

MEDICAL EDUCATION

Adult Learning Principles and its Application

Nighat Huda

ABSTRACT:

Andragogy, a Greek word refers to adult learning. In late 1960s Malcom Knowles work in adult education spread in North America. Knowles hypothesized a set of assumptions on the characteristics of adult learners. The assumptions are that: adults are independent and self-directed learners, bring rich experience to the educational setting, enter educational settings with readiness to learn, adults are problem-centered in their learning, and best motivated by internal factors. Further research on andragogy led to reform in all forms of adult education including health profession education and distance learning.

Key words: andragogy, pedagogy, assumptions, self-directed learning, problem-based learning.

INTRODUCTION:

Globally, the perception and understanding of 'andragogy' varies for different people. Andragogy, is a Greek word that refers to man learning while pedagogy (Greek word as well) to child-learning derived from.^{1,2} In 1833, a German school teacher Alexander Kapp used the word 'andragogy' referring to education at the man's age.² The later part of the twentieth century witnessed development in andragogy that has led to reform in all forms of adult education including health profession education and distance learning. In the late 1960s, in North America, Malcom Knowles, first began work in adult education.^{2,3} Knowles work emphasized that teachers' priority should be students' interest while planning instructional activities with supportive learning resources as mature students' desire learning to be relevant to their future practice with guided interactions based on mutual respect.^{2,3,4} This was in contrast to traditional role of teachers as 'knowledge providers' who provided knowledge according to their belief of importance.

Although Knowles did not claim to have research evidence, he hypothesized a set of assumptions on the characteristics of adult learners which included that: adults are independent and self-directed learners, adult learners bring rich experience to the educational setting, adults enter educational settings with readiness to learn, adults are problem-centered in their learning, and best motivated by internal factors.^{3,4} These assumptions have become educators' guidelines for content development and adapt to best teaching learning and assessment practices.

First, adult learners assume responsibility of their own learning in a supportive and encouraging environment.

As one matures, self-directed learning takes precedent over teacher dependent learning. Knowles describes self-directed learning (SDL) as a process in which individuals

take control of their own learning that is, from setting goals, to seeking different resources, implementing a plan to achieve goals and evaluate the learning experiences without the help from others^{3,4}. Mature learners will get more out of the experience if they work autonomously in contrast to younger learners who need more guidance through the learning process.

In seventies, the initiation of Problem-based learning (PBL) at McMaster University in its new medical program is considered a major development on increased relevance of medical curricula and student-centered learning. In small PBL groups, students' activate prior knowledge on carefully designed problems, derive learning goals and through independent study find answers and build new knowledge on existing knowledge. The facilitator role is that of an active listener who guides mostly through thought provoking questions. The PBL process allows students to use problem solving techniques, self-directed learning strategies, team participation skills, and disciplinary knowledge⁶⁻¹⁰. Traditionally, students have been 'spoon fed' with knowledge through lectures and notes. The challenge remains for teachers to create learning experiences that offer minimal teacher-directed instruction.

In addition to PBL, medical schools worldwide have adapted learning activities such as simulated learning, practicing skills in skills laboratory, e-learning, self-study or group assignments that involve minimal instructors' intervention¹⁵. Similarly, small group discussion rooms, learning resource center with digital library, internet facilities, skills laboratory, and multi-discipline laboratory take precedent over classical lecture halls, library or discipline based practical sessions in laboratory. In clinical training, patients' are extremely important learning resource. A follow up discussion on patient cases with active students' participation is more meaningful and beneficial to students in real practice settings. Clinical educators' responsibility should be to direct students toward further research on patient interaction, examination, investigations or treatment.^{11,12,14} Adult learners have an urge to find out what they can perform with proficiency or what requires more practice and similarly with knowledge acquisition as well. Constructive feedback integrated into the learning process will help

✉ Ms. Nighat Huda

Joint Director Department of Medical Education

Bahria University Medical and Dental College

Karachi

E-mail: nighathuda@gmail.com

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students to become responsible for improvement of their own learning^{11,12,13}.

One assumption is on the fact that adult learners have accumulated a wealth of life experiences with a wider knowledge base and if utilized can become an increasing resource for learning^{2,4,8}. In other words, students are not 'blank slates' when they enter professional education and their previous experiences if attached with new ideas and skills will strengthen learning. Moreover, adult learners have an urge to share what they have learned and can provide examples that may benefit the class. Adults associate experience to self-identity and may see it as a rejection of them if experience is not utilized in a training experience.^{2,5}

Prior to formal learning activities, a survey will help determine adult learners' knowledge limitations, and their education levels. Students' existing knowledge and past life experiences, will enable teachers to create stimulating and engaging learning.^{8,9} For medical students, training in actual settings, case discussions, ward rounds are few examples where individual learners will be able to share the information, solve problems, reflect and apply clinical reasoning process¹². Such experiences will help students toward deeper and permanent learning. Students mostly adapt to superficial learning or rote learning when they fail to build new knowledge on their previous experiences. Thirdly, adult learners demonstrate an eagerness to learn and further expand knowledge and develop skills in the chosen profession or topic of interest. Adult learners are goal-oriented as they recognize the value of new knowledge for future career.^{2,5,8} Moreover, adults are inclined towards application of new knowledge and skills that have immediate application in contrast to child learning who accept that the knowledge acquired may not be of immediate use. Therefore, teachers can motivate adult learners with relevant course, module and meaningful learning activity, or assessment¹⁴. Knowles assumed that learners needed to feel a necessity to learn and that identifying one's own learning needs was an essential part of self-directed learning.^{4,5}

Fourthly, adults' prefer task or problem orientation to that of subject centerdness. Medical students will find the subject matter interesting if the emphasis is on the relevance that an adult learner will regularly encounter in real life context.^{2,5,13} Medical educators' have integrated meaningful and engaging activities that excite students who can see the relationship with common health issues and practices.^{12,15} For example, case studies, patients' in real settings presenting problems with diarrhea or dental cavities will motivate students to clarify concepts, learn with understanding to solve problems, practice necessary skills on patients with enthusiasm and develop team working and communication skills. Another likely example could be a community survey to find out health

seeking behavior of a defined population and interventions that can improve quality of life. For motivating adult learners, it is important for educators to relate learning process with tasks in real practice situation, otherwise adults will not see any usefulness for acquiring the new knowledge or skills.^{9,10,11,15}

The fifth assumption focuses on the key role of motivation plays in adult learners who are influenced by both extrinsic and intrinsic motivators. Knowles publications emphasize that motivation to learn is internal for adults. Intrinsic motivators such as the need for recognition, self-esteem, achievement, and improved quality of life have much greater influence on adults in contrast to extrinsic motivators that focus on high salary, promotion, increments or bonuses attract adults^{2,8} Adults may not be motivated if forced to learn; however learning experiences built around the concept of intrinsic motivators will find adults response with enthusiasm to such learning activities. In traditional medical education, patients' exposure begins in third year and students find themselves confined to lecture halls and basic science practical sessions. In contrast, patient exposure has recently been introduced in first year to motivate students who can develop concepts and see the relationship to real life practice. Also, clinical experiences based on active learning where students repeatedly practice skills by themselves, and interact with patients that focus more on hands-on problem solving experiences benefit learners in actual practice settings^{11,13}. The onus lies on curriculum planners to design a curriculum that is relevant to students' needs, evolve active students' participation, encourage independent learning that help students' to reflect and assess their performance.

Together, these assumptions suggest that a change of mindset of academic leaders, faculty, and students is critical to implement adult learning principles. The foremost step will be to have a willing leadership along with a like-minded team of faculty who implement faculty development activities, and develop learning resources to enhance self-directed learning activities.

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