

## Evaluation and Application of Andragogical Assumptions to the Adult Online Learning Environment

Laurie C. Blondy  
University of Michigan, Ann Arbor

### *Abstract*

*The usefulness and application of andragogical assumptions has long been debated by adult educators. The assumptions of andragogy are often criticized due to the lack of empirical evidence to support them, even though several educational theories are represented within the assumptions. In adult online education, these assumptions represent an ideal starting point for educators to use in their instructional approach. Application of these assumptions with respect to the type of course being taught and individual student needs can help create a learner centered approach to online education.*

### **Introduction**

Andragogy has permeated the field of adult education despite ongoing debate regarding its usefulness and application (Atherton, 2003; Brookfield, 1995). Many educators in various settings utilize the assumptions of andragogy in their educational efforts, albeit fully or in part (Burge, 1988; Lieb, 1991). Educators in online learning are no exception. Demands of the online learning environment require educators to be prepared to facilitate courses in ways that are very different from face-to face classroom settings (Palloff & Pratt, 1999). Many educators utilize andragogical assumptions to address these unique demands (Burge, 1988). This paper will analyze the validity of andragogical assumptions related to adult learning and discuss applications of these assumptions to the online learning environment.

### **Assumptions and Process of Andragogy**

Malcolm Knowles first began labeling his work in adult education as andragogy in the late 1960's (Knowles, 1980). Knowles discovered through his work with adults that instructors needed to care about the actual interests of learners instead of focusing on what instructors believed were learners' interests (Carlson, 1989). In Knowles' opinion (1980; 1984) the best educational experiences were cooperative, guided interactions between the teacher and learner with many available resources. During these experiences, the teacher helps guide the learner to develop his or her own potential (Carlson, 1989).

Based on his own observations Knowles (1980; 1984) developed a set of five assumptions that enveloped his concept of andragogy. The five assumptions of andragogy are that adults are self-directed learners, adult learners bring a wealth of experience to the educational setting, adults enter educational settings ready to learn, adults are problem-centered in their learning, and adults are best motivated by internal factors (Knowles, 1980). The assumptions of andragogy contrast sharply with the assumptions of pedagogy, which are that learners are dependent personalities who bring little or no experience to the educational activity

and learners attend to such activities because they have been told they need to do so. The subject matter is sequenced logically and centered on the subject versus personal learner needs, and the motivation to learn the subject matter is mostly external, such as from parents, teachers, or threat of failure (Knowles, 1984). Although Knowles first viewed andragogy as being dichotomous to pedagogy, he revised his views and thinking over time and stated he viewed andragogy and pedagogy as being on a continuum, noting that there were times when either approach might be appropriate based on circumstances and needs of the learner (Knowles, 1984).

Knowles (1980) called upon educators to employ a seven step process in order to implement and capitalize upon the assumptions of andragogy. These steps included creating a cooperative learning climate; planning goals mutually; diagnosing learner needs and interests; helping learners to formulate learning objectives based on their needs and individual interests; designing sequential activities to achieve these objectives; carrying out the design to meet objectives with selected methods, materials, and resources; and evaluating the quality of the learning experience for the learner that included reassessing needs for continued learning.

### *Theoretical Contributions to the Assumptions of Andragogy*

Many of the criticisms of andragogy stem from the lack of empirical evidence to support the assumptions (Brookfield, 1995; Burge, 1988). Andragogy has been called a “theory, method, technique, or set of assumptions” (Davenport & Davenport, 1985, p. 152). Hartree (1984) was critical of andragogy, stating that it failed to encompass an underlying epistemological base. He also questioned whether adult learning was truly different from child learning. Knowles viewed his assumptions of andragogy as a “system of concepts” rather than a theory, and the influence of many educational theorists is evident in these assumptions (Knowles, 1984, p. 8).

Knowles (1984) acknowledged the work of Eduard Lindeman as having a profound influence on his approach to adult education. Lindeman envisioned learning as a life long process rather than simply a means to an end (Lindeman, 1926). He believed education was based on situations defined by learner needs versus predetermined curriculums because learners came to understand the meaning of education while they were actually “engaged in the process” of education (Lindeman, 1926, p. xix). He also purported that small group discussion was a central component to quality adult education and that adult learners attended classes voluntarily (Lindeman, 1926). Lindeman’s influence is evident in Knowles’ andragogical assumptions as well as the process outlined for implementation of them.

The constructivist theory of education is also obvious in Knowles’ work. Bruner (1966) discussed constructivist theory in relation to learning as an active process during which time the learner developed new ideas based upon knowledge already attained. The facilitator’s role in constructivist theory is to encourage learners to discover principles of knowledge on their own and then help translate information into content that learners can understand, thus enabling them to acquire additional knowledge. Curriculums are structured to allow learners to build on past knowledge and identify areas of knowledge deficits, thus helping learners direct their attention to these deficit areas (Bruner, 1966). Knowles’ (1984) focus on self-direction, learner experiences, and problem-centered learning are consistent with constructivism.

Another theorist who heavily influenced Knowles was Carl Rogers. Rogers (1967) believed that we could not actually teach anyone anything, but as educators we could facilitate the learning process. His theory of experiential learning was based on addressing the needs of the learner, best accomplished through a personal, trustworthy, and mutually respectful relationship

(Rogers, 1967; Tennant & Pogson, 1995). Rogers (1967) recommended minimal concentration on prescribed curriculum to allow the learner to be self-directed. Knowles' assumptions of self-directedness, experience, and problem centered learning as well as his process steps for implementing andragogical principles are directly rooted in Roger's theory of experiential learning (Knowles, 1984).

Maslow's hierarchy of human needs impacted Knowles' development of andragogical principles. Maslow's hierarchy consists of five levels of human needs starting with basic physiologic needs and progressing sequentially through safety needs; the need for love, affection, and belonging; esteem needs; and the need for self-actualization (Knowles, 1980). The basic principle of Maslow's hierarchy is that as individuals accomplish and fulfill the lower level items of the hierarchy, they gradually become more self-actualized and wise (Huitt, 2004). Likewise, Knowles' (1984) concept of adult learning suggests that as learners grow and mature, they become more and more capable of being self-directed and wise due to their experiences and past knowledge.

### **Analysis of Andragogical Assumptions and Implications for Online Learning**

#### *Assumption One: Adult Learner's are Self-Directed*

A close reading of what Knowles (1984) meant by being self-directed reveals that he appreciated the need of adults to be actively involved in the decisions that affect them, and as they matured, they became more capable of taking responsibility for themselves. Knowles did not indicate that being self-directed meant being cut off from socialization with others. In fact, he recommended that the learning environment be collaborative, welcoming, and one of mutual respect and trust (Knowles, 1984). Knowles understood adults would enter educational settings with the preconceived notions from their past. Namely, they would recall educational situations in which they were treated as dependent beings where they were taught information predetermined by others as necessary to know. Knowles believed creating an environment that encouraged learner input and fostered sharing of ideas was conducive to learning. Knowles acknowledged that in some circumstances adults would be more independent and self-directed than others based on factors such as age and experience. He used the example of simple "skills training" as perhaps being better suited to a pedagogical model of instruction versus an andragogical one (Knowles, 1984, p. 6).

*Application of this assumption.* There are many implications of this assumption for the online learning environment. A self-directed online learning environment requires learners to establish their own learning goals and activities within the course objectives (Hanna, Glowacki-Dudka, & Conceicao-Runlee, 2000). In addition, it requires curriculum that is focused on process versus content (Conrad & Donaldson, 2004; Knowles, 1984). The facilitator must be able to give up control of the course and allow learners to be empowered, working within the course together first as equal and respected persons, and secondly with the facilitator as expert (Burge, 1988; Conrad & Donaldson, 2004). Collaboration between learners requires establishment of a safe environment where learners are not afraid to share ideas, experiences, and learning through conversation and exchange of information (Conrad & Donaldson, 2004; Palloff & Pratt, 2001).

Creating an online environment that will promote the accomplishment of these goals is no easy task. There must be clear communication from the course facilitator at the start of the course informing the learners to think about and identify their specific learning goals as well as

what learning activities they would personally like to use within the course to meet their goals. Some learners may not be accustomed to identifying and discussing their own personal goals within the context of a formal course and will need encouragement and assistance from the facilitator to identify and clarify them. Learners may need guidance to clarify the learning activities they would like to use to meet their learning goals and should be informed as to what activities are acceptable within the confines of the course. Suggesting that learners draw on their current or past experiences and relate their learning activities to their current life situations is a good way to help them focus on the process of learning. Suggesting a variety of learning activities that learners could tailor to their own needs may also be helpful. Conrad and Donaldson (2004) suggest that learning activities in the online environment should be focused on learning outcomes that utilize the mid to higher levels of Bloom's taxonomy such as application, analysis, synthesis, and evaluation (Bloom, 1956). The facilitator can pose questions to learners regarding their chosen learning activities to assist learners in the development of useful activities that help them progress through these levels during the course sequence. Asking how a learning activity will exhibit analysis of theory, or how an activity could be applied in the work setting to evaluate a process are some examples of this. Allowing learners to be self-directed does not mean they make all decisions regarding their online educational activities, but they should be actively involved in them (Conrad & Donaldson, 2003). The facilitator must maintain ongoing communication with online learners in order to assess learner self-directedness and provide support and direction when needed on an individual basis. As Knowles (1980) indicated, some learners will be more self-directed than others.

The course syllabus should clearly provide course expectations, guidelines for online communication practices, and contact information for the facilitator (Hanna et al., 2000; Palloff & Pratt, 1999). The facilitator contact information should clearly outline the days of the week and time each day that the facilitator is available by email or phone. This information should also inform learners what to expect in terms of response time to questions. Availability daily for a period of several hours provides learners with easy access to the facilitator, and turn around time for posted questions should generally not be more than 24 hours. If the facilitator will be unavailable on a particular day each week or for any time period during the course, this must be communicated to the class. The facilitator must be readily available online to talk with learners and answer questions particularly during the first few days of class when learners may feel overwhelmed. Each learner should be individually welcomed online to the class by the facilitator. Failure to do this may cause the learner to feel invisible or ignored. As the course progresses, contact with each learner individually at least weekly provides the learner with direct acknowledgement that the facilitator appreciates contributions to the class through both postings to other learners and specific course assignments.

Learners should be encouraged to communicate with each other frequently with substantive, thoughtful conversation. Learners should be given examples of what this means in the syllabus. The facilitator should provide examples of nonsubstantive comments such as "I agree" or "good point" as well as outline what he or she considers a substantive response to be. The actual amount of required communication by each learner each week is up to the individual facilitator and should be based on the number of discussion questions posed each week as well as the number of learners in a given class. However, a minimum requirement of two substantive responses from each learner to two different learners in the class is sure to generate discussion. To encourage communication between learners initially at the beginning of a course and assist learners to meet each other online, icebreaker activities may be very helpful (Conrad &

Donaldson, 2003). The facilitator should start this by sharing something about him or herself in order to allow learners to get to know him or her better and then encourage learners to do the same. This can be easily accomplished by asking learners to discuss something that is a favorite of theirs, such as a vacation destination, sports activity, or hobby. As learners begin to share their thoughts and ideas online, communication will generally increase and prompt valuable discussion. An additional suggestion to promote learner to learner communication is for the facilitator to establish a chat room or an online “café,” where learners can meet separate from the courseroom to share personal information and discuss topics of their choice that are not necessarily a part of the coursework (Hanna et al., 2002). This promotes closer relationships between learners, which can enhance the quality of the courseroom postings.

*Challenges to this assumption.* Robinson (1992) conducted survey research on adult distance learners evaluating the application of Knowles’ assumptions to the distance education format. Stating that Knowles’ first assumption of learner self-directedness was perhaps the most challenged assumption, Robinson reported that learners did not prefer to be self-directed in their learning because they specifically indicated a desire for clear instructions regarding how to complete assignments as well as precise information from the course facilitator about which assignments would be graded. It is debatable whether this actually contradicts Knowles’ assumption that adult learners are self-directed. The fact that learners preferred clear instruction regarding assignments does not equate to a lack of self-direction. For example, having clear understanding of course expectations for grading does not necessarily remove learner creativity and input regarding choice of topics or learning and presentation styles.

Although adult learners may desire self-direction in their learning activities, they may lack the necessary resources to function independently. Lam (1985) studied characteristics of adult learners and found that maturity and personal intelligence were important factors in determining how capable adult learners were of being self-directed. Schapiro (2003) challenged the notion of self-directed learning as being ignorant of issues of power and inequality within educational settings and society as a whole. As a result he views self-directed learning as a goal that may be desired but not necessarily practical to attain (Schapiro, 2003).

Cheren (1983) stated that while learners may express a desire to be self-directed in their learning, most lack the required understanding of learning necessary to be self-directed and thus need guidance and encouragement in the learning process. This may be particularly true in the online environment when learners are not well acclimated or knowledgeable regarding the online learning platform (Conrad & Donaldson, 2004). Cheren (1983) went on to explain that self-directed learning may be an objective of the learning process, but it needs to be clearly delineated as to what this will mean for the learner. For example, if a learner is to have control in decisions made during a course, the types of decisions the learner will make must be determined and understood by both the learner and course facilitator. In addition, how decisions by the learner will be acknowledged and rewarded should also be clearly outlined (Cheren, 1983). This process, while mutually developed and agreed upon between the learner and facilitator, allows the learner increased control and self-direction in the learning process within established boundaries and guidelines.

Williams (2002) conducted a study during which she interviewed 90 online learners to find what barriers they perceived as impediments to learning online. Three primary barriers emerged as a result of the interview. They included lack of accessibility and responsiveness of the instructor, failure to foster a participatory online environment, and instructor expectations of

learners that was inappropriate, particularly for those learners that were new to the online learning environment.

Establishing an online environment in which learners are self-directed is easier said than done. Many online adult learners are older, working adults with many responsibilities and distractions in their lives (Palloff & Pratt, 1999). Online learners may be new to online learning and have some hesitation about their ability to return to school, master the online environment, and succeed in their courses (Conrad & Donaldson, 2004). Despite potential difficulties, a self-directed learning environment allows learners to have input into their own learning goals (Hanna et al., 2000) and this can enhance the value of education for learners (Palloff & Pratt, 2003). The online facilitator must encourage learners to become as self-directed as possible, allowing them to be creative with assignments and projects, encouraging their input and suggestions, while remaining available for consultation to provide guidance when needed (Palloff & Pratt, 1999). While learners may not be completely self-directed in the online environment, Knowles acknowledged this, suggesting that the course facilitator provide help to learners where and when they needed it.

*Assumption Two: Adults Bring Experience with Them to the Learning Environment*

Knowles valued the experience learners brought to the educational environment. He viewed it as an important resource for both learners and the facilitators (Knowles, 1980). Knowles (1984) differentiated the quality of experiences of adults versus children based on the different types of roles they occupied in society. However, he also defined an adult socially and psychologically (Knowles, 1980). Adulthood was viewed as a matter of degree, which did not necessarily correspond with age. Knowles (1984) acknowledged that in many instances adults were the best resources for each other, thus he encouraged and emphasized group discussion and collaborative assignments that would draw on the heterogeneity and expertise within groups. Learning contracts were often recommended by Knowles (1980) because he realized that each adult had different learning needs, and contracts allowed learners to develop personalized learning plans.

Knowles (1984) recognized that individual experiences could negatively affect learning through preconceived notions about reality, habitual ways of thinking and acting, and prejudices that had developed through life experiences. Knowles believed educators should help learners with such limitations to become more open-minded. Although Knowles did not actually use the word “culture” when discussing these issues, acknowledgement of learner experiences based on ways of thinking, habits, and prejudices reflects an awareness of culture. Knowles understood that adults often define themselves based on their experiences. Consequently, if facilitators could draw on the positive experiences of learners and help them to be open minded to the experiences of others, this would benefit all (Knowles, 1984).

*Application of this assumption.* The implication of this assumption for the online learning environment is that curriculum must be structured in a way that fosters sharing of experiences among learners such as through the use of group projects and interactive discussions. Learners must be willing to participate in class discussions and team projects during which they share their personal experiences and knowledge, and facilitators must create an environment in which learners feel free to express opinions, share ideas, and discuss information and experiences valuable to them (Conrad & Donaldson, 2004; Palloff & Pratt, 1999; Palloff & Pratt, 2001). Facilitators must allow time for learner relationships to develop while modeling good examples of collaborative activity themselves (Palloff & Pratt, 2001). In addition, course content should also be allowed to evolve as opposed to being tightly scripted (Conrad & Donaldson, 2004).

In addition to the communication suggestions made above in Application of Assumption One, fostering interactive discussions that draw on learner experiences requires carefully constructed discussion questions. In order to benefit from learner experiences in the online classroom, the learners should feel free to discuss their experiences in relation to the course content. Facilitators should craft discussion questions that require learners to think about how the course content can or should be applied to situations in their own lives. For example, asking learners to discuss with classmates how a management principle might be used in their work environment to solve a problem promotes application of content to real life and draws on personal experience. While each learner will have a different experience and the application will vary, it is this very sharing of ideas and experiences that enriches the learning experience for everyone involved. The course facilitator should comment at least weekly to each learner that his or her contributions to the class are valuable and appreciated. In addition, the facilitator should ask questions and seek clarification when needed to help learners think more analytically and/or more creatively. Questions by the facilitator to help spur more thought and discussion between learners may be helpful when discussions are lagging or learners are exhibiting difficulty grasping course concepts.

*Challenges to this assumption.* This assumption has been challenged on the basis that experience is not valuable simply because of one's age and because experiences vary by culture (Brookfield, 1995). While Brookfield (1995) concedes experience is important to learning, he claims it cannot be the defining characteristic of adult learning as put forth in the theory of experiential learning. Yonge (1984) supported this as well. He acknowledged that while there were qualitative differences in how adults and children learn based on personal experiences and level of maturity, the manner by which they learn is basically the same (i.e. perceiving and thinking). As a result, he viewed the qualitative differences as insufficient to support a clear distinction between andragogy and pedagogy. Yonge believed the art of teaching involved conveyance of content and that the information conveyed needed to be packaged differently for different learners in order to address their qualitative differences in learning. However, Taylor, Marienau, and Fiddler (2000) view life experiences as absolutely essential to the learning process and recognize that adults are likely to have lived through many more experiences that influence learning than children. Robinson (1992) reported utilization of life experiences as a concept valued by adult learners. In his survey study of distance learners, participants reported that they frequently used life experiences during the process of completing assignments.

Pratt (1991) argues Knowles paid little or no attention to social situations and cultural influences on learners, which impact their ability to learn, how they learn, and the actual products of learning which are reflective of cultural and social contexts. Merriam (2001) responded to this criticism stating that there is "little or no acknowledgement that every person has been shaped by his or her culture and society" and that one's personal history and the external structures such as learning institutions do not necessarily define how learning transactions occur (p. 7). A recent study by Ray and Chu (2005) also suggests that cultural variations in learning may not be as drastic as Pratt suggests. Ray and Chu (2005) examined both teaching styles used by instructors and student preferences of teaching styles of 309 learners in Taiwan. They discovered that despite the fact that participants had been acculturated into a Confucian environment that promoted power distance, uncertainty avoidance, feminism, and collectivism, teachers overwhelmingly had a strong tendency to use andragogical principles in their teaching. Teachers encouraged learners to participate in class discussion and draw on individual life experiences in order to create a learning environment that was open and honest

where learners felt free to raise questions and challenge ideas. Some teachers also expressed that they frequently tried to have learners be actively involved with planning their learning objectives and goals for the courses as well as helping determine assignments and being involved in evaluation. Learners also indicated a preference for andragogical teaching styles by teachers. They indicated that they appreciated that teachers worked to create learning environments where they could speak up and challenge ideas as well as discuss their own experiences and ideas. However, despite this preference, many learners were still reluctant to speak up, which Ray and Chu (2005) attributed as likely due to the Confucian culture which instills a strong respect for authority.

In the online learning environment, social and cultural barriers may be less prominent than in a face-to-face setting because of the separation of facilitator and learners by time and distance, coupled with an understanding of the rules of communication (Palloff & Pratt, 1999). A high degree of interactivity and class participation is crucial to a successful online course (Conrad & Donaldson, 2004). The constructivist approach to learning in the online environment focuses on actively constructing knowledge based on past experiences, interacting and exchanging ideas with others, and interpreting the information gained which results in learning (Conrad & Donaldson, 2004). Learners that normally would not participate in a face-to-face setting may engage in a higher level of interactivity in the online environment because they feel safe sharing their thoughts and experiences due to established rules of participation (Palloff & Pratt, 1999).

*Assumption Three: Adults Enter the Learning Environment Ready to Learn*

Knowles based this assumption about learner readiness on his observations that adults often experienced situations that triggered a need to learn something new. Specific events that forced change in one's life such as a birth, divorce, or loss of a job would often prompt the need for new knowledge (Knowles, 1984). As a result, adult learners want to know why they need to know something before they learn it (Atherton, 2003). Although Knowles (1984) believed adults learned primarily out of necessity, he also believed learning should be a gratifying and pleasurable experience.

Knowles recommended using a model of competencies reflecting both personal and organizational needs so that learners could correctly identify their needs (Knowles, 1980). He recognized the importance of combining both the needs of learners and those ascribed by society or institutions. Knowles (1984) recognized that facilitators could do certain things to encourage adults to learn such as being effective role models, providing help with career planning, and helping learners identify the gaps in their knowledge base.

*Application of this assumption.* The implications of this assumption to the online learning environment are that facilitators must realize each learner enters the online learning environment for a specific reason, whether a personal desire to learn something or because the course is required by an employer or institution (Palloff & Pratt, 1999). If learners are unclear about specific goals within a course, then the facilitator must take steps to help learners identify their learning needs (Burge, 1988; Knowles, 1984). This can be accomplished through discussion of a learner's reasons for taking a particular course and asking a learner to think about what he or she wants to accomplish within the course. Learner needs should be the central focus of the course and a variety of resources should be made available for learner access (Burge, 1988). Learner needs must be actively and quickly met in order for the learner to be successful online. Online courses provided through colleges and universities generally provide both online and phone service support for learners to access such as libraries and a variety of databases, academic



support and advisement, counseling, financial aid, registration, and technical support. Learners should be made aware of these resources in the course syllabus, and the course facilitator should direct learners through online communications when needed.

Course curriculum and assignments should be flexible to allow learners to develop a plan to accomplish their individual goals within the framework of the course. Learners with similar goals and needs should be encouraged to share ideas and experiences (Hanna et al., 2000). Group projects are a good way to bring learners with similar interests together so that they can learn from each other while also sharing their own expertise. Learners must take responsibility for their learning and pursue their goals, but facilitators must remain available on a daily basis to help learners find useful applications for learning (Burge, 1988; Coldeway, 1987). The facilitator must communicate in the course syllabus and through course discussions regarding course expectations and the decisions that the learner will be allowed to make in order to shape the learning goals to his or her personal needs.

*Challenges to this assumption.* This assumption has been challenged because not all learners are able to identify what they need to know, and not all courses are taken purely by choice (Pratt, 1988). For example, certain disciplines such as nursing require licensed individuals to complete a certain number of hours of continuing education every year (Michigan Nurses Association, 2006). According to Tennant and Pogson (1995) facilitators should help learners critically examine and articulate their learning needs, which can then be used to develop specific learning objectives. Facilitators may be able to help learners identify such objectives through open ended questions about areas in their work lives that need improvement, goals they hope to accomplish in the future, or a desire to maintain a particular position within their employment organization. Once such objectives are established, learners should be able to better outline learning activities that will help them to accomplish their objectives.

Sharing ideas and experiences with other learners online is an excellent way to gain insight into new information, or expand one's own thinking on a particular topic. Weinstein (2004) explored the learning experiences of CEO's of for profit organizations throughout the United States. She reported that CEO's recognized the need to be lifelong learners in order to be successful in their careers and to keep up with the challenges they faced in their positions. In addition, this characteristic was one of the primary reasons that the CEO participants believed they were successful in their roles. In addition, the CEO's understood the value of the learning experiences of others and the importance of creating an environment where people shared their experiences and helped each other learn and succeed (Weinstein, 2004). Encouraging discussion that promotes sharing of experiences and ideas in the online classroom is an excellent way to help learners identify and focus on their own learning needs. Facilitators can accomplish this through both required communications on course topics that ask learners to relate their discussion to their own experiences, as well as sharing some of their own experiences and seeking learner opinions. Posing case studies based on situations similar to the backgrounds of learners can be a useful assignment to stimulate valuable discussion. The facilitator must be in the courseroom daily to monitor the discussion level and prompt it with substantive responses and additional questions when discussions are lagging or lacking in content.

Knowles' (1984) work reveals that it was not his intention that learners identify learning needs without input from others. He discussed recommendations for helping learners who were unclear about their learning objectives, such as assisting with career counseling and the use of "diagnostic experiences" to help learners assess gaps in their knowledge (Knowles, 1984, p. 11). Online learners new to the online environment may be so overwhelmed that they cannot

successfully state their objectives (Hanna et al., 2000; Palloff & Pratt, 2001). Application of Knowles' (1984) suggestion to allow learners to define their goals or assist them in doing so is consistent with online practices of putting learner issues first (Conrad & Donaldson, 2004; Palloff & Pratt 2001).

*Assumption Four: Adult Learners are Problem Oriented*

Knowles (1984) believed adults normally did not pursue learning simply for the sake of learning, but because they needed to immediately apply what they were learning to life situations. Knowles (1980) believed learning experiences should be structured around life situations versus subject matter, and that learners desire to be aware of the relevance of what they learn in relation to their life tasks or goals. This is consistent with Friere (1993) who espoused the belief that theory and practice should be united in learning.

*Application of this assumption.* In the online learning environment this assumption implies that curriculum should be process based versus content based to allow learners to develop content in accordance with their specific needs. The ability to make a connection between every day life and learning in the virtual classroom validates learners as individuals who possess knowledge that can be applied in other situations (Palloff & Pratt, 1999). This is supported by Robinson (1992) who surveyed adult learners regarding the applicability of Knowles' assumptions to a distance education program. Participants reported that they valued utilization of their life experiences in the learning process and they enrolled in online courses because they felt a need to learn more information about a particular subject so that they could "perform more effectively" by using the information learned in some aspect of their lives (Robinson, 1992, p. 12). Online facilitators must release control of the virtual classroom to learners and allow them to apply their experience and knowledge to learning, while remaining cognizant of learner needs for guidance (Palloff & Pratt, 2001). Likewise, learners must be willing to draw on available resources and exercise self-responsibility to seek help when needed (Burge, 1988). In order to structure an online class to meet individual learner needs, the suggestions for helping learners identify their personal objectives discussed above in relation to Application of Assumption Three should be employed. In addition, a variety of the course assignments and group projects should seek to have learners draw on their personal experiences and needs, requiring learners to apply the theoretical concepts of the course to their real-life situations. For example, there are numerous theories that deal with bringing about effective change in organizations of all sizes. An assignment requiring learners to discuss theoretical application of one of these theories to a current or past life situation would help the learner apply theory to practice while also encouraging the learner to share individual experiences.

*Challenges to this assumption.* This assumption has been challenged based on Knowles' supposed continuum between pedagogy and andragogy. Cross (1980) argued that a continuum between pedagogy and andragogy really did not exist. She claimed that while the concept of differing experiences could be viewed somewhat on a continuum, the principles of subject centered learning versus problem centered learning were more dichotomous in nature (p. 225). This argument was supported by research conducted by Delahaye, Limerick, and Hearn (1994). Delahaye, Limerick, and Hearn (1994) surveyed university business management students using a questionnaire measuring both andragogical and pedagogical constructs and found the constructs to be orthogonal when using oblique rotation of the factors measured. This indicated that andragogy and pedagogy were more dichotomous in nature versus linear. It was concluded that learners could be two dimensional, utilizing both pedagogical and andragogical principles at the same point in time with different goals (Delahaye, Limerick, & Hearn, 1994). Additional

challenges have been based on the fact that adults may choose to learn something new purely for the joy of learning, and in such circumstances they may not be learning for the purpose of immediate application (Brookfield, 1986). Tennant (1997) argues adults may be better able to learn information for postponed use versus children, thus further conflicting with Knowles' assumption that adults learn information for immediate application.

Undoubtedly, there will be times when learners are problem centered in their learning and application of knowledge to life situations is immediate versus delayed. Knowles said "For the *most* [italics added] part, adults do not learn for the sake of learning..." (1984, p.12). He did not say they never learned for the joy of learning. The average online adult learner returns to the learning environment to accomplish specific, predetermined goals (Palloff & Pratt, 1999; Robinson, 1992).

*Assumption Five: Adults are Motivated to Learn by Internal Factors.*

Knowles (1984) believed that adults were best motivated to learn primarily by internal factors, such as increased self-esteem, self-actualization, or recognition. Knowles believed that adults were best motivated to succeed with their educational goals when they were recognized and appreciated for their individual contributions to the class.

*Application of this assumption.* One implication for this assumption in the online learning environment is that facilitators must recognize the need of learners to be appreciated and respected in order to foster an environment conducive to learning. Enhancing learner self-esteem through acknowledgement of contributions to the course will serve to further motivate learners to succeed in their coursework. Learners should be recognized by the facilitator no less than once weekly for their course contributions or they may begin to feel their contributions are not valued or appreciated. Drawing on a learner's particular background during a course discussion can also help a learner feel appreciated and respected for the knowledge he or she possesses.

*Challenges to this assumption.* This assumption has been challenged by Tennant (1997) as being contradictory with the assumption that adults are problem centered in their learning, and because Knowles (1984) viewed this as something that was conditioned or learned, versus natural. Knowles acknowledged that adults are influenced to some extent by external motivators such as a pay raise or job promotion, but believed that internal motivators such as self-actualization are more influential. Does the need to learn in order to solve a problem correspond with increased self-esteem or increased self-actualization? Robinson (1992) found that distance learners did enroll in courses so that they could learn specific information they felt they needed to know, but he also reported that learners' primary motivation factors to do well and succeed in their courses involved internal rewards such as feelings of increased self-esteem (versus external rewards such as a job promotion) (Robinson, 1992). Williams (2002) surveyed web-designers of online courses. Designers indicated, by priority, the adult learning principles they believed most important when designing web-based courses. The top two principles deemed important were designing instruction so that learners could share their work or personal experiences with others and designing instruction to help learners apply the information they were learning to their current knowledge. Application of learning to life is consistent with application of theory to practice. It is through such application that learners validate themselves as knowledgeable individuals (Palloff & Pratt, 1999). Likewise, acknowledgement by others of one's experiences, accomplishments, and ideas promotes feelings of self-esteem and self-worth. When viewed in this perspective this assumption does not seem so contradictory after all.

Conclusion: Using Andragogy to Guide Online Learning Practices

Knowles' (1984) andragogical assumptions were not formulated on empirical research, but were developed as a result of experience, observations, and theoretical influences. Many criticisms of andragogy are based on a superficial reading of Knowles' work. An in-depth review of andragogy reveals that Knowles' intentions were to put learners first, to strive to help them meet their needs, and encourage educators to constantly be available to guide learners to success (1980; 1984). Perhaps the criticisms flow because Knowles stated his concepts of adult education as assumptions versus goals. As Carlson (1989) wrote, "The failure of Malcolm Knowles may well be that the theory, the philosophy, and the principles he proclaimed did not approach the quality of his actions. His preaching did not live up to his practice" (p. 8).

Andragogy should be used as a starting point for approaching the adult online learning environment. Brookfield (1995) noted that while all adult learners are not self-directed, this can be viewed as a goal of adult education. Burge (1988) purports that andragogical assumptions can help educators create a more learner centered approach to online education by balancing demands of the learning institution, the course, professional judgments of the facilitator, and learner needs.

Andragogical assumptions should be used to guide the online course facilitator to understand the realities of adult learners, and to foster a collaborative online environment (Burge, 1988). Online course facilitators should know their audience as well as understand their needs, backgrounds, characteristics, and expectations (Hanna et al., 2000). Online courses must be carefully structured to allow flexibility and learner input regarding course goals and assignments, and to draw on learner experiences, thus increasing course value to the participants (Hanna, et al., 2000; Palloff & Pratt, 2001). Learners must be provided with clear expectations regarding online communication to foster interaction in the online environment. High levels of interactivity and interdependence should also be encouraged. Facilitators must be available for guidance so that learners receive direction on an individual basis. Feedback from both the facilitator and peers must be frequent and sincere to foster trust, mutual respect, and collaboration. Such an approach to learning online is consistent with Knowles' (1984) andragogical assumptions and the process he suggested for implementation.

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