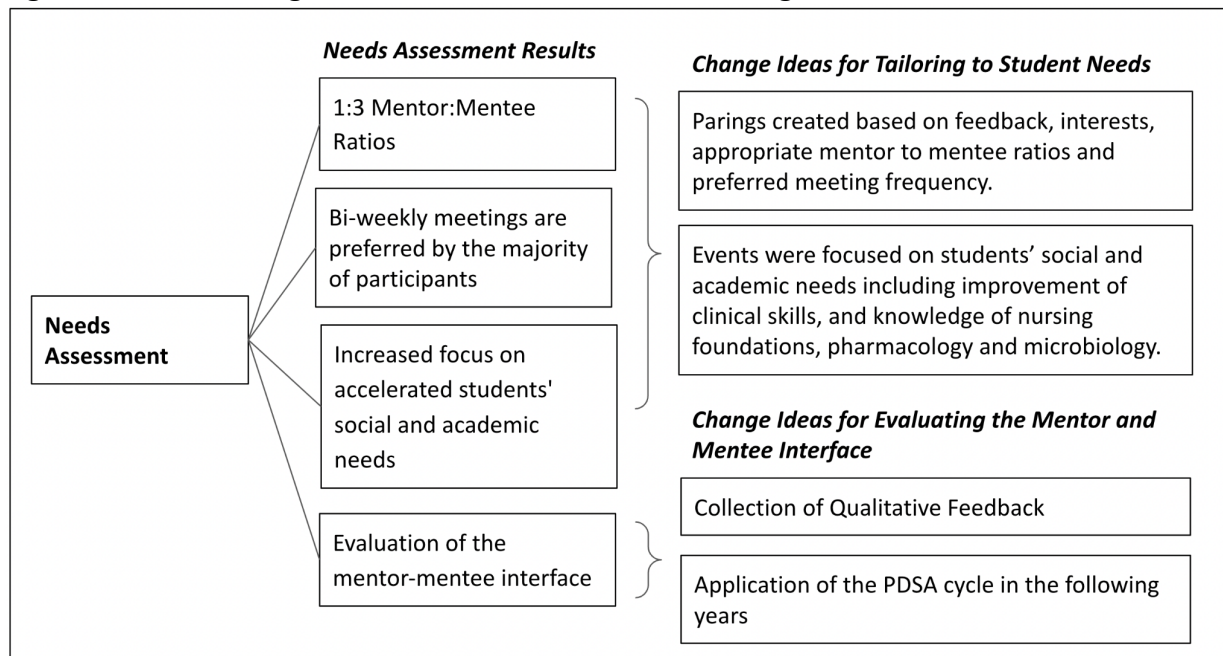
Stage 2: Do

The initial round of student mentor-mentee partnerships was assembled by Skipper and Jacinto in the Fall term. It consisted of 22 first-year students and 13 upper-level students (18.6% and 11.5% of first- and upper-year students, respectively). Two separate applications were developed for prospective mentors (Appendix A) and mentees (Appendix B) based on the needs assessment and data from our literature review that suggested that mentorship pairings should be made with consideration to students' needs and interests (Rohatinsky et al., 2017; Wong et al., 2016). These applications were delivered to each cohort via their respective class pages on social media and course tabs on our institution's online learning platform.

Mentorship pairings were announced in November of the Fall semester and continued to be generated into the second week of January. Applications for both mentors and mentees were accepted on a rolling basis, and pairs were continually created to maximize the number of students who could participate in the program. Mentors were connected with their mentees via email, and a brief description of the program's expectations and anticipated structure was provided. Based on the feedback outlined in the needs assessment, mentors and mentees were encouraged to meet twice per week, and skill development sessions were planned for first-year students by upper-year students and faculty. See Table 1 for a list of the organized activities offered during the pilot-adapted program.

Table 1. Pilot program organized activities

EVENT	DESCRIPTONS OF EVENTS LED BY STUDENT REPRESENTATIVES SKIPPER AND JACINTO
Virtual Meet and Greet	Provided an informal introduction to the mentorship program and outlined flexible mentor and mentee expectations including anticipated events for the Fall and Winter semesters.
Virtual Practice Exam Skills Review	Student representatives and participating volunteer mentors led a question-and-answer session, allowing mentees to join the virtual session on a drop-in basis. Mentors provided demonstrations, feedback, and clarified instructions.
Clinical Skills Practice	Student representatives and participating volunteer mentors led stations where mentees were able to practice their clinical skills under the guidance of mentors. The stations included oxygen administration, setting up IV pumps, medication administration, wound care, and tube care.
Virtual Study Sessions	Student representatives connected mentees to virtual study sessions hosted by upper-year students covering topics such as microbiology, pharmacology, and nursing foundations.

A component of planning this program that required thought and foresight was maintaining academic integrity during mentee-mentor interactions. This included ensuring previous assignments and exam details were not shared by mentors. To mitigate the risk of our program compromising academic integrity, all mentors were provided with comprehensive guidelines on what was appropriate to share with mentees generated by nursing faculty and teachers. Communications sent to prospective mentors indicated that, by signing up as mentors, upper-year participants were expected to adhere to these guidelines and act as informal leaders representing our institution. Ongoing support for mentors was provided by Skipper and Jacinto as well as Gandza and Pratt throughout the academic year if mentors required assistance in navigating this issue. A nursing faculty instructor also supervised in-person clinical review sessions as an extra precaution.

Stage 3: Study
At the end of the Fall 2021 and Winter 2022 semesters, online surveys were distributed to mentors and mentees to obtain feedback from participants at the midway and end points of the pilot project. The survey questions contained simple, Likert-scale satisfaction-related questions and short-answer feedback questions. The surveys were designed based on the recommendations of Wong et al. (2016), who emphasize the importance of holistic program evaluation and student voice. We wanted to be able to capture easily interpretable data about whether the current program design was meeting students' needs and seek their input on what changes could be made. Only two responses were received from first-year mentees in the

program at the midway point. Their responses indicated overall satisfaction with the program and its outcome on their learning so far; however, they both indicated a desire for more in-person academic and clinical skill review sessions.

At the end of the Winter 2022 semester, we received nine responses to the survey: five mentees and four mentors. This represented a 23.8% response rate from mentees and 30.8% response rate from mentors. All first-year respondents reported that they "agreed" or "strongly agreed" that this mentorship program benefited their learning and helped them feel more confident and prepared for their clinical placements. Open-ended feedback indicated that more organized programming (i.e., skill sessions and review opportunities) and large-group social activities would have increased their satisfaction with the program. Four out of the five mentees also indicated positive feedback for the in-person skills review session, describing it as "a good opportunity to practice skills in a low-stress setting prior to our exam." Finally, all four mentor respondents reported that they enjoyed participating in the program and would do so again if given the opportunity. Three out of four mentors felt that the expectation for bi-weekly connections with their mentee(s) was reasonable, with only one mentor rating this as requiring "moderately too much" time. Informal conversations between the authors and participants outside of administered assessments also indicated positive experiences with the program.

DISCUSSION

This paper highlighted using a quality improvement initiative to better address the specific needs of accelerated nursing students in a peer mentorship program. While additional QI cycles continue to be carried out beyond the scope and timeline described in this paper, implementing this pilot project provided valuable insights into the benefits of this initiative and where improvements can be made for future cycles of this QI project and others that may be similar.

Program strengths
Our program's strengths and weaknesses were identified through group analysis at the end of our pilot project.

Students as partners in quality improvement
Within this project, students and faculty partnered together to create, design, and implement it. Specifically, this team's blended dynamic contributed to complementary leadership characteristics, the translation of ideas and concepts, and the building of horizontal leadership within our pilot project.

Complementary characteristics of leadership
One of the explicit ways our team benefited from pairing student and faculty leadership was the complementary nature of our viewpoints, experiences, and priorities when designing this project. For example, Pratt and Gandza's experience as instructors was instrumental in supporting student representatives in leading and implementing the administrative and academic elements of the program. Furthermore, they could assist the student representatives in navigating ethics review, administrative policy, and access to communication channels that the student representatives would not have had access to independently. When the viewpoints and

knowledge of faculty and students were combined, the dynamic created a more holistic approach and understanding of our initiative's goals. On the other hand, the lived experiences of the student representatives in the accelerated program contributed personal knowledge and insight regarding the target student population during program design, execution, and evaluation. Student representatives sharing a similar academic status with their peers occasionally enabled them to access more honest feedback than what faculty members typically received directly (Felten et al., 2013). Due to the relationship built between the student leaders and the accelerated stream faculty, Skipper, Jacinto, and Siddiqui were empowered to share this feedback with the faculty. Thus, having students as partners in QI bridges the imbalanced power dynamic between students and faculty. Overall, the collaborative efforts of faculty and students in this project and the utilization of the respective strengths of both parties enhanced our collective ability to provide continuing high-quality program improvements and learn more about what the student population needed.

Translation of thinking
Another way that student-faculty partnerships enhanced this program can be described by Cook-Sather and Abbot's (2016) definition of "translation" in learning and teaching. In their manuscript on faculty-student collaboration, translation is defined as the "iterative, analytical, and relational work of meaning making that unfolds in pedagogical partnership between student consultants and faculty members" (p. 37). While our QI project aimed to generate specific changes to implement in our pilot program, this endeavor's unanticipated impact was that both parties developed an enhanced understanding of the program's accelerated nursing student experience and needs. Our project had numerous "aha" moments where our viewpoints merged to form new ideas and understanding. For example, we generated the goal to implement the 2022–2023 peer mentorship program starting in the summer of 2022. This was derived from the feedback on students' difficulty navigating the administrative components of starting the accelerated program. Generating this idea required the combination and translation of both student and faculty viewpoints (Cook-Sather & Abbot, 2016).

Building lateral leadership into horizontal mentorship
In addition to the benefits received by the mentorship program participants, we, the student authors of this paper, feel enriched as developers of this program. Coincidentally, while working to build lateral leadership (i.e., leadership between individuals of similar status in the academic power hierarchy) and mentoring between students within the program, we experienced horizontal mentoring (i.e., traditional mentorship from someone of a higher position in the power hierarchy) from the faculty members during the QI process. Similar to the experiences described in Vaughan, Clampitt, and Park's (2016) case study of implementing a scholarship of teaching and learning project with students as partners, we found this horizontal role modelling and knowledge to have had a trickle-down effect. The leadership of our faculty partners strengthened our leadership as student representatives, which in turn supported the leadership of our student mentors. This will hopefully lead to increased leadership of the first-year mentees in the future of their academic careers. In this way, bringing student voice and knowledge into this project centered the student experience within our QI efforts. It helped create a positive feedback cycle that will sustainably last well past the authors' involvement in this project.

Areas to improve

Optimizing survey delivery
As we seek to improve this project in future iterations of the QI process, we need to consider the response rate to the feedback collection surveys used for program evaluation. The response rate to both feedback collection surveys was relatively low, with less than 15% of pilot program participants completing the online form. Changes to data collection to help improve this could include adjusting the timing of survey delivery to avoid exam seasons or other periods of high student stress, using direct and personal invitations to complete survey materials, and providing incentives to provide feedback by generating participant engagement with the QI process (Ntho et al., 2020; Wong et al., 2016).

Expanding the methodological approach
In this first QI cycle, data was collected exclusively through surveys administered to the student body. Using this methodology in isolation generated limitations such that our data represents only a single, one-time snapshot of input from the student population. Following up on the data collected is not possible with the anonymous methodology utilized by our surveys. In consultation with the literature, the authors believe that additional, more dynamic, and targeted data sources would be beneficial in providing a more in-depth understanding of our target populations and their experiences within the program (Divan et al., 2017). In future iterations of this project, the authors of this paper propose that utilizing a qualitative methodology to achieve a greater understanding of student experience within the peer mentorship program will be valuable in further determining specific and targeted program changes that can continue to evolve and adapt to our student population (Webb & Welsh, 2019).

Growing as partners
By completing this project, the student partners feel more prepared to participate in QI in a professional setting, and the faculty partners look to continue expanding their partnerships with future generations of nursing student leaders. Upon reflection, it was helpful that the faculty have had pre-existing academic relationships with the students. All authors of this paper recognize the significance of this relationship building and look to continue this new collegial relationship.

CONCLUSION

This paper identified successful, targeted quality improvement strategies for a pre-existing peer mentorship program to better address the needs of accelerated-program nursing students within the larger context of the nursing student body. The success of this program demonstrates the importance of faculty-student collaboration to address needs within the student body, which underscores the importance of student feedback in the implementation of QI initiatives. These analyses can inform others looking to adapt previously existing programs to better reflect the needs and desires of students.

This pilot project was exempt from institutional ethics review as it is deemed a quality improvement activity.

NOTES ON CONTRIBUTORS

Alexander Skipper, RN, BScN, BSc *graduated from the Accelerated Nursing Stream at McMaster University and joined the student partners pilot project in his final year of study. He graduated in the Spring of 2022 as the McMaster School of Nursing valedictorian. Skipper's research interests include nursing education and leadership.*

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APPENDIX A: TEMPLATE OF THE ACCELERATED NURSING STUDENT MENTOR APPLICATION

QUESTION	OPTIONS
Name	*
Email	*
What is your preferred meeting frequency?	Weekly Bi-weekly Monthly
What is your preferred method of meeting?	Virtual In-person Mix of virtual and in-person
Please describe your interests (hobbies, favourite movies, TV shows, music)	*
What specializations do you have clinical experience in including the workplace and school? (e.g. NICU placement, Mental Health externship)	*

*Represents free-text answers to the open-ended questions provided.

APPENDIX B: TEMPLATE OF THE ACCELERATED NURSING STUDENT MENTEE APPLICATION

Question	Options
Name	*
Email	*
What is your preferred meeting frequency?	Weekly Bi-weekly Monthly
What is your preferred method of meeting?	Virtual In-person Mix of virtual and in-person
Please describe your interests (hobbies, favourite movies, favourite TV shows, favourite music)	*
What clinical specializations are you interested in? (e.g., Emergency Department,	*

Oncology)	
What do you hope to gain from this program? (Academic support, social connection, clinical advice, etc.)	*

*Represents free-text answers to the open-ended questions provided.