

The Interconnectedness of Learning: How Andragogy Can Improve the Online Learning Experience

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Abstract

Online learning has been prevalent for many years; it is a viable way to acquire new information for a substantial number of learners in the 21st century. The number of non-traditional students who take post-secondary courses is rather substantial. In order to help these learners, it is necessary to explore other avenues of presenting the subject material. By incorporating elements of andragogy in the online courses, educators and educational course designers would enable adult learners to have a richer, more fulfilling learning experience. In this paper, the author discusses the interconnectedness between andragogy and online learning.

Keywords

Andragogy, Online Learning, Interconnectedness

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1. Introduction

Given the widely-accepted and commonly-experienced pedagogical model of a teacher lecturing to students and pouring knowledge into their heads only for them to regurgitate it later on exams, it stands to reason that a different environment might cause anxiety for some learners. But learning in such a potentially uncomfortable and different environment doesn't have to be stressful. It is axiomatic that online education is not like on-ground or face-to-face learning. Such a statement seems perhaps overly simplistic and banal but it bears repeating for educators cannot teach in an online venue as they would in a traditional environment [1]. Similarly, students in an online course cannot learn and acquire information in the same manner as they might in an on-ground venue. Both groups need to make necessary adjustments so that the transition of learners from a traditional, comfortable pedagogical classroom to an andragogic, online environment in which learners take on a

greater role in their educational experience can occur.

Learners in the 21st century are highly diverse: young college students straight from high school, busy working adults, military personnel, and senior citizens [2]. According to [3], "a full 73 percent of students may be viewed as nontraditional." Thus, it behooves online educators to be mindful of the tenets of andragogy as they facilitate their courses. Given that a substantial component of online learners is not right out of high school, it is possible, by reviewing the tenets of andragogy, to gain insight into how best to teach this diverse group of learners. With the prevalence of an increase in online learning [4], it is necessary to discuss how andragogy belongs in the online world of education and how it can help improve the online learning experience.

2. Literature Review

Colloquially, educators may refer to andragogy as one type of

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theory for adult learning [5, 6, 7]. According to [8], andragogy might be more akin to a teaching theory rather than a learning theory. [9], however, described it as a "model of assumptions." As such, it is possible that the tenets of andragogy can be applied to all learners [10]. Admittedly, though, not all the tenets are equally applicable to newly-graduated high school students as they are to seasoned adults who have been in the workforce for 20 or more years. Yet, all of the tenets are important and can be incorporated into an online class.

In Knowles's foundational work [9], he mentioned the five principles of andragogy: (a) the concept of the learner being independent and self-managed, (b) the important role that learners' experiences play in the educational setting, (c) the readiness to learn in an andragogic environment, (d) the significance of real-world, applicable knowledge being vital to learners, and (e) the value of internal or external motivational forces on the learner [11] including the reasons the learner has for taking the course. Many years later, a sixth element was added: (f) "the need to know" [12]; learners want, and indeed need, to know what the relevancy is of the elements being taught [13].

3. Andragogy and Online Learning

3.1. Principles of Andragogy

Each of the six components will briefly be discussed here in turn. (a) Independent learner: Learners are independent people, responsible for themselves, who can self-manage their own knowledge acquisition. They want to be lead to information rather than spoon-fed the information. It is important that they determine how they learn the course information and in which order it will be acquired. (b) Learner experiences: For these learners, their numerous life experiences can and do help them with learning new information. With these experiences, learners can more easily relate new concepts to previously acquired ones. Their experiences will shape their learning. (c) Readiness: Are these learners prepared to embark on an andragogic experience? Given that many people are not accustomed to such an environment, it is important that they are ready to be challenged and step out of their comfort zone. Additionally, for whatever learning does occur, it is important that students know how to use that information now in their lives. (d) Real-world, applicable knowledge: Adult learners want to know how the course information will help them in their life and job. They want real-world, applicable (not theoretical, abstract knowledge) that they can use immediately. (e) Motivations: The motivation behind learners being in the

class could intrinsic, extrinsic, or somewhere in between [14, 15]. Regardless of where the motivation lies, it is what causes the learner to be in the class at that time. (f) "the need to know" [12]: Learners want to know why they need to know this information. Without a reason to explain why they need to know certain information, they will view the learning as meaningless. Thus, they want an answer to the question "Why is this information important to me?"

Regardless of whether an educational researcher or theorist has stated that andragogy is comprised of five or six tenets, it is undeniable that the principles are tightly (inextricably?) linked one with another. For example, if a person does not know why he or she needs to learn a particular topic, relevance and applicability are minimalized and motivation is decreased. Conversely, when students realize that because of their life experiences, they are empowered to learn, their motivation increases. Consider these three scenarios of interconnected ideas: (a) If a learner isn't guided adequately, it is conceivable that motivation would degree causing a breakdown in other areas. (b) When students get an answer to the question "how and why will this course material help me in my job or life?" motivation can increase. However, if a learner is not ready to learn for whatever reason, motivation is lacking. (c) If the learner is trying to grasp at an unfamiliar concept without a hook "on to which learners could place the new knowledge" [10, 16, 17], knowledge acquisition will be more challenging and the motivation will potentially decrease because of the need for additional "mental energy" [18]. In each of these situations, motivation is vital. As [19] found, for a person to be motivated, a high degree of meaningfulness must be present. The idea of meaningfulness will be discussed further in a later section of this paper.

In examining the six tenets of andragogy, it is possible to combine some of them without losing their importance. When a person believes that he or she is self-managed, can discover whatever is needed to accomplish a given task, ready to learn, and considers taking an online course in which some andragogic principles are present, an interconnected relationship of "assumptions" [9] is set into motion. These interrelated hypotheses are shown in Figure 1.

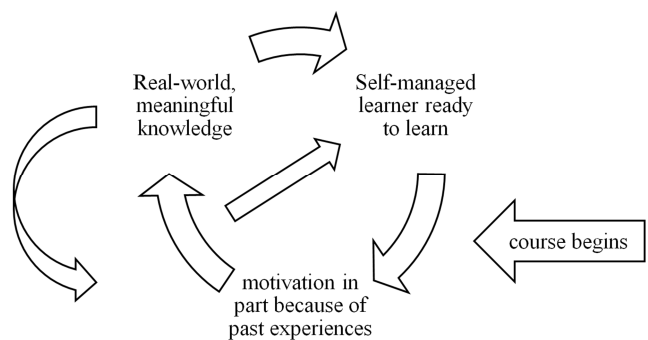


Figure 1. Interconnectedness of andragogic principles.

As the subject matter is presented, the learner is able to recall past experiences and can use those connections to make connections to the subject material as knowledge acquisition occurs. The connections help increase motivation. Additionally, such associations allow the subject matter to be meaningful to the learner. When real-world examples are given by the educator, two things take place. First, the learner develops ties with the subject material because he or she sees a real-world practicality with the material. Second, the student creates stronger ties to the subject matter because of past experiences. As these ties with the subject material strengthen, they help implicitly support and reinforce his or her initial belief in being a self-managed learner. The cycle continues until a new course topic is presented or the course ends.

As intricately woven as these tenets are, there is also somewhat of a hierarchy present similar to [20] Hierarchy of Needs (shown in Figure 2). The most basic component is that the learner believes he or she is able to find information when necessary and is ready to acquire knowledge. Little else

can be done if he or she is not ready to learn. When the learner realizes his or her preparedness and readiness, some degree of motivation--however small or great--is inherently present. The motivation could be either because of internal or external influences, or a combination of both. With readiness and motivation evident, the learner is set to start the online learning experience. In the online course, the adult student wants to understand the real-world applicability of the material because there is prior experience into which he or she wants to tap. Implicit in this statement and desire for applicability is the belief of the learner that he or she is an independent, capable learner who can be guided through a learning experience with a successful outcome. With meaningful information presented, the motivation of the learner can increase because he or she relates in some way to the new material. Such an experience leads to high engagement and meaningfulness. Motivation, real-world applicability, and meaningfulness for a continuous cycle; such a progression helps the adult learner in the online venue.

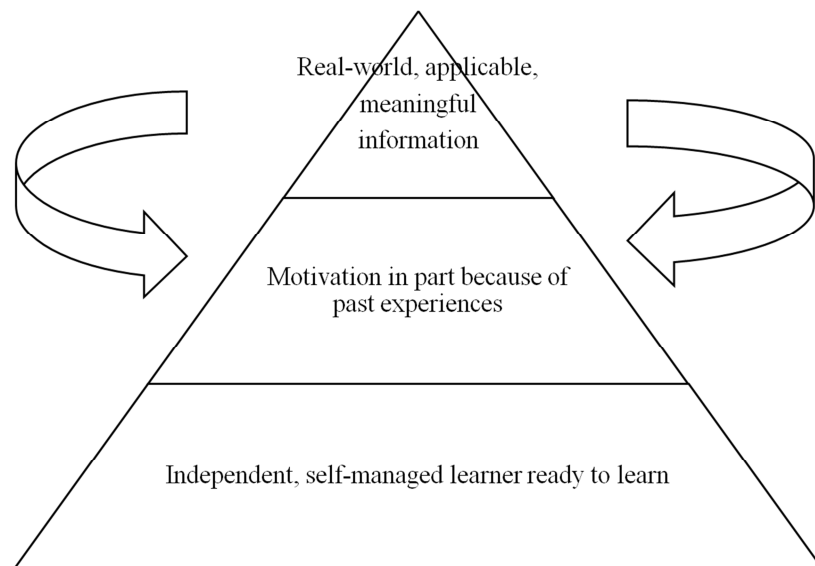


Figure 2. Pyramid of andragogic principles.

3.2. Incorporating Andragogic Principles in Online Learning

The environment of an andragogic course should be based on respect and trust. Learners need to feel supported by all course members. They also need to feel comfortable in the course environment [9]. The ideas of respect, trust, support, and comfort are--or should be--common to any educational setting--online or traditional. In an online environment, however, these feelings are perhaps more important than in a traditional environment as some students may not be as familiar with technology as they would like to be [21]; such unfamiliarity easily leads to increased stress and discomfort. An educator can show support by being professional at all time, by being available to answer questions in a very timely

manner, and by actively participate in forum discussions. He or she can provide extra time in the beginning of the course for learners to get used to the new technological tools.

Another important aspect of andragogy is camaraderie and the opportunity for collaboration. While group work might not be feasible in an online environment (for administrative and logistical reasons), the instructor can still relinquish some of his or her power in the course and create an environment in which peer camaraderie and collaboration exist. By allowing students to have more responsibility in the course and by requiring them to interact with and help one another, the educator will discover that he or she does not need to have all the answers all the time and does not need to be constantly in the spotlight [22]. Additionally, when

learners take a greater role in their learning by planning, delivering, and evaluating their knowledge--the heart of an andragogic environment--they experience "discovery learning" [11]. In an online environment, however, because of administrative and logistical reasons, it might not be possible or practical for facilitators to allow students full input in the various behind-the-scenes components of lesson creation. Yet, it is possible to give learners a greater role in their educational experience. Only with a discussion of each of the six principles of andragogy will it be possible to show how learners could take a greater role in their learning [11] and what educators could do to help learners in this environment.

1. Self-managed learner. From an initial perspective, it might seem that an instructor could not do much if a learner doesn't feel self-managed; however, such is not the case. Through examples, educators must reinforce the principle that the learners *are* able to manage their own learning and can accomplish a given task. Perhaps the issue at hand stems from a misunderstanding; perhaps the task could be broken-down or explained in a different way. Or, perhaps because of scheduling issues, learners do not feel as comfortable managing their time as they would like. If such is the case, the educator could offer some time management suggestions [23].

From a slightly larger perspective, self-efficacy and self-management do not require that a student learn in isolation [24]. "Being self-directed means knowing where to get the answer to a problem; sometimes, the answer—especially in a real-world context where interdependencies exist—is with a peer, a group of learners [25], or with the course facilitator [26]" [24]. Within the course environment, the educator could create a group environment comparable to a community of practice [27] in which students are able to discuss the course elements freely and without fear of instructor retribution or input. If creating such a group within the learning management system is not possible, learners could form their own private cohort via some sort of mutually agreed-upon technological tool.

Part of being a self-managed learner means planning one's own learning [11]. While it might not be feasible in an online course to have learners plan and execute their own learning [11] but within the confines of the course, two options exist. First, educators could ask learners about the areas in which they would like to explore further. Such a request would help the instructor modify the course content or add examples whenever possible to relate to topics proposed by students. Second, within the confines of an online course, it may very well be possible for learners to explore tangential topics or learn the subject matter via different avenues. When this researcher took a graduate-level statistics course, because he was the only student in the course, he used a combination of

YouTube videos and Khan Academy videos, along with course notes to learn the subject matter and to explore tangential topics in greater depth.

2. Experiences. While older adults might experience various types of decline [28] due to age, one area in which they excel is in an andragogic environment because they have more life experiences on which to draw than a 20-year old person. With these additional life experiences, learners can more easily relate new concepts to previously acquired ones. Thus, their experiences will shape their learning. According to [2], in an andragogic environment, it is important to have "self-directed, autonomous, independent, and self-reliant learners who [want] to build upon and integrate their accumulated experience into their current learning experience." These life experiences can also help learners shape their knowledge acquisition in online courses. By being able to direct their learning based on past experiences, learners get to discover their own learning paths and opportunities.

The challenge for some educators will be to find common connections about which all learners know. One way to "feed into" these experiences is to relate various course concepts to everyday occurrences. In a lower-level French course this author once taught, he explained a particular grammatical concept in relation to a cooking experience in which sauces reduce on open heat. Clearly, in a language course where learners don't have experience on which to draw, connecting a foreign topic like grammar to a common example of cooking is highly beneficial to create connections between the learners and the subject material. Similarly, in calculus, if an educator talks about the first, second or third derivative without relating it to a race car track and wanting to know how fast cars are going, accelerating, and the rate of increased acceleration, the students could very possibly be lost. Thus, if an educator takes a few minutes to think about his or her subject matter area and tries to relate it to something in everyday life, the subject matter will be more relatable.

3. Readiness. Educators need to remember that learners are enrolled in the class for a reason. The students are ready to learn because of some reason or need they have. It is important that educators use that readiness to their advantage as courses are designed and taught. One way that learner readiness can be beneficial to educators as they present the course is to keep the concept of relevancy in mind. Adult learners want and need to know how that information might be used *right now*. Abstract information, while potentially interesting, holds little value to adult learners. Additionally, it could be valuable to educators to know broadly why learners are in the course. A simple survey would suffice in which one question

would be asked: "Why are you taking the course at this time?"

4. Real-world applicability. Closely tied with readiness and the desire to know something is the real-world applicability. Not only do learners want to know what they could use now, but they also need the information to be applicable in the real-world. In this section, this researcher will present three different scenarios to demonstrate how the desire to know the practicality of the materials increases usefulness and further strengthens connections with learners.

Here is a fictitious scenario: Students are involved in a foreign language class in which they are learning question words. Nothing exciting exists with dull, fill-in-the-blank grammar exercises. Memorizing words like *où*, *pourquoi*, *pour*, *qué*, *dondé*, *wo*, or *warum* have little value to adult learners. However, if students are told that with these question words, they can now gather information about how to get to their favorite location and other personally valuable information, the subject matter become more practical and relevant to them. If learners were planning a trip abroad, then these words take on a heightened importance if participants are working together to find a restaurant or a bathroom.

In a different scenario, students are learning fractions and algebra. The concept of fractional relationships is rather abstract and thus not practical for adult learners. However, if the class is composed of teachers who need to convert a grade of 93 out of 150 to one out of 100, the subject becomes more personal and applicable in the real-world.

Finally, imagine this scenario: Students are in a first-semester online physics class learning various formulae such as $\tau = rF \sin \theta$ and $L = mrv \sin \theta$ (for torque and angular momentum respectively) [29]. While these formulae may be interesting, as presented, there is little practicality in the real world. If the online instructor realizes that many of his or her students are interested in diving [30], then the lesson takes on a practical, real-world applicability for the students. By understanding torque and angular momentum, learners are able to use this information as they work on perfecting their dives.

In designing meaningful, useful, practical activities for learners, educators need to have authentic learning activities as they provide "meaning beyond the learning environment" [31]. Likewise, it is important for educators to keep in mind what [32] wrote in his book, *What the best college teachers do*, "Who gives a damn?" Without understanding the real-world applicability of a concept, learners will potentially be lost and most certainly detached from the topic at hand [33, 34]. In each of these situations, it is through collaboration and discovery that the topics become personally meaningful and applicable outside of the course environment.

5. Motivation. As educators, we try to establish a relationship with our students. In a traditional environment, such a relationship is easier than an online venue as the senses of sight, touch, and smell are present. In an online environment, students are less visible and further away from the educator. In fact, sometimes educators do not see their students at all. Yet, it is possible to use learner motivation as a way to develop a personal relationship with the students and increase their engagement. In order to understand what motivates learners, educators must not make presumptions; they must ask them directly. The easiest way to accomplish this objective is with a short, open-ended survey in which one question is asked: What would motivate you to do well in this class? If one student is taking the course purely for enjoyment and another because he or she is forced to by an employer, each learner will interact with the subject matter in different ways.

Along with the aforementioned question, it is possible to ask a second, follow-up question: What would you like to learn in this course and why? This question could help the educator tailor the subject matter to the interests of the learners thereby making the material more relatable to them. When the educator can directly relate course concepts to learner interests, increased motivation will ensue. A direct benefit of increased motivation is the desire of each learner to take responsibility for his or her learning and explore new and different areas of the subject matter--what [11] termed "discovery learning."

6. Need to know or importance of info. In her 2008 paper, [35] presented the following scenario:

Every lecturer has had this experience at one time or another: You're explaining some especially intricate and fascinating aspect of your discipline when you see a hand shoot up in the back row.

"Yes?" you ask, eager to engage on a favorite topic with a bright, inquisitive mind. "Um, do we *have* to know this? Will it be on the test?"

Undoubtedly, many educators have been crestfallen when such a scenario happened to them. This situation is a good illustration of relevancy and why students often ask whether information is important. One way to be proactive and eliminate the "Do (or Why do) we 'need to know' [12] this information?" question is to present the new topic to learners in this manner: Here is what we will learn in the coming weeks; why do you think it is important? Though perhaps the time has passed for creating lessons using the Madeline Hunter model [36], the idea of an anticipatory set is useful in an andragogic online environment. Such a question helps learners in two ways. First, it allows them consciously to create a connection with prior learning [10]. Second, the question allows them to

find the value, practicality, and importance in the material. In short, this question helps learners discover why they are required to learn the material. By answering this question, too, educators are able to create meaningful connections to previous knowledge and real-world applications that could be used immediately. In turn motivation is increased. And, with increased motivation, the likelihood increases that learners will take a greater role in their learning.

4. Conclusion

A sure-fire way to kill excitement in a course is to present boring, abstract information that has seemingly no relevance to real-world applicability and to which learners cannot relate. In such an environment, an educator has undoubtedly "lost" the students; whatever motivating factors that existed for learners to take the class, have now been severely impaired. Most probably, students would begin to question their motives for taking the course and whether they should drop it. At that moment, the magic and enjoyment of the course is gone for everyone involved.

On the other hand, with some course preplanning, subject material modifications, and additional work on the part of the educator, it would be relatively easy to incorporate many principles of andragogy into an online learning venue. When an instructor can link the subject material to the past experiences of learners, he or she allows them to make connections to new material. Additionally, with these connections, the material seems easier to learners and thus motivation is increased. With the presentation of useful, real-world information and relevant to learners, the educator is almost certain to create a transformative learning experience [37] for the learners.

An ideal adult learner is someone who is independent and self-managed; he or she is ready to learn because of relevant, current info that he or she can use immediately and to which he or she can connect to vital past experiences; these connections, in turn, lead to increased motivation. The student is eager to take an active role in all aspects of his or her education. In an andragogic environment with adult learners ready to take on a greater role in their knowledge acquisition, educators can inspire learners to do more, explore more, and learn more. With the Internet not going away due to its ubiquitous nature, and with online learning continuing to be a formidable entity in 21st century education, it is incumbent on educators and educational course designers to have easily modifiable online courses in order to make an andragogic environment available to students.

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