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1. Introduction

This unit focuses on competencies the Clinician Educator (CE) will need in order to plan and undertake education scholarship. Education scholarship encompasses:

- A line of inquiry, new perspective, innovation, or new application in education that is:
 - based on theoretical frameworks, current evidence, or best practice
 - publicly disseminated for peer review
 - archived for future reference, so it can subsequently developed

Education scholarship can include education research (e.g., discovery) as well as the integration, application, and translation of education concepts and innovations.

2. Prerequisite units

- Foundations: Part 1
- Depending on the project the candidate may also be required to complete other units.

3. CE competencies addressed in this unit

A CE must be able to:

1. Design, undertake, and disseminate the results of a scholarly project in medical education

4. Learning objectives

By the end of the Unit, the CE will be able to:

1. Define education scholarship, by

- describing the range of activities that could be included under the umbrella of education scholarship
- applying Glassick's six standards for evaluating scholarly work

2. Design, plan, and execute a scholarly project in medical education, by

- defining a research question and/or project purpose
- conducting a literature search and identifying the theoretical foundation(s) and conceptual framework(s) that inform the question, innovation, program, or curriculum
- writing a protocol, i.e., describing a study and/or project design, including methodology or a framework to guide decision-making during the course of the project
- identifying resources, including collaborators, mentors, and funding opportunities

- completing the planned project
- disseminating the findings of the research

3. Describe the ethics approval process by

- outlining the key requirements for ethics approval from a relevant institutional ethics review committee or board

5. Suggested resources

Articles

Barbour RS. Making sense of focus groups. *Med Educ.*2005; 39(7): 743–50.

Beattie DS. Expanding the view of scholarship: introduction. *Acad Med.*2000; 75(9):871–6

Beckman TJ, Cook DA. Developing scholarly projects in education: a primer for medical teachers. *Med Teach.* 2007; 29(2–3):210–8.

Bordage G. Conceptual frameworks to illuminate and magnify. *Med Educ.*2009; 43(4): 312–9.

Cottrell SA. A matter of explanation: assessment, scholarship of teaching and their disconnect with theoretical development. *Med Teach.*2006; 28(44): 305–8.

DiCicco-Bloom B, Crabtree BF. The qualitative research interview. *Med Educ.*2006; 40(4): 314–21.

Dolmans DH, Tigelaar D. Building bridges between theory and practice in medical education using a design-based research approach: AMEE Guide No. 60. *Med Teach.*2012; 34(1): 1–10.

Fincher FM, Simpson DE, Mennin SP, Rosenfeld GD, Rothman A, McGrew MC, et al. Scholarship in teaching: an imperative for the 21st century. *Acad Med.*2000; 75(9):887–94.

Fincher RE, Work JA. Perspectives on the scholarship of teaching. *Med Educ.*2006; 40(4):293–5.

Frye AW, Hemmer PA. Program evaluation models and related theories: AMEE Guide no. 67. *Med. Teach.* 2012; 34(5):e288–99.

Glassick CE. Boyer's expanded definitions of scholarship, the standards for assessing scholarship, and the elusiveness of the scholarship of teaching. *Acad Med.* 2000; 75(9):887–80.

Glassick CE. Reconsidering scholarship. *J Public Health Manag Pract.* 2000; 6(1):4–9.

Hutchings P, Shulman LS. The scholarship of teaching: new elaborations, new developments. *Change.*1999; 31(5): 11–5.

Kanter SL. Toward better descriptions of innovations. *Acad Med.*2008; 83(8): 703–4.

Martin E, Ramsden P. Introduction. Special issue: Scholarship of teaching. *Higher Educ Res Devel.*2000; 24: 163–77.

Simpson DE, Fincher RM. Making a case for the teaching scholar. *Acad Med.*1999; 74(12):1296–9.

Wood BP, May W. Academic recognition of educational scholarship. *Acad Radiol.*2006; 13(2): 254–7.

Books

Creswell JW. *Research design: Qualitative, quantitative, and mixed methods approaches.* 3rd ed. Thousand Oaks (CA): Sage; 2009.

Harvey BJ, Lang ES, Frank JR, editors. *The research guide: a primer for residents, other health care trainees, and practitioners*. Ottawa: Royal College of Physicians and Surgeons of Canada; 2011.

Norman GR, Eva KW. *Quantitative methods*. ASME Monograph. Edinburgh (UK): Association for the Study of Medical Education; 2008.

Springer K. *Educational research: a contextual approach*. Hoboken (NJ): John Wiley & Sons; 2010.

Book chapters

Steinert Y. Developing medical educators: a journey, not a destination. In: Swanwick T, editor. *Understanding medical education: evidence, theory and practice*. Oxford (UK): Wiley-Blackwell /Association for the Study of Medical Education; 2010.p. 403–18.

Steinert Y, Snell L. Educational innovation and scholarship: from curriculum design to implementation. In: Sherbino J, Frank JR, editors. *Educational design*. Ottawa (ON): Royal College of Physicians and Surgeons of Canada; 2011. p. 81–6.

Courses and workshops

Completion of a workshop or course on education scholarship may be valuable. Possibilities include:

- the Scholarship and Innovation in Medical Education (SIME) workshop provided by the Canadian Association for Medical Education (CAME) (www.came-acem.ca/)
- a conference workshop/course
- a national specialty society workshop/course
- a university faculty development course
- a graduate course in research methods

Completion of a workshop or course on ethics may be valuable. Possibilities include:

- an institutional workshop/course
- the Interagency Advisory Panel on Research Ethics Course on Research Ethics (CORE) (www.pre.ethics.gc.ca/eng/education/tutorial-didacticiel/)

Medical education journals

Academic Medicine <http://journals.lww.com/academicmedicine/pages/default.aspx>

Advances in Health Sciences Education www.springerlink.com/content/1382-4996

American Educational Research Journal www.aera.net/Publications/Journals/iAmericanEducationalResearchJournal/tabid/12607/Default.aspx

BMC Medical Education www.biomedcentral.com/bmcmededuc/

The Clinical Teacher [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1743-498X](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1743-498X)

Journal of Graduate Medical Education <http://www.jgme.org/>

Journal of the International Association of Medical Science Educators (JIAMSE) www.iamse.org/jiamse/index.htm

<i>Journal of the Learning Sciences</i>	www.tandf.co.uk/journals/authors/hlnsauth.asp
<i>Journal of Surgical Education</i>	www.cursur.org/
<i>Medical Education</i>	http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-2923
<i>Medical Education Online</i>	http://med-ed-online.net/index.php/meo/index
<i>Medical Teacher</i>	www.medicalteacher.org/MEDTEACH_wip/pages/home.htm
<i>Teaching and Learning in Medicine</i>	www.informaworld.com/smpp/title~content=t775648180~db=all

Online resources

Caelleigh A. Writing an abstract. 2008 July 22. Available from: www.library.vcu.edu/blog/tmlnews/handouts/Abstracts-July08.pdf.

Canadian Association for Medical Education (CAME) Advancing Educational Scholarship Working Group. Advancing educational scholarship for clinical faculty across the Canadian academic health science centres: issues and recommendations. A position paper. (Forthcoming.)

Canadian Association of University Teachers. CAUT Teaching Dossier. Ottawa: CAUT; 2007. Available from: www.caut.ca/uploads/teaching_dossier_en.pdf.

6. Learning activities

Formal

No formal learning activities are required. However, the courses and workshops listed under Suggested Resources are recommended.

Applied

1. Design an education scholarship project that includes a:
 - research question and/or project purpose
 - description of opportunities for collaboration
 - list of key articles
 - description of the theoretical foundation(s) and conceptual framework(s) that inform the question
 - description of the study and/or project design
 - description of the methodology (quantitative, qualitative, or mixed) and/or framework used to guide decision-making
 - description of the requirements for ethics approval from a relevant, institutional ethics review committee or board
 - description of the methods for data collection
 - description of potential funding sources
 - description of opportunities for dissemination
 - draft abstract

2. Prepare a standard curriculum vitae that outlines the candidate's scholarly contributions.
3. Submit a written or multimedia report describing how education scholarship aligns with the candidate's teaching and/or education leadership role(s).

7. Assessment

Formative

During this unit the candidates should meet regularly with their unit advisor (a minimum of six 30 minute meetings or equivalent) to:

- discuss and receive feedback on their understanding of key ideas in education leadership
- check their progress in achieving the learning objectives of this unit
- monitor progress in their scholarly project

Documentation of these interactions and their outcomes is required (through the Final Unit Report).

Summative

Candidates should submit e-documentation of the following via their electronic portfolio:

1. A design for an education scholarship project
2. A standard current curriculum vitae that emphasizes the candidate's scholarly contributions
3. A reflective report (academic essay or multimedia report) describing how education scholarship aligns with the candidate's teaching and/or educational leadership role(s)
4. Final Unit Report: a narrative report from the unit advisor using the prescribed template indicating that the candidate has successfully completed the unit

8. Criteria for a unit advisor

Education qualifications: an educationalist (doctoral degree with or without clinical experience) or a clinician with a graduate degree (e.g., minimum master's degree) in education or research

Experience: recognized experience in planning, managing, and undertaking successful scholarly projects in medical education

The CE AFC program must assess the appropriateness of the proposed unit advisor and submit the relevant certificate.

9. Unit designation

Selective

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