

## 1. Introduction

This unit focuses on the concepts and theoretical framework that the Clinician Educator (CE) will need in order to apply theory to their practice as a clinician educator and to implement the activities learned in other units. As well, it will equip the CE with the practical skills needed to perform an education consultation and to reflect on and plan for his or her own learning. This unit will also provide the CE with an orientation to the content and process of the full diploma program.

## 2. Prerequisite units

- None

This unit must be started first in the diploma program, although it may be taken simultaneously with other units. Candidates are not required to submit portfolio entries for this unit until all of the other units have been completed. However, the on-line module Foundations: Part 1 must be completed *before* any other units are started.

## 3. CE competencies addressed in this unit

A CE must be able to:

1. Explain and compare key theories and principles of medical education
2. Develop a plan for life-long learning in medical education
3. Perform an effective education consultation
4. Participate in a community of practice

## 4. Learning objectives

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

### 1. Demonstrate comprehension of key education theories, principles, and concepts, by

- describing and differentiating at least three education theoretical frameworks, e.g., constructivism, behaviourism, social constructivism, situated learning; development of expertise; development of competence
- outlining the applications to health professions education of the following concepts: adult learning “principles,” competency-based education, problem/task-based learning, community

of practice, workplace learning, interprofessional education, societal responsiveness, reflective practice, and learner-centeredness

- describing the importance to medical education of the following: accreditation, student selection and admission, the education continuum, life-long learning, education innovation

## **2. Demonstrate proficiency in education consultation, by**

- performing an effective education consultation, including identifying the education problem, gathering appropriate data, making an education “diagnosis” and making recommendations, and when appropriate being involved in the education intervention or management of the education problem

## **3. Demonstrate a commitment to professional development, by**

- reflecting on and planning for ongoing learning in education, based on the candidate’s needs
- developing a philosophy of teaching and learning based on a theoretical framework
- identifying strategies to supplement or enhance the self assessment of learning needs

## **4. Demonstrate involvement with a community of practice, by**

- identifying a group of interested individuals and engaging in a dialogue or activities related to mutual education interests

## **5. Suggested resources**

### **Education theories, principles, and concepts**

Dornan T, Mann K, Scherpbier A, Spencer J, editors. *Medical education: theory and practice*. Edinburgh (UK): Churchill Livingstone / Elsevier; 2010.

Mann K. Theoretical perspectives in medical education: past experience and future perspectives. *Med Educ*. 2011; 45:60-68.

Issues in Cognitive Psychology: Implications for professional education. Regehr G, Normal GR. *Acad Med* 1996;71:988-1001

Kaufman DM, Mann KV, PhD. Teaching and Learning in Medical Education: How Theory can Inform Practice. (ASME) Association for the Study of Medical Education, editor. Edinburgh, UK; 2006.

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.

Vygotsky LS. *Mind in Society*. Harvard University Press. 1978.

Brown JS, Collins A, Duguid. Situated Cognition and the Culture of Learning. *Educational Researcher*. 1989. January-February. 32-42.

Lave J, Wenger E. 1991. *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press.

Mezirow J. *Learning as Transformation*. San Francisco, CA: Jossey-Bass Publishers. 2000.

## **Adult learning principles**

Knowles MS. *The adult learner: a neglected species*. 4th ed. Houston (TX): Gulf Publishing; 1990.

Knowles S, Holton E, Swanson R. *The adult learner: the definitive classic in adult education and human resource development*. 5<sup>th</sup> edition. Houston: Gulf Publishing. 1998.

Norman GR. The adult learner: a mythical species. *Acad Med*. 1999;74(8):886–9.

## **Development of expertise, competence**

Ericsson KA. Deliberate practice and acquisition of expert performance: a general overview. *Acad Emerg Med*. 2008 Nov;15(11):988-94. doi: 10.1111/j.1553-2712.2008.00227.x.

Reznick RK, MacRae H. Teaching surgical skills--changes in the wind. *N Engl J Med*. 2006 Dec 21;355(25):2664-9.

Dunphy BC, Williamson SL. In pursuit of expertise. Toward an educational model for expertise development. *Adv Health Sci Educ Theory Pract*. 2004;9(2):107-27.

McGaghie W, Issenberg S, Cohen E, Barsuk J, Wayne D. Medical education featuring mastery learning with deliberate practice can lead to better health for individuals and populations. *Acad Med*. 2011 Nov;86(11):e8-9.

## **Competency-based education**

Carraccio C, Wolfsthal SD, Englander R, Ferentz K, Martin C. Shifting paradigms: from Flexner to competencies. *Acad Med*. 2002;77(5):361–7.

Frank JR, Snell LS, Cate OT, Holmboe ES, Carraccio C, Swing SR, et al. Competency-based medical education: theory to practice. *Med Teach*. 2010;32(8):638–45.

Holmboe E, Snell L. Principles of Competency-Based Education: Better Preparing Residents for Practice. In *Creating and Redesigning Curricula – a CanMEDS Guide for Clinical Education*. Eds Sherbino J & Frank J. RCPSC, Ottawa, 2011.

Hodges BD, Lingard L, editors. *The question of competence: reconsidering medical education in the twenty-first century*. Ithaca (NY): Cornell University Press; 2012.

Albanese MA, et al. Defining characteristics of educational competencies. *Med Ed*. 2008;42;248-255.

Albanese M, Mejicano G, Gruppen L. 'Competency-based medical education: A defense against the four horseman of the medical education apocalypse'. *Acad Med*. 2008; 83(12):1132-1139.

Medical education and the tyranny of competence. Brooks MA. *Perspect Biol Med*. 2009;52:90-102.

## **Problem/task-based learning**

Colliver J. Effectiveness of problem-based learning curricula: research and theory. *Academic Medicine* 2000; 75.3: 259-266.

Barrows H. Problem-based learning in medicine and beyond: A brief overview. *New Directions for Teaching and Learning*. 68:3–12, Winter 1996

### **Workplace learning**

Alice Y. Kolb and David A. Kolb. *Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education*. Academy of Management Learning & Education, 2005, 4(2)Jun:193-212

### **Interprofessional education**

Hammick M et al. Interprofessional education. BEME Guide no. 9 2007, Vol. 29, No. 8 , Pages 735-751 doi:10.1080/01421590701682576)

### **Community of practice**

Sherbino J, Snell L, Dath D, Dojeiji S, Abbott C, Frank JR. A national clinician-educator program: a model of an effective community of practice. *Med Educ Online*. 2010; Dec 6;15.

Wenger E, McDermott R, Snyder W. Communities of practice and their value to organizations. In: *Cultivating communities of practice*. Boston: Harvard Business School Press; 2002. p. 1–47.

Wenger E. *Communities of Practice: Learning, meaning and identity*. Cambridge University Press. 1998.

Cox M, Richlin L. *Building Faculty Learning Communities: New Directions for Teaching and Learning*, No. 97. 2004.

### **Societal responsiveness**

Cruess SR, Johnston S, Cruess RL. Professionalism for medicine: opportunities and obligations. *Iowa Orthop J*. 2004;24:9-14.

### **Reflective practice**

Schon DA. *Educating the reflective practitioner: toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass; 1987.

Schon D . *The Reflective Practitioner: How Professionals Think in Practice*. New York: Basic Books. 1983.

Eva K, Regehr G. Self-assessment in the health professions: a reformulation and research agenda. *Acad. Medicine*.2005; 80(10 Suppl):S46-54.

Mann K. et al. Reflection and reflective practice in health professions education: A systematic review. *Adv in Health Sci Educ*. 2007.

### **Learner-centeredness**

Barr RB, Tagg J.. From teaching to learning: A new paradigm for undergraduate education. *Change* 1995November-December: 13-25.

### **Accreditation**

*medical school:*

<http://www.lcme.org/>

<http://www.afmc.ca/accreditation-cacms-e.php>

residency:

<http://www.royalcollege.ca/portal/page/portal/rc/credentials/accreditation>

CPD:

<http://www.afmc.ca/accreditation-cacme-e.php>

### **Student selection and admission**

Eva KW, Reiter HI, Rosenfeld J, Trinh K, Wood TJ, Normal GR. Association between a medical school admission process using the multiple mini-interview and national licensing examination scores. *JAMA*. 2012;308(21):2233–40.

Young M, Razack S et al. Calling for a broader conceptualization of diversity: surface and deep diversity in four Canadian medical schools. *Acad Med*. 2012 Nov;87(11):1501-10. doi: 10.1097/ACM.0b013e31826daf74.

### **Life-long learning**

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.

### **Self Assessment**

White CB, Gruppen LD, PhD. Self-Assessment and Self-Regulated Learning. Association for the Study of Medical Education, editor. Edinburgh, UK.

### **Education innovation**

Steinert Y, Snell L. From Curriculum Design to Implementation: Educational Innovation and Scholarship. In *Creating and Redesigning Curricula – a CanMEDS Guide for Clinical Education*. Eds Sherbino J & Frank J. RCPSC, Ottawa, 2011.

### **Online resources**

DR-ED: An electronic discussion group for medical educators (Michigan State University, Office of Medical Education Research and Development) <http://omerad.msu.edu/dr-ed/index.html>

ICE Net - International Clinician Educators Network <http://www.royalcollege.ca/portal/page/portal/rc/resources/ice>

KeyLIME: Key Literature in Medical Education <http://www.royalcollege.ca/portal/page/portal/rc/canmeds/keylime>

## 6. Learning activities

### Formal

The candidate must:

- complete the online module Foundations: Part 1
- complete the supplied education scenarios and discuss their underlying theories and concepts with the unit supervisor

### Applied

The candidate must:

- attend a medical education conference and reflect on what has been learned and how it applies to CE practice and to his or her own learning
- become involved in a community of practice, e.g., by identifying a group of interested individuals and engaging with them in a dialogue or activities related to mutual education interests
- perform a CE consultation and obtain feedback on it

## 7. Assessment

### Formative

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

- discuss the completed supplied education scenarios
- discuss and receive feedback on their understanding of key ideas in education leadership
- check their progress in achieving the learning objectives of this unit

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:

- confirmation of completion of the on-line module Foundations: Part 1
- completed answers for the education scenarios
- a brief essay, of the type that could be included in a teaching dossier, describing the candidate's philosophy of teaching and learning. This does not need to be referenced in a typical academic manner; however, major theories or frameworks should be identified.
- documentation of attendance at a medical education conference (or other equivalent meeting or activity) with personal reflections (essay or multimedia report) on what was learned
- completion of a personal learning plan (using the provided template) that will fill a gap or need in an area not covered by the other units
- a written or multimedia report documenting a completed CE consultation, including feedback on the effectiveness of the consult
- a written or multimedia report of participation in a community of practice

- a 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: formal training or recognized expertise in education

Experience: experience in providing education consultations

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

## 9. Unit designation

Core

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