

# “Learner-centeredness Scale”

Self-assessment takes approximately 3 minutes or less. **Be sure to indicate what best describes your current *actual* teaching practices (and not what you think you *should* be doing).**

## 1. How often can the following statements describe your behavior?

a. I ask learners what they would like to get out of our interactions

0	1	2	3	4
Never	Rarely	Sometimes	Frequently	Always

b. I change a learning plan based on a learner’s needs.

0	1	2	3	4
Never	Rarely	Sometimes	Frequently	Always

c. I work with my learners to establish mutually agreed-upon goals, objectives, and ground rules.

0	1	2	3	4
Never	Rarely	Sometimes	Frequently	Always

## 2. How often can the following statements during educational encounters describe your behavior?

a. In precepting or one-on-one teaching encounters, I assess and focus on the learner’s needs rather than my own agenda.

0	1	2	3	4
Never	Rarely	Sometimes	Frequently	Always

b. I consider the needs and interest of my intended audience before preparing a lecture or presentation.

0	1	2	3	4
Never	Rarely	Sometimes	Frequently	Always

c. I make an effort to organize lectures and presentations in a way, which will maintain interest.

0	1	2	3	4
Never	Rarely	Sometimes	Frequently	Always

**The Learner-centeredness Scale:** Menachery EP, Wright SM, Howell EE, Knight AM: Physician-teacher characteristics associated with learner-centered teaching skills. *Medical Teacher* 2008;e137-e144.

**Scoring:** Range is from 0 -24 with a median of 18. “Low” scorers < 18. “High” scorers > 18. Scores correlated to teaching behaviors that were reflective of principles of adult learning.

### **For the interested reader:**

- 1) Srinivasan M, Li ST, Meyers FJ, et. al.: “Teaching as a Competency”: Competencies for medical educators. *Acad Med* 2011;86:1211-20.
- 2) Kaufman DF: Applying educational theory in practice. *BMJ* 2003;326:213-6.
- 3) Spencer JA, Jordan RK: Learner centered approaches in medical education. *BMJ* 1999;318:1280-3.
- 4) Knowles M, Swanson RA, Holton EFIII: *The Adult Learner: The definitive classic in adult education and human resource development.* 7<sup>th</sup> Edition. 2011. Elsevier Inc. (ISBN-13: 978-1-85-617811-2)

# Applying Knowles' Andragogy to Resident Teaching

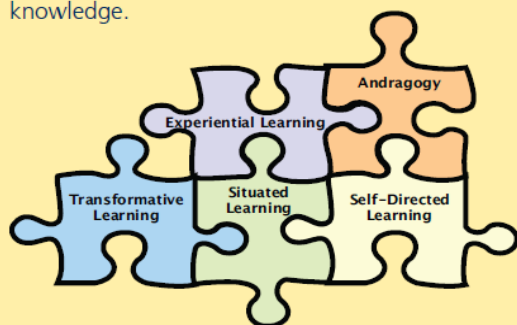
Elisabeth E. Bennett, PhD, director, Education Research and Development, Rebecca D. Blanchard, PhD, assistant professor, Education Research, and Kevin T. Hinchey, MD, program director, Internal Medicine Residency Program, Baystate Medical Center

Developing teaching skills in residents is a critical component of medical education because residents spend up to 20% of their time teaching junior learners.<sup>1</sup> They often rely on the traditional pedagogical approaches that they observed during their years of formal schooling, but these often do not translate well with their adult learners.

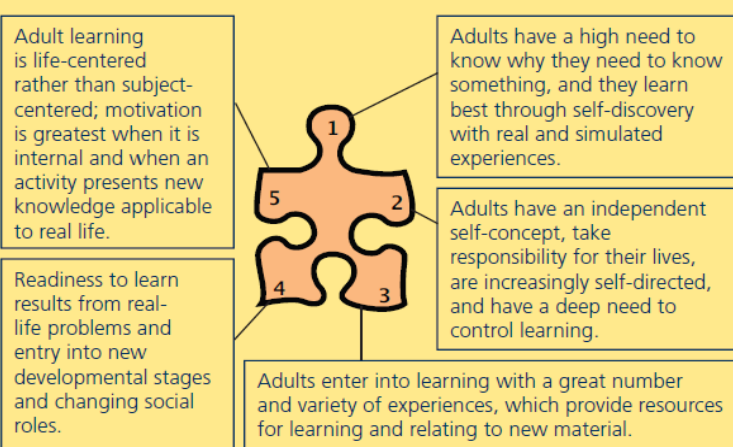
One way to develop residents' teaching skills is to frame teaching goals from the perspective of andragogy, or the "the art and science of helping adults learn."<sup>2</sup> (p61) Andragogy, popularized by Malcolm Knowles,<sup>3</sup> offers principles that describe how adults learn differently than children. These principles can help residents improve their teaching, place more control of the learning process into the hands of their students, and provide insight into their own learning processes.

## Adult Learning Theory

Adult learning theory is a complex phenomenon. Andragogy is one set of foundational principles, one model within a field of interconnected learning models, that address how adults acquire knowledge.








## Malcolm Knowles' Five Tenets of Andragogy<sup>2</sup>



## Guiding Residents to Incorporate Andragogy

The table below demonstrates some teaching goals developed in line with Knowles' tenets of andragogy that residents can apply to junior learners and adult patients. Many of the teaching methods described below encourage *self-assessment*, the process of evaluating one's knowledge and understanding, and *self-reflection*, the process of making meaning from learning experiences. Both concepts engage learners and motivate them to take control of their own learning, which will more quickly lead to ownership of learning and promote autonomy.

Resident Teaching Goals by Andragogical Tenet	Teaching Methods
 <p>Encourage continual knowledge development through planning, feedback, and assessment of experiential and applied learning</p>	Assess the learners' needs at the outset and their outcomes after teaching
	Develop specific goals and objectives for the learners, consistent with what they need to learn
	Foster a climate of learner inquiry and accept formative feedback from learners to retool teaching
	Provide constructive feedback that encourages accurate self-assessment and self-reflection
 <p>Facilitate autonomy by increasing degrees of learner control and promoting a peer relationship</p>	Engage learners and motivate autonomy in a relationship of respect
	Activate learning by seeking learners' input
	Ask learners to articulate their ideas, thereby fostering learner confidence
 <p>Adapt teaching to learner needs and effectively bridge prior knowledge and new learning objectives</p>	Adjust teaching to different contexts, cultures, and levels of prior knowledge
	Lead large- and small-group discussions, customized to learning needs
	Establish rapport with learners and use examples familiar to them
 <p>Adjust teaching to individual and collective levels of life development and understand what contributes to a positive climate for change</p>	Evaluate evidence of learning to determine readiness for new roles
	Be a positive role model, recognizing that people adapt in different ways
	Provide supervision and advocacy appropriate to learner level
 <p>Teach most relevant and immediately applicable content to solve real clinical problems</p>	Summarize teaching into take-home points of most relevant information
	Use case examples and involve multidisciplinary instructors
	Capitalize on "teachable moments"

### References

1. Hatem CJ. Teaching approaches that reflect and promote professionalism. *Acad Med.* 2003;78:709-713.
2. Knowles MS, Holton EF, Swanson RA. *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development.* 6th ed. Boston, Mass: Elsevier; 2005.
3. Knowles MS. *Andragogy in Action: Applying Modern Principles of Adult Education.* San Francisco, Calif: Jossey Bass; 1984.

---

# Making Your Conferences A Learning (*Not Teaching*) Experience Planner: Promoting Principles of Adult Learning

while integrating the "Neurobiology of Learning" with "What Clinical Teachers in Medicine Need to Know" & "Active Learning Strategies Primer"\*  
(Revised December 5, 2013 – Lawrence Loo, MD)

---

Date \_\_\_\_\_ Hospital \_\_\_\_\_

Name of Attending Physician Coordinator (**please print**): \_\_\_\_\_

Name of Senior Resident/Fellow Physician Co-Cordinator (**please print**): \_\_\_\_\_

**A) Major Target Audience:** \_\_\_\_ Senior Residents \_\_\_\_ Interns \_\_\_\_ Medical Students

**B) Learning Goals & Objectives** (*What are the most important points you would like learners to remember?*):

(1) (Senior Residents) \_\_\_\_\_

\_\_\_\_\_

(2) (Interns) \_\_\_\_\_

\_\_\_\_\_

(3) (Medical Students) \_\_\_\_\_

\_\_\_\_\_

**C) Interactive Process** (*How will you actively engage your audience to help facilitate learning? – Please SEE BACK for some "active" suggestions*):

(1) (Senior Residents) \_\_\_\_\_

\_\_\_\_\_

(2) (Interns) \_\_\_\_\_

\_\_\_\_\_

(3) (Medical Students) \_\_\_\_\_

\_\_\_\_\_

**D) Audiovisual Aids** (e.g. patient present, EKGs & X-rays present to review, handouts, slides, etc.) to **Promote multimedia, multimodal & multisensory convergent strategies of learning**

\_\_\_\_\_

\_\_\_\_\_

**F) Learning Climate** (*Does the learner want to be there? Does the learner feel safe to identify & address their own limitations?*) \_\_\_\_\_

\_\_\_\_\_

- Friedlander MJ, Andrews L, Armstrong EG, et al.: **What Can Medical Educators Learn from the Neurobiology of Learning?** *Academic Medicine* April 2011;86:415-20.
- Irby DM: **What clinical teachers in medicine need to know.** *Academic Medicine* May 1994;69:333-342.
- Roberts DH, Newman LR, Schwartzstein RM: **Twelve tips for facilitating Millennials' learning.** *Med Teach* 2012;34:274-278.

<p><b>Knowledge Probe</b></p> <ul style="list-style-type: none"> <li>• Posing questions at the start of a lecture is a good way to stimulate thinking about the content you will cover for the day, it primes the mind to apply concepts. Prepare 2-3 short-answer questions or 5 multiple-choice questions from the lecture content. Have the students work in pairs or individually to answer the questions, have them save their answers. The questions can be readdressed in a mid-lecture or end-of lecture activity (case that applies the concepts), to help students see how their knowledge &amp; understanding has increased.</li> </ul>
<p><b>Think-Pair-Share</b></p> <ul style="list-style-type: none"> <li>• Pose a question/problem. Students spend 1-2 minutes thinking about the problem alone then discuss problem in pairs. Pairs are asked to report to the entire class. Works well in large and small classroom settings at any time during the class. Effective way to involve learners, especially those apprehensive about speaking up in class. Provides instructor with feedback on what learners have/ have not grasped.</li> </ul>
<p><b>Pause and Clarify</b></p> <ul style="list-style-type: none"> <li>• Ask learners to discuss idea with neighbor. Pause lecture for 2 minutes while learners chat with neighbors about their respective understanding of key or difficult conceptual content. Aim is for each student to clarify their own understanding by comparing their perspective with that of their partner. Works best when teacher asks question requiring application of understanding, rather than simply recall of information.</li> </ul>
<p><b>Quick Think</b></p> <ul style="list-style-type: none"> <li>• Every 15 minutes or so insert a “quick think” exercise to increase attention, interest, and learning. Participation options vary: students can record their responses individually and then explain their answers to a neighbor, they can verbally generate an answer with a neighbor, or they can be asked to silently think about a possible response. Provide feedback so that students can hear or share correct or possible answers. Some examples include: Select the best answer, correct the error, complete a sentence starter, compare or contrast, support a statement, re-order the steps, reach a conclusion, paraphrase the idea.</li> </ul>
<p><b>Mini-Case</b></p> <ul style="list-style-type: none"> <li>• Begin the lecture with a realistic case involving the concepts that will be discussed that day. Include a brief question that requires the application of key concepts. Students will each work on the question then report their answers when called upon. Mini-cases are more effective when students are presented the case beforehand (in notes, at the end of previous session or as pre-class material).</li> </ul>
<p><b>Socratic Questioning</b></p> <ul style="list-style-type: none"> <li>• Query students in manner that helps them uncover answers. Ask learners about thought process, probe assumptions, and ask for evidence. Can be used in large and small classes, but learning climate guidelines must be established: respect all around; non-judgmental attitudes.</li> </ul>
<p><b>Minute Writes</b></p> <ul style="list-style-type: none"> <li>• Pose a question about a course concept; ask learners to write a response in 1-2 minutes. Collect responses &amp; without revealing names, share sample responses &amp; give feedback. Works in large or small settings; effective technique for determining learner progress – understanding course material, reaction to course material.</li> </ul>
<p><b>Muddiest Point</b></p> <ul style="list-style-type: none"> <li>• As with “Minute Writes,” students are given a couple of minutes to write the “muddiest point” or most confusing concept to understand. Can provide clarification in real time or through email/online discussion.</li> </ul>
<p><b>Critical Thinking Activity</b></p> <ul style="list-style-type: none"> <li>• Provide a small group breakout session designed around a thought provoking question/case that concerns the material just presented and/or builds upon concepts presented in previous lectures. After breakout, select a student from a group to respond to the question or task. Then ask others to participate by adding to the case. Finish session by providing a summary</li> </ul>
<p><b>Jigsaw Learning Activity</b></p> <ul style="list-style-type: none"> <li>• Jigsaw learning requires that students become experts in a subject area and then teach that topic to peers who have become experts in other topics. Steps: 1) divide class into small groups of 4 to 6 students. 2) Assign each group a subject area to learn. 3) Rearrange groups so that there is 1 expert in each group. Experts reciprocally teach their peers.</li> </ul>