International Research Collaborations: Lessons Learned and Practical Tips

Introduction

The importance of creating international research collaborations for the purpose of producing high quality educational research aimed at enhancing or promoting consistency in health care practice has become even more apparent since the start of the COVID-19 pandemic. These cross-country, and sometimes cross discipline collaborations can be particularly beneficial when conducting research into aspects of clinical practice identified internationally as primary goals for patient safety improvement. An example is the commonly shared goal to improve early detection of clinical deterioration by health professionals since this continues to be reported internationally as a significant patient safety risk and suboptimal aspect of care delivery (Haddeland et al 2018, Lee et al 2019, Goldsworthy et al 2022). However, creating an effective international collaboration can be a complex process.

This paper aims to describe the process of creating a successful collaboration between research teams at universities in Canada, Australia, England, and Scotland, prior to and during a global pandemic. A description of how the team was built and sustained will be described along with the benefits, challenges, and results of this collaboration, to provide strategies on how this can be effectively achieved.

Background

The formation of this collaboration began prior to the Covid-19 pandemic and started through networking at international conferences in the UK and Canada. After the conferences, relationships between newfound contacts and the team lead, began to be established through online communication channels, including email and Zoom, before being further developed through site visits, made to Canada by site leads from Australia and the UK, and from Canada by the research team lead and colleagues to the UK and Australia. These in-person visits made it possible for the team to get to know each other better while they gained an understanding of the simulation facilities and resources available at each site. It also enabled the research team lead to establish the feasibility of conducting the proposed research study at each site, which at that point, aimed to investigate the impact on student nurse preparedness and confidence for clinical practice of engaging with online virtual simulation case studies compared to participating with peers in face-to-face simulation education.

As the team continued to evolve and develop, it became apparent that each member shared a common interest in the proposed research topic and recognized the potential of research outcomes to contribute to the existing body of knowledge. Currently, there is a paucity of research evidence that has examined how simulation education does or

does not assist the effective preparation of nursing students for safe, consistent, evidence-based clinical practice.

Securing ‘buy-in’ from all team members through a positive and open team culture, and early identification of commonly shared and clearly defined goals are recognized as fundamental to achieving successful outcomes. In this instance, the team shared an interest in finding out whether simulation education does or does not provide a means by which to ensure that all pre-registration nursing students can be effectively supported and prepared for, and feel confident in their ability to recognize and respond to early signs of clinical deterioration in practice; an aspect of patient care that has also been identified as suboptimal and an international patient safety concern (Haddeland et al., 2018, Lee et al., 2019).

This common interest and commitment to the research aims and objectives was developed prior to the Covid-19 pandemic to motivate the team to quickly rethink and adapt their original research proposal to take account of the rapid changes and new challenges to practice-based learning for student nurses that had occurred because of the pandemic. During the first year, the pandemic significantly impacted student experiences in practice, resulting in wide variations in practice experiences and no guarantee that all students would be exposed to or supported to learn from real-life experience during that time. This was because many schools of nursing could not send their nursing students into the practice environment during that first year, or into face-to-face clinical skills simulation sessions. In recognition of these additional issues, the team quickly adjusted the research protocol to focus on investigating the role and impact of virtual simulation toward building student confidence for safe, clinical practice. This was adjustment was considered vital during a time when constraints in practice meant it was no longer possible to guarantee that all students could learn from firsthand experience.

A psychologically safe environment for learning through simulation was another key motivation for the research teams at all sites. It was agreed upon by the team that it was essential to provide students with the skills required to respond effectively in these potentially life threatening, critical incidents in practice. Another important element in building and sustaining the collaborative research team was the interaction with the team lead (Principal Investigator) through clear communication, encouragement, everyone’s input invited, shared resources and a focus on our shared goals for the research.

Planning Phase

The team was brought together by the Principal Investigator (PI) who had prior knowledge of each team member. In addition, the PI had considerable expertise in the topic area. The team reported that the leadership style was inclusive, enabled an open friendly dialogue, and used transformative approaches with a learning culture from the outset. The team leader’s approach enabled group members to speak freely and

informally as individual human beings, and offer suggestions for study aims and objectives, data collection, timings, outputs, without fear of judgement from others despite differences in their academic standing, knowledge, and experience in the field. There were no hierarchical boundaries.

A clear vision for the research was communicated by the PI and an already prepared research proposal was shared prior to meeting the team. This preparation enabled clear direction from the beginning. Effective leadership, clear goals identified and shared following meetings in action planning documents for comment and review by team members, kept team on track, clear deadlines set from outset. A research coordinator was part of the team and assisted with meeting notes and organizing meetings virtually and with site visits.

Significant buy-in from all participants was helpful in advancing the project, with each team member clearly committed to achieving agreed upon goals and facilitated effective teamwork

All deadlines were met, due to a proactive approach of team leader, her expertise and willingness to share knowledge, and support involvement and development of less experienced team members. For example, the team had varying levels of expertise in debriefing post simulation and therefore it was determined that the PI would facilitate a debriefing workshop for all team members to ensure consistency across all sites.

The PI along with the research coordinator had previously conducted site visits to all partner sites with the outcome being an established collaborative research teams. In addition, several site leads made a site visit to the lead site in Canada. The site visits provided an opportunity for further planning in a face-to-face format and ensure consistency of the intervention delivery.

Developing international networks provides nurse educators with many opportunities to advance teaching and research. Patience and the ability meet short timelines are characteristics of this successful international collaboration. These characteristics were tested during the COVID-19 pandemic and the team was nimble in adapting the research protocol. Nursing faculty from each site secured ethics approvals by utilizing shared ethics applications from the lead site. Country specific adaptations were made to questionnaires and debriefing questions.

The international project team was in place prior to the Covid-19 pandemic. However, we had to redesign the study protocol, moving to a virtual environment, when the COVID-19 pandemic happened mid planning phase. Educational networks are formed when collaboration occurs between two or more educational institutes for common goals at least some of the time (Muijs et al., 2010). In this instance, there was a collaboration between 5 universities in four countries. Engaging in networks enhances the effectiveness of organizations, increases skills and information, provides

opportunities for professional development of staff and opportunities for research through exchange of ideas, to the extent that networks are increasingly becoming a value-added dimension of an organization (Muir and Byrne 2020).

Benefits

In establishing an international research collaboration, there were clear relationships established based on reciprocity with the aim of future collaborative research and the network rapidly evolved into a functioning Community of Practice (Wenger,1998). There were many benefits of establishing and sustaining an international research collaboration that focuses on producing high quality educational research. Below the key benefits of the collaboration are listed:

- Strong compassionate, transformative leadership was motivational and inspirational
- Sense of belonging, community, and friendship despite only meeting virtually during the last half of the research project (due to the pandemic).
- Motivating
- A great learning opportunity for all team members
- Sharing of knowledge and expertise – learning from, with and about each other, and differences in approaches taken in practice in different countries in response to and management of patient deterioration – including differences/variations in medication names, clinical skills and medical terminology used, or procedures.
- The virtual simulation intervention used required UK-based team members to develop a supportive/explanatory guide based on UK Resuscitation guidelines for pre-registration nursing students
- Demonstrated that it is possible to build research collaborations effectively in a virtual world – although we would all very much like to meet our new colleagues post pandemic at some point!
- Friendship
- Zoom was the most effective platform for meetings and for conducting the research.
- Co-debriefing following adapted PEARLs framework, with involvement of PI with considerable expertise provided a great experience for participating student nurses, demonstrated how nursing is a global practice. Also enabled consistency of debriefing practice across different sites, and enhanced skills/confidence/competence in debriefing of less experienced team members.
- Sharing of resources since collaboration began – again knowledge building not just for team members but as open access resources potential to also be shared with students to support their preparation for practice

- Co-authored publications, presentations enhancing development potential for all team members; with some team members achieving promotion since the start of this international collaboration
- Future collaborative research opportunities – strong belief in each team member that any future research projects would also result in goals being achieved.
- Contribution to knowledge and evidence-base for simulation-based education. This is important as there is currently limited evidence which demonstrates how virtual simulation can be used to enhance student knowledge, confidence, and skills for safe, nursing practice, which, in turn, can enhance patient safety.
- Enhances potential for securing funding for future research.

Challenges

There were a few challenges that occurred during the research project due to the geographical spread of all of the sites (3 continents/4 countries). When planning an international research collaboration, here are a number of factors to consider:

- Time zone differences between Canada, Australia and UK – difficult to find an ideal meeting time (either very late or very early).
- Workloads, integrating the research workload with an already pressured workload due to the Covid-19 pandemic.
- Differences/variations in medication names, clinical skills and medical terminology used across countries, or procedures as became evident when virtual simulation case studies required UK-based team members to develop a supportive/explanatory guide based on UK Resuscitation guidelines for pre-registration nursing students
- Co-debriefing challenge for PI at times due to scheduling but overcame this with assistance of the research coordinator.

Pivot during Pandemic

The research project had been in the planning stages two years prior to the pandemic. The arrival of COVID-19 and the necessity of nursing schools to move to virtual learning enabled us to change our study protocol from virtual + in-person simulation to all virtual simulations. Due to the availability of high-quality virtual simulations and a rapid uptake by the team of this technology, we were able to adapt our study intervention and start the study on time. In addition, the study was able to continue following ethical modification approval to move to fully online data collection including the debriefing. These changes allowed international team members to “sit in” online during the debriefing sessions. Bringing the students and the debriefers together online from different countries tremendously enhanced the study and the experience for nursing students.

Results

The results of this research collaboration to date have included: two publications, three international conference presentations, and the submission of grant funding applications. This collaboration has enabled the team to contribute to knowledge in an area where there is a sparse evidence base. In addition, future studies, publications and presentations are planned at each of the sites and this will enable us to sustain the research collaboration.

Lessons Learned and Practical Tips

We had several important lessons we learned from this experience and would like to share for consideration:

- Time management is essential to keep the project on track
- Expertise within the team can vary- there are lots of great learning and mentorship opportunities
- Planning takes time
- Clear and timely communication is essential
- Strong leadership that is inclusive and encouraging is important
- Virtual meetings are helpful for most meetings, but in-person meetings can also advance the project and planning process.
- Consider time zones when working with international teams
- Plan projects for the future to sustain the team/each site leads a component
- International research projects can be successfully completed virtually

Summary

This international research collaboration strongly emphasised that anything is possible when a supportive, open, learning culture is enabled among team members who share similar goals and interest in the research being undertaken. It also demonstrated the importance of the leadership style and approach, which in this instance was authentic, inclusive and transformative, where team members felt valued and able to contribute ideas, written sections for draft papers without fear of judgement from more experienced colleagues.

The PI offered a clear written outline of proposed project from the outset enabling clear direction from beginning, shared goals and timelines, formalised in action planning documents with tasks, clear deadlines and ownership for action that was agreed upon and assigned.

Future project planning is essential to sustaining the team over time and continuing to develop a program of research. Evaluation of educational innovation can be conducted internationally with meaningful outcomes that add to the growing positive evidence of the effectiveness for virtual simulation clinical simulation for student learning.

References

Haddeland, K., Slettebø, A., Carstens, P., & Fossum, M. (2018, August). Nursing students managing deteriorating patients: A systematic review and meta-analysis. Clinical Simulation in Nursing, 21, 1- 15. doi.org/10.1016/j.ecns.2018.05.001.

Goldsworthy, S., Goodhand, K., Baron, S., Button, D., & Fasken, L. (2022, Month). Co-debriefing Virtual Simulations: An International Perspective. Clinical Simulation in Nursing, 63, 1-4. https://doi.org/10. 1016/j.ecns.2021.10.007.

Goldsworthy, S., Muir, N., Baron, S., Button, D., Goodhand, K., Hunter, S., McNeill, L., Perez, G., McParland, T., Fasken, L., Peachey, L. (2022). The impact of virtual simulation on the recognition and response to the rapidly deteriorating patient among undergraduate nursing students, *Nurse Education Today,*110, https://doi.org/10.1016/j.nedt.2021.105264.

Lee, SE, Quinn, BL.(2019). Incorporating medication administration safety in undergraduate nursing education: A literature review. *Nurse Education Today*.72, 77-83. doi: 10.1016/j.nedt.2018.11.004.

Muijs, D., West, M. and Ainscow, M. (2010). Why network? Theoretical perspectives on networking, *School Effectiveness and School Improvement,* 21(1), 5-26. https://doi.org/10.1080/09243450903569692

Muir, N. & Byrne, J. (2019). Constructive and negative aspects of social capital in work-related learning networks*. Higher Education, Skills and Work-based Learning, http://dx.doi.org/10.1108/HESWBL-08-2019-0104*