

THE ART AND SCIENCE OF ADULT LEARNING IN CARDIOLOGY

Mohammad Hafizullah

Department of Cardiology, Lady Reading Hospital & Khyber Medical University Peshawar - Pakistan

Address for Correspondence:

Dr.Mohammad Hafizullah,

Professor,

Department of Cardiology, Lady Reading Hospital &

Vice Chancellor,

Khyber Medical University, Peshawar-Pakistan

Email: mhu5555@gmail.com

This article may be cited as: Hafizullah M. The art and science of adult learning in cardiology. Pak Heart J 2014;47(4): 165-8.

Medical science continues to grow and transform very rapidly. It is the solemn duty of all health professionals towards patients and their families and junior and senior colleagues to continue to learn. It is professional obligation of all doctors to become self-directed learners from the start of their career and continue refining their knowledge. The transition from medical colleges and post graduate programs where the curriculum is well circumscribed to professional life where one has to define one's goals of learning and achieve them is like to be thrown in deep sea of wilderness and uncertainty. This critical transition has to be smooth and a strategy has to be evolved to make it mandatory and easy for all professionals exiting postgraduate training programs.^{1,2}

As one approaches the end of postgraduate cardiology training, mostly fellowship, it is humbling to recognize that one possesses only a fraction of current knowledge and then to further realize the fluidity of known facts to be either proven wrong or rendered impertinent in a few years.³ One realizes the gaps in knowledge in acquiring latest information and training in mastering necessary skills. To fill these gaps and to remain up to date it becomes imperative to embark upon the journey of self-directed learning. One has to learn to identify one's own goals, select resource material, learn and then imbibe from the well of knowledge. The need to become self-directed adult learners has never been more apparent than in the current scenario.^{4,5}

Every health professional in general but cardiologist in particular must recognize the need to become a self-directed learner, independently research the subject and fit it into daily practice. Although many models exist to explain adult learning, the best known of these efforts is andragogy meaning "the art and science of helping adults learn", which was described by Malcolm Knowles and is based upon the 6 following assumptions:^{6,7}

1. As a person matures, his or her "self-concept" moves from that of a dependent personality toward one of a self-directing human being.

2. An adult accumulates a growing reservoir of experience, which is a rich resource for learning.
3. The readiness of an adult to learn is closely related to the developmental tasks of his or her social role.
4. There is a change in time perspective as people mature, from future application of knowledge to immediacy of application.
5. The most potent motivations are internal rather than external.
6. Adults need to know why they need to learn something.

These principles may be best considered as prescriptive statements for what adult learning should look like. Knowles recognized that within this framework, the essential factor remains self-directed learning, in which individuals take the initiative to recognize their learning needs, formulate learning goals, identify resources for learning, select and implement appropriate learning strategies, and evaluate outcomes. Unfortunately, the traditional medical school curriculum, by and large, does not adequately promote self-directed learning, so health practitioners are often left to make this transition independently.^{8,9} Here we attempt to draw an outline of different avenues to self-directed learning and how to approach and adopt them.

A professional has to learn to plan one's path of learning. Early in the career one has to take responsibility for one's learning. To profess to know all at the end of a fellowship is preposterous. In the journey that follows postgraduate training there are no regular class room lectures and no defined curriculum. Therefore everyone has to assume the responsibility of what, how and where to learn. One has to recognize one's professional and educational needs and develop regular habits to promote learning.¹⁰⁻¹²

The importance of learning apparently non-related subjects has been realized recently. One must develop a broader base by studying various types of literature to develop empathy, nurture love and understand human psychology. This helps developing a well-versed personality. This enhances one's understanding of philosophy and realities of life and helps one to become a better cardiologist.^{1,13,14}

In quest of knowledge the basic principle is to learn to ask question and of course seek answers. The key to the door of knowledge and research lies in asking questions. One has to learn the art and science of formulating a good question, which usually starts with a comprehensive literature search. Having developed a question one has to have a plan and the ingredients of enthusiasm, persistence and patience to hunt for the answer. This requires reflection, discussion, literature search and experimentation. With advancing age and accumulation of experience the fervor to ask question should never be allowed to wane or die down.^{1,15-17}

Every professional one has an obligation to develop a strategy to keep abreast with latest development in the field. This holds true for ever dynamic field of Cardiology. One has to take learn the latest guidelines to incorporate it in clinical practice to offer evidence based services. One has to go through specialty and general journals to be at the cutting edge. The challenge remains how to reign in the available resources and keep up to date.^{1,18,19}

“What could have I done different and how could I have done better?” one should ask oneself after every challenging or puzzling case. Critical reflection is essential in learning and practicing especially in the field of Cardiology. One has to inculcate the habit of asking one self questions. Reflection opens new doors of wisdom and teaches new lessons -to be applied in the future in similar scenarios.^{12,19}

Wearing hat of 'Mr-know-it-all' takes a physician to the path of self-destruction and is the biggest obstruction to feedback and further learning. One must develop an attitude of humility and be open to confessing of not knowing all. Cardiology has never been black and white, there are lots of grey shades and one learns to recognize these shades. By learning more one can solve the mysteries and ambiguities of one's chosen specialty.^{1,3,12,19}

A professional is never shy of asking help while facing an enigmatic situation. Confronted with a clinical challenge

one shall knock at every door. One must ask opinion of seniors and attempt to learn from colleagues. All recommendation should be weighed with logic and common sense. Considered as a blessing by the beginners, peer learning remains an important route for learning skills and solving problems.^{1,5,20,21}

As a professional one is humbled to recognize that one understands only a miniscule part of what is known with painful realization of half of it being wrong or out of date in ensuing few years. This underlies the importance of adopting self-directed learning-setting one's goals, mastering the art of asking questioning, persisting in reflection and pursuing research.

REFERENCES

1. Daily JA, Landis BJ. The journey to becoming an adult learner from dependent to self-directed learning. *J Am Coll Cardiol* 2014;64:2066-8.
2. Murad MH, Varkey P. Self-directed learning in health professions education. *Ann Acad Med Singapore* 2008;37:580-90.
3. Smith R. Thoughts for new medical students at a new medical school. *BMJ* 2003;327:1430-3.
4. Brydges R, Dubrowski A, Regehr G. A new concept of unsupervised learning: directed self-guided learning in the health professions. *Acad Med* 2010;85:S49-55.
5. Murdoch-Eaton D, Sandars J. Reflection: moving from a mandatory ritual to meaningful professional development. *Arch Dis Child* 2014;99:279-83.
6. Knowles MS. *The modern practice of adult education: from pedagogy to andragogy*. New York: Cambridge;1980.
7. Knowles MS. *Andragogy in action: applying modern principles of adult learning*. San Francisco, CA: Jossey-Bass; 1984.
8. Bennett EE, Blanchard RD, Hinchey KT. Applying Knowles' andragogy to resident teaching. *Acad Med* 2012;87:129.
9. Harden RM. International medical education and future direction: a global perspective. *Acad Med* 2006;81:S22-9.
10. Anderson LW, Krathwohl DR, Airasian PW. *A taxonomy for learning, teaching, and assessing: a revision of bloom's taxonomy of educational objectives*. White Plains, NY: Longman; 2001.
11. Jafarey NA. Andragogy [corrected] how adults learn. *J Pak Med Assoc* 2005;55:114-6. Erratum in: *J Pak Med Assoc* 2005;55:268.
12. Behar-Horenstein LS, Schneider-Mitchell G, Graff R. Promoting the teaching of critical thinking skills through faculty development. *J Dent Educ* 2009;73:665-75.
13. Pardell-Alentá H. Adult learning, professional autonomy and individual commitment. *Rev Neurol* 2008;46:225-9.
14. Misch DA. Andragogy and medical education: are medical students internally motivated to learn? *Adv Health Sci Educ Theory Pract* 2002;7:153-60.
15. Premkumar K, Pahwa P, Banerjee A, Baptiste K, Bhatt H, Lim HJ. Does medical training promote or deter self-directed learning? A longitudinal mixed-methods study. *Acad Med* 2013;88:1754-64.
16. Wautier JL, Vileyn F. Andragogy: reality or utopy. *Transfus Clin Biol* 2004;11:169-72.
17. Sousa DA. *How the brain learns*. 4th ed. Thousand Oaks, CA: Sage; 2011.
18. Mazmanian PE, Davis DA. Continuing medical education and the physician as a learner: guide to the evidence. *JAMA* 2002;288:1057-60.
19. Mann K, Gordon J, MacLeod A. Reflection and reflective practice in health professions education: a systematic review. *Adv Health Sci Educ Theory Pract* 2009;14:595-621.

20. Frenk J, Chen L, Bhutta ZA, Cohen J, Crisp N, Evans T, et al. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet* 2012;376:1923-58.
21. Horton R. A new epoch for health professionals' education. *Lancet* 2010;376:1875-7.
22. O'Connell MT, Pascoe JM. Undergraduate medical education for the 21st century: leadership and teamwork. *Fam Med* 2004;36:S51-6.