

Medical Education as Adult Learning

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Objectives

- ▶ At the end of this program, participants should be able to:
 - 1. Describe the key features of adult learning theory (ALT)
 - 2. Apply ALT to common difficulties in medical education
 - 3. Critically discuss the virtues and vices of ALT

Med Ed as AL - Overview

- ▶ I. Educational cases
- ▶ II. What is “adult learning”?
- ▶ III. Pros and cons about AL
- ▶ IV. Discussion – AL as a “grid” for “diagnosing” your course’s ills

Med Ed as AL: Cases

- ▶ Case 1 – freshman biochem
- ▶ You are the newbie Biochemistry course director for a class of 200 first-year medical students at a highly competitive, scientifically-distinguished medical school. Student evaluations have revealed a pattern of complaints about the course being “boring” and Professors X, Y, and Z being “disorganized” and that the students can’t tell what is “relevant”. What to do?

Med Ed as AL: Cases

- ▶ Case 2: Facilitator in small group teaching
 - You are a facilitator (leader) of a small group teaching experience. The preclinical course is a new one, “Introduction to Clinical Genius”. Your students’ mid-term evals reveal these typical and frequent responses regarding small group:
 - ▶ “Dr. X is really nice but she gets sucked in by the gunners.”
 - ▶ “Dr. X does too much talking.”
 - ▶ “Our discussions are interesting but I often don’t know where this is going.”

Med Ed as AL: Cases

▶ Case 3: Ward attending

- Attending for a team of three students (plus resident) at **Zale-Parkland Veteran's & Children's Hospital**, you have noted how different the students are as people:
 - ▶ **Suze**: After a ten-year stint as a middle-school teacher, Suze is older, married, serious, and focused on a pediatrics career.
 - ▶ **Mark**: A Rice graduate in biophysics, Mark is restless, energetic, "hands on", easily bored, and totally on top of his patients and responsibilities.
 - ▶ **Elena**: A transfer from UTMB Galveston, Elena is shy, thoughtful, socially aware, planning to return to the Rio Grande Valley to practice in a specialty she hasn't yet decided upon.

Med Ed as AL: Cases

- ▶ Going back to **Case 1**, ideas about how one might **address the students' criticisms** of the Biochemistry course?
- ▶ Going back to **Case 2**, ideas about how to **respond to the mid-term evaluation comments**?
- ▶ Going back to **Case 3**, ideas about how Dr. Attending might **tailor his/her teaching approach** for each student?

What is “adult learning”?

- ▶ “Andragogy”: the art & science of adult education
- ▶ Coined by Malcolm Knowles in early 1970’s, revised/rethought over the years to present
- ▶ Basic premise is that adults as students pose distinctively different challenges to educators and education.

What is “adult learning”?

- ▶ The “Six Commandments” of AL (Knowles 1998):
 - ▶ 1. The need to know
 - ▶ 2. The learner’s self-concept
 - ▶ 3. The role of learners’ experiences
 - ▶ 4. Readiness to learn
 - ▶ 5. Orientation to learning
 - ▶ 6. Motivation

What is “adult learning”?

- ▶ 1. Adult learners **need to know** why they should learn a particular task, set of facts, method, or skill.
 - What is the benefit of this learning?
 - Differentiated from the (relatively inflexible) roster of basic learning perpetrated by elementary and secondary education
 - Oft-cited in the teaching of basic science to medical students

What is “adult learning”?

- ▶ 2. Adult learners have developed, with maturity, a **self-concept** which represents a shift from dependence on others to self-reliance and independent thinking and action.
 - Adult learners can view didactic teaching as patronizing and mind-numbing – don’t go to class.
 - Often are unwilling to comply with requirements that are peripheral to learning objectives
 - Expectation of adult learners is an engagement with the material

What is “adult learning”?

- ▶ 3. Adults approach learning with a **broad array of experiences** which they inevitably apply to their learning situation.
 - Educators find that different adults respond to the same material in different, even unexpected, ways.
 - ▶ “Different strokes for different folks”
 - Adults may resist ideas or material which contradicts their life experiences, or, conversely, feel that they ‘know’ the material already.

What is “adult learning”?

- ▶ 4. Adults are **ready to learn** when they can apply their learning to real-life situations along a developmental trajectory.
 - In medical educational settings, transitions from college to medical school, pre-clinical to clinical years, and clinical years to residency are driving forces for new learning.
 - ▶ For instance, transitions marked by wearing cargo jeans and t-shirts to professional wear and white coats.
 - ▶ Most receptive when teaching centers on current challenges, as in clerkship ward teaching.

What is “adult learning”?

- ▶ 5. Adult learners approach education from an **orientation of immediate application**, as opposed to future application in the case of primary, secondary, and even college education students.
 - Adult learners have difficulty taking the “long view” of their education
 - ▶ “What’s going to be on the exam?” more important, because more proximal, than “How will this make me a better MD?”
 - ▶ Nature of medical education (arduous, sustained, intense) makes it particularly difficult for adult learners.

What is “adult learning”?

- ▶ 6. Adults are more motivated by **internal factors** than external ones.
 - Internal factors: job satisfaction, interest in subject, quality of life, humanistic reward
 - External factors: promotions, higher pay, job stability
 - Obviously adults motivated by both internal and external factors; but balance with adults favors internal factors

What is “adult learning”?

► Adult learning “styles”

- How different adults learn differently
- Tremendously diverse area in educational research – various measures/theories
- Deserves its own treatment in the Effective Teacher series
- Following slides introduce some of the measures and dimensions
- Useful URLs to this material at end of lecture

Your Personal Learning Style

Directions: People have different ways of learning. To determine your learning style, read the four columns and check the response that best suits you. Although you may have a combination of all three learning styles, you will find you have one primary learning style.

When you . . .	Visual	Auditory	Kinesthetic
Come across a new word, do you	See the word aloud? _____	Say the word? _____	Write the word down? _____
See someone from your past, do you	Remember the face, but not the name? _____	Remember the name, but not the face? _____	Remember what you did together? _____
Are trying to learn about computers, do you	Read the pictures and diagrams? _____	Listen to what others told you? _____	Need the hands-on experience? _____
Are describing something to others, do you	Use words like see, imagine, or picture this? _____	Use words like hear or think? _____	Use words like feel, touch, or hold? _____
Are trying to concentrate, do you	Need a clean area? _____	Need a quiet area? _____	Need the absence of activity around you? _____

SOURCE: www.hcc.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/adult

The VARK Questionnaire – English Version (version 3)

How Do I Learn Best?

This questionnaire aims to find out something about your preferences for the way you work with information. You will have a preferred learning style and one part of that learning style is your preference for the intake and output of ideas and information.

Choose the answer which best explains your preference and circle the letter next to it. Please circle more than one if a single answer does not match your perception.

Leave blank any question which does not apply, but try to give an answer for at least 10 of the 13 questions

When you have completed the questionnaire, use the marking guide to find your score for each of the categories, Visual, Aural, Read/Write and Kinesthetic. Then, to calculate your preference, use the Scoring sheet (available in the “advice to teachers” section of the VARK web site).

1. You are about to give directions to a person who is standing with you. She is staying in a hotel in town and wants to visit your house later. She has a rental car. I would:
 - a. draw a map on paper
 - b. tell her the directions
 - c. write down the directions (without a map)
 - d. collect her from the hotel in my car

Pros & Cons of AL

► Cons:

- Unclear what andragogy is: theory? set of assumptions? philosophy? (Misch 2002)
- Empirical support lacking for key assumptions and guidelines (Norman 1999)
- Distinctions between andragogy and pedagogy may not be valid
 - E.g. between internal and external motivation, or
 - AL prescribes good educational practices for all
- AL idealizes certain personality traits rather than characterizes adult learning in its diversity

Pros & Cons of AL

► Pros:

- Over thirty years educator experience in a variety of adult educational settings
- Strict dichotomies between andragogy and pedagogy and other tenets have softened in response to data and experience
- While empirical testing not extensive on particular tenets of AL, programs/approaches based upon AL have been extensively tested (e.g., Baveye 1996, Slotnick 1999)

Discussion/appraisal

- ▶ AL can be misinterpreted as a set of dicta rather than fluid principles applied in collaboration with the adult learner
 - As in the difference between soliciting medical students' views about curriculum content vs. having students dictate curriculum content

Discussion/appraisal

- ▶ The common thread is educator's appraisal of the adult learner's needs – needs may be in content (subject matter) or in educational presentation or format (method).
 - In medical education, an old saw of AL is the use of case material to engage the learner in a dialogue about meaningful content
 - Student input about method of instruction was useful at UTSW several years ago when Pathology moved to an online image format

Discussion/appraisal

- ▶ AL can be used as a troubleshooting “grid” to think through and “diagnose” rough spots in coursework/teaching:
 - For Case 1, “freshman biochem” concerns about course being disorganized, boring, or irrelevant can be addressed by asking AL-driven questions like:
 - ▶ How might I more closely link my material to (a) physician role (b) the exam?
 - ▶ How might course materials and resources better support the independent, self-reliant student?

Discussion/appraisal

- ▶ AL as troubleshooting grid
 - For Case 2 (small group facilitator) comments were made about domineering students and domineering facilitators as well as lack of direction.
 - ▶ Peripheral students can be drawn out by asking them to “draw on their own experiences.”
 - ▶ “Readiness to learn” can be stimulated by referring small group tasks to upcoming challenges in future courses or clerkship

Discussion/appraisal

- ▶ AL as troubleshooting grid
 - Case 3 (ward attending) has students with markedly different interest levels and aptitudes
 - ▶ Assess their relative internal/external motivational status – some students are motivated more by externals like grades, while others are motivated more by internals like relationship with a role-modeling attending.
 - ▶ Ask the students how they have learned best on prior clerkships (playing to self-concept & experience).

Questions/Comments

► Selected references:

- Baveye P: Approaches to the stimulation of autodidactic competence in university settings: Learning contracts and tutorials, In: Long HB, et al (eds) Current Developments in Self-directed Learning. Norman, OK: College of Education, OU, 1996: 157-75.
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- <http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/adults-3.htm>
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