



---

# DIGITAL SCHOLARS PROGRAM

---

## Blogging & the Scholarship of Teaching

Developed by: **Dr. Teresa Chan (McMaster University)**  
Dr. Alia Dharamsi (University of Toronto)

Digital media has become the next frontier in medical education, and has grown exponentially over the past few years as new technologies in knowledge translation become available. Recently, a study of 226 Emergency Medicine residents demonstrated that 98% of those interviewed used some form of social media for learning, including blogs, podcasts, vodcasts, Twitter, and Google Hangouts (Scott, 2014; Purdy, 2015). Additionally, a study done in the USA showed that Emergency Medicine residents prefer listening to podcasts (70%), over reading textbooks (54.3%), for their learning (Mallin, 2014).

The idea of “asynchronous education”—that learners can use recent patient encounters or prompts to guide their supplemental reading and learning—is garnering more and more attention.

Asynchronous education allows a variety of modalities of teaching, including peer-to-peer learning, which are student-centered, and shown to be not only preferred by learners, but also more effective (Mallin, 2014). Although new to the medical education world, asynchronous education has been adopted into other educational sectors to great success. The Khan Academy is arguably one of the

**“these technologies are providing residents with resources to personalize their clinical learning, and achieve mastery on their own time...”**

most successful models of using digital technologies to advance personalized education, in the model of the “flipped classroom”. As described by Prober et. al. (2014), the flipped classroom employs digital technologies to allow students to watch vodcasts (online videos) on their own time, as many times as needed to achieve mastery, then utilize classroom time to apply said learning.

To that effect, these technologies are providing residents with resources to personalize their clinical learning, and achieve mastery on their own time, can create a flipped-classroom type experience on the wards and in the Emergency Department, as with the guidance of clinician teachers they would be able to apply their knowledge to patient care. (Prober, 2013)

### **Overall Mandate of the Digital Scholars Program**

The Digital Scholars program is meant to provide residents with practical experiences in creating online teaching and learning materials, under the supervision of experts in the field. The intention is to create savvy consumers, but also experienced contributors to the online teaching and learning environment. Moreover, we intend to ensure that our Digital Scholars understand how to integrate medical education evidence and theory into their methods, thereby being able to propel the field of online medical education further through their scholarly and/or research projects.

## This Block | Introduction to Blogging

During this block, the learner should aim to gain an overall understanding of designing online using written/visual website media. They will also explore the fundamentals of curriculum design, gaining an understanding of the challenges of adapting a traditional curriculum design framework (Kern, 2010) to the online teaching and learning environment.

Specific objectives for this block are detailed in the next pages.

During this block, the learner will be expected to accomplish the following deliverables:

- 1) Three blog-based submissions created and submitted to a prominent online educational platform (e.g. The Winnower, [ALiEM.com](http://ALiEM.com) or [CanadiEM.org](http://CanadiEM.org)). Preferably these items will be submitted to a site that utilizes some sort of open or internal peer review process.
- 2) Completion of the following reading list and the creation of an annotated bibliography for all the mandatory readings. It is suggested that the resident read 3-5 papers per week in order to accomplish this reading list. For each paper the resident will complete a short narrative summary about the paper including 3 things: 1) Citation; 2) Summary of the paper; 3) Relevance to digital teaching & learning or more specifically medical education blogging

### Mandatory Readings:

1. Boyer, E. L. (1991). The scholarship of teaching from: Scholarship reconsidered: Priorities of the professoriate. *College Teaching*, 39(1), 11-13.
2. 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):877-80.\*\*
3. Design Thinking for Educators Toolkit. Accessible at: <http://www.designthinkingforeducators.com/toolkit/>
4. Glassick CE. Reconsidering scholarship. *J Public Health Manag Pract*. 2000;6(1):4-9.\*\*
5. Cadogan M, Thoma B, Chan TM, et al. Emerg Med J Published Online First: [ 04 September 2014] doi:10.1136/emered-2013-203502.
6. Sherbino J, Frank JR, editors. *Educational design: a CanMEDS guide for the health professions*. Ottawa: Royal College of Physicians and Surgeons; 2011.\*
7. Prober CG, Khan S. "Medical Education Reimagined." *Academic Medicine* 88.10 (2013): 1407-410. Web.
8. Mallin M, Schlein S, Doctor S, Stroud S, Dawson M, Fix M. "A Survey of the Current Utilization of Asynchronous Education Among Emergency Medicine Residents in the United States." *Academic Medicine* 89.4 (2014): 598-601. Web.
9. Mann K. Theoretical perspectives in medical education: past experience and future perspectives. *Med Educ*. 2011; 45:60-68.\*
10. Purdy E, Thoma B, Bednarczyk J, Migneault D, Sherbino J. The use of free online educational resources by Canadian emergency medicine residents and program directors. *Can J Emerg Med* 2015. (In press)
11. Scott KR, Hsu CH, Johnson NJ, Mamtani M, Conlon LW, DeRoos FJ (2014). Integration of social media in emergency medicine residency curriculum. *Annals of emergency medicine*, 64(4), 396-404.
12. Thoma B, Chan TM, Desouza N, Lin M. (2013). Implementing peer review at an emergency medicine blog: bridging the gap between educators and clinical experts. *CJEM*, 16, 21-24.

13. Cook DA. Where are we with Web-based learning in medical education? *Med Teach*. 2006;28(7): 594–8.\*
14. Sidalak D, Purdy E, Lockett-Gatopoulos S, Murray H, Thoma B, Chan TM. Coached Peer Review: Developing the Next Generation of Authors. *Academic medicine: journal of the Association of American Medical Colleges*. 2016 May.

### Optional Readings

15. Issa, N., Schuller, M., Santacaterina, S., Shapiro, M., Wang, E., Mayer, R. E., & DaRosa, D. A. (2011). Applying multimedia design principles enhances learning in medical education. *Medical education*, 45(8), 818-826.
16. Issa, N., Mayer, R. E., Schuller, M., Wang, E., Shapiro, M. B., & DaRosa, D. A. (2013). Teaching for understanding in medical classrooms using multimedia design principles. *Medical education*, 47(4), 388-396.
17. Norman GR. The adult learner: a mythical species. *Acad Med*. 1999;74(8):886–9.\*
18. Parboosingh J, Campbell C, et al. on behalf of the Scholar Lifelong Learning working group. Pursuing excellence in practice: a CanMEDS Scholar program on lifelong learning. Ottawa: The Royal College of Physicians and Surgeons of Canada; 2008.\*
19. Harden RM. AMEE Guide No. 21: Curriculum mapping: a tool for transparent and authentic teaching and learning. *Med Teach*. 2001;23(2):123–6.\*
20. Bandiera G, Lee S, Tiberius R. Creating effective learning in today’s emergency departments: how accomplished teachers get it done. *Acad Emerg Med*. 2005;45(3):253–61.\*
21. Vaughn LM, Baker RC. Do different pairings of teaching styles and learning styles make a difference? Preceptor and resident perceptions. *Teach Learn Med*. 2008;20(3):239–47.\*
22. Chan TM, Thoma B, Lin M. Creating, Curating, and Sharing Lessons in Online Professional Development: The Medical Education in Cases Series experience. *Academic Medicine*. Accepted on July 3, 2014. (In press)
23. Chan TM, Thoma B & Lin M (Editors). (2014). *Medical Education in Cases: Volume 1 (1st Edition)*. San Francisco, CA; Academic Life in Emergency Medicine. ISBN: 978-0-9907948-0-6.
24. Paas F, Renkl A, Sweller J. Cognitive Load Theory: Instructional implications of the Interaction between information structures and Cognitive Architecture. *Instructional Science*. 2004. 32: 1-8.\*

NB: All starred (\*) items are readings that are also found within the Clinician Educator diploma in one of their four core modules.

### 3) **Reflective portfolio.** 8 entries in total detailing each stage of the development of the materials

1. Autoethnographic observations (3 journal entries) about the clinical educational experience pre-, during, and post-shift usage of online educational resources or other technologies.
2. Weekly entry about their progress during this block and/or their weekly readings. (4 entries). The resident may discuss either the readings or their progress at the weekly meeting with their preceptor, and is expected to submit a reflective piece on the materials not discussed verbally.
3. Final audit of accomplished objectives & reflective entry on the overall experience (to be put in the resident section of the ITER) (1 entry)

# Blogging & the Scholarship of Teaching

## Proposed Objectives

Medical Expert	<ol style="list-style-type: none"> <li>1. Select a specific area to develop content expertise and develop an online mini-curriculum to meet the needs of learners in the online environment.</li> <li>2. Audit existing online materials and determine gaps in materials within the open digital learning environment (e.g. FOAM resources).</li> <li>3. Incorporate primary literature, secondary resources (e.g. textbooks), and guidelines to develop materials that are approachable for learners.</li> <li>4. Complete at least 6 shifts. The resident should reflect upon usage of technology before, during, and after shifts.</li> </ol>
Scholar	<ol style="list-style-type: none"> <li>1. Define various forms of scholarship (Boyer's framework) and quality markers of scholarship (Glassick's framework).</li> <li>2. List the elements of Kern's 6 steps of curricular design.</li> <li>3. Critically appraise primary and secondary literature for inclusion into review documents.</li> <li>4. Review pertinent medical education literature as suggested by instructors for direct application in generating digital scholarly works (e.g. blog pieces, podcasts).</li> <li>5. Apply relevant medical education concepts and literature to create robust learning aides and teaching materials.</li> <li>6. Explore avenues for academic scholarship via creation of written text (e.g. case presentation, blog post) or visual media (e.g. infographics)</li> <li>7. Engage in the pre-publication peer review process as an author via a site that has been established process for such submissions ALiEM.com or CanadiEM.org with expert peer reviewers.</li> </ol>
Communicator	<ol style="list-style-type: none"> <li>1. Synthesize and solidify understanding of selected topic of focus by creating resources designed for medical students and junior residents</li> <li>2. Engage in active dissemination of academic scholarship (i.e. online publication of resources), and in doing so gain experience using various social media platforms as teaching modalities</li> </ol>
Professional	<ol style="list-style-type: none"> <li>1. Utilize clinical experiences to prompt and precipitate targeted self-directed learning.</li> <li>2. Engage in guided self-reflection with instructors.</li> <li>3. Apply concepts of reflective practice to writing and knowledge translation skills.</li> </ol>

## Sample Timeline

Each resident will create their own timeline. The following is an example of a possible timeline.

Week 1	<p><b>ED Shifts:</b> The learner will engage in self observation and reflection to determine an area of clinical care in which they would like to develop online blog-based educational resources. To do so, he/she should observe the usage of scholarly resources before, during and after shifts for both THEMSELVES and others around them (e.g. learners, attendings, nurses, etc..)</p> <p><b>Auto-ethnography:</b> Journal during and after 3 shifts to document how he/she uses point-of-care in the ED for their topic of interest, as well as which resources are commonly used by his/herself and peers for clinical decisions and post-shift learning.</p> <p><b>Clinically-oriented Objectives Development:</b> Develop questions and cases based on real presentations to ED</p> <p><b>Education Reading:</b> Gain an understanding of the steps of curriculum development (Read through Kern or the section in the Royal College Educational Design guide). Read papers by both Boyer and Glassick.</p> <p><b>Needs assessment:</b> The resident will complete some sort of general or specific needs assessment to determine needs of audience</p> <p><b>Complete Educational readings (3 papers)</b></p>
Week 2	<p><b>Literature Search &amp; Background Research:</b> Reviewing, gathering, appraising key resources</p> <p><b>Evaluate results of needs assessment</b></p> <p><b>Critical appraisal:</b> The learner will review all of the gathered resources available on approaches to selected topics.</p> <p><b>Complete Educational readings (3 papers)</b></p>
Week 3	<p><b>Planning, Designing, Initial Draft of learning/teaching tools.</b></p> <p><b>Complete Educational readings (3 papers)</b></p>
Week 4	<p><b>Submission</b> to or complete the Peer Review process by submitting the pieces to an online platform that is approved by the preceptor.</p> <p><b>Complete Educational readings (3 papers)</b></p> <p><b>Complete a reflection of the overall experience and submit this to preceptors</b></p>

## Anticipated Deliverables

Digital Scholarship Pieces **Mini curriculum:**  
 Three pieces of digital scholarship ("blog" or website-based) on the topics of their choice:  
 1. <FIRST TOPIC>  
 2. <SECOND TOPIC>  
 3. <THIRD TOPIC>  
 Please note, these topics may just be 3 subtopics within the same domain (e.g. An approach to ECG's may require more than one blog post to cover.)

Demonstration of Reflective Scholarly Practice **End of Block Reflection**  
**Exit Interview with instructors**

NB: Preceptor will utilize all of the above to generate an end-of-rotation report (ITER) for the resident's file.

## References

Cadogan M, Thoma B, Chan TM, et al. Emerg Med J Published Online First: [ 04 September 2014] doi:10.1136/emered-2013-203502.

Kern DE, Thomas PA, & Hughes MT (Eds.). (2010). Curriculum development for medical education: a six-step approach. JHU Press.

Mallin M, Schlein S, Doctor S, Stroud S, Dawson M, Fix M. "A Survey of the Current Utilization of Asynchronous Education Among Emergency Medicine Residents in the United States." *Academic Medicine* 89.4 (2014): 598-601. Web.

Prober CG, Khan S. "Medical Education Reimagined." *Academic Medicine* 88.10 (2013): 1407-410. Web.

Purdy E, Thoma B, Bednarczyk J, Migneault D, Sherbino J. The use of free online educational resources by Canadian emergency medicine residents and program directors. *Can J Emerg Med* 2015. (In press)

Scott KR, Hsu CH, Johnson NJ, Mamtani M, Conlon LW, DeRoos FJ (2014). Integration of social media in emergency medicine residency curriculum. *Annals of emergency medicine*, 64(4), 396-404.

Sherbino J. (2011). Educational design: a CanMEDS guide for the health professions. Royal College of Physicians and Surgeons of Canada.

Thoma B, Chan TM, Desouza N, Lin M. (2013). Implementing peer review at an emergency medicine blog: bridging the gap between educators and clinical experts. *CJEM*, 16, 21-24.