

2017 Full Submission

Title: The development, implementation, and evaluation of a learning community to support education research in the health professions

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Focused Question: "What is the impact of a health professions education research learning community on:

- Participant knowledge of education research concepts and
- Scholarly productivity in health professions education research?"

Background: Health professions education (HPE) research has the ability to improve the quality of teaching and learning in the health professions by providing insight into effective strategies, programs, and practices. These findings have the ability to impact not only learner outcomes but patient outcomes as well (O'Sullivan & Irby, 2011).

However, research in health professions education sometimes lacks the rigor found in research in both traditional education research as well as scholarship in traditional health professions clinical and basic science research. As LaMantia et al (2012) note, "while the number of publications in medical education research continues to increase, there are still significant barriers and limitations that affect both the output and quality of these studies" (p.1463). Many authors have explored issues that may impact the quality of health professions education research. Shea, Arnold, and Mann (2004) assert that medical education research would benefit from an increased emphasis on strong theoretical underpinnings for studies as well as designing research questions that "are based on literature and theory and push the field toward new knowledge" (p. 931). These sentiments are echoed by many in the literature, including Wartman (1994) and Webster et al (2015).

An observed weakness noted in the literature on the quality of health professions education involves the selection and use of appropriate research methods. Webster et al (2015) reviewed medical education research in family medicine from 2002 to 2012, finding that the majority of studies involved using surveys and documents such as exam or test results as their primary data sources, a relatively narrow set of methodologies. Literature on medical education research also highlights the privileging of

quantitative over qualitative research as a potential weakness, though nursing education is perhaps more advanced in this area.

Various recommendations for increasing quality and rigor in health professions education research have been made. Cook and West (2013) argue that improvements to the quality of medical education research could include better aligning methods and study design, including beginning with solid research questions and then selecting methods appropriately, and employing advanced statistical techniques. Reed et al (2007) found that high quality medical education research is associated with study funding, while Wartman (1994) asserts that considering “to what extent the existing traditional departmental structure of medical serves as a barrier to...educational innovation” may help improve the quality of health professions education research (p.611). Cote & Turgeon (2005) have attempted to assist clinical researchers in developing an understanding of qualitative research methods by developing a twelve-point rubric for assessing qualitative research in medicine.

While published guidelines, increased funding and new departmental structures may assist in fostering high quality health professions education research, a more obvious solution may exist: training and education in education research. Training in education research design and methodology is not traditionally part of the curriculum in the health professions and while health professionals may be familiar with clinical or basic science research, they may be less acquainted with foundational principles and methods of educational research, even as experienced educators. We assert that professional development devoted to HPE education research and design will help increase the knowledge and skills of solid education research design and methodology of participants, addressing some of the needs established in the literature on HPE.

Specific Aims:

To address the need for high quality health professions education (HPE) research presented in the literature, we aim to implement an interprofessional professional development program focused on improving education research knowledge and skills of health professionals and professional staff working in HPE. Second, we aim to use best practices in evaluation to assess the impact of a HPE research professional development program on 1) increasing participant knowledge of education research concepts and practices and 2) fostering research in HPE.

Methods:

Educational intervention

We aim to develop a learning community focused on the design and implementation of education research, a design that has proven effective in other settings (Richlin & Cox, 2004) and is consistent with recommendations on professional development in health professions education (LaMantia et al, 2012). We hypothesize that participation in this program will increase participant knowledge of education research concepts and scholarly productivity in the area of health professions education research.

Participants

The target audience for this program is:

- 1) Faculty of all ranks across disciplines (eg: medicine, surgery, physician assistant, physical therapy) at both the School of Medicine and School of Nursing
- 2) Other professional staff members working in academic departments across the School of Medicine and School of Nursing interested in education research.

Program structure

The learning community will meet four times throughout the year with the possibility of additional meetings if desired. The exact content of these sessions will be decided based on a participant needs assessment; however, the following foundational topics will be addressed:

- 1) Defining an education research topic
- 2) Writing research questions
- 3) Quantitative and qualitative research design and methods
- 4) Research ethics in education research.

Sessions will be led by facilitators with expertise and experience as education researchers. Sessions will be taught in a highly interactive format with time dedicated in each session to allow participants to work with and seek feedback from their peers as well as the facilitator(s). As one goal of this program is to foster scholarly productivity in HPE research, participants will start, and hopefully complete, an education project throughout the year. Sessions will be ordered to allow participants to develop their own projects along with the session schedule, providing structure and accountability.

Outcomes and measures

The research team will follow best practices in evaluation to assess the effectiveness of the program in 1) increasing participant knowledge of education research concepts and practices and 2) fostering research in health professions education.

Outcome measures for this program include:

- Participant attendance
- Participant demographics (departments, ranks, job titles, gender, race/ethnicity, years in respective field, previous training in health professions education)
- Participant satisfaction (facilitators, session content, etc.)
- Participant knowledge gained

- Number of abstracts, grants, publications, and presentations resulting from participation in the program.

Participant attendance will be obtained from a sign in sheet present at each meeting of the professional development program. Participant satisfaction will be obtained via a brief evaluation following each session. The pre-test survey designed to obtain a baseline measure of participant knowledge about education research in will also be used to obtain participant demographic information. This survey will be administered approximately one week prior to the first session. The post-test survey will be administered following the fourth and final session. A brief survey will be sent six months after the last session asking participants to report the number of abstracts, grants, publications, and presentations resulting from participation in the program.

Data management and analysis

Data analysis will be performed by the co-PIs of this study who all have expertise in quantitative social science research methods. Participants will be assigned a study ID at the beginning of the study. All survey results will be de-identified by removing participant names and replacing them with the study ID numbers. Paired t-tests will be conducted using statistical software to determine the impact of the program on participant knowledge of education research. Data will be stored and shared via a secure Duke Box folder dedicated to this project.

We intend to publish both the curriculum and the results of the evaluation in an appropriate venue, such as MedEd Portal.

IRB status: Plan to submit

Challenges: While we are confident that this program will meet the needs of the targeted population, challenges may still exist. Potential challenges may include attrition due to scheduling difficulties. Likewise, it is possible that the timeline of the project may be too short for some participants to apply the knowledge gained to designing and implementing an education research project. Finally, it is possible that some interdisciplinary conflicts may exist. Steps will be taken to mitigate these issues by establishing ground rules around respect for the various professions and disciplines represented in communication during the sessions.

Budget Template:

PI Effort	\$405	Three PIs @ 135/each
Consult costs:	\$540	Facilitator stipends
Equipment:		
Supplies:	\$3750	Food for participants for learning sessions, books for participant lending library, fees for publications in open source journal, books for participants and facilitators.
Travel:		

Total Requested:	\$5,000	

Works Cited:

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