Applications of Andragogy in Multi-Disciplined Teaching and Learning

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Abstract

Arguments regarding the distinction between child and adult learning have existed for decades. Pedagogy has a long tradition of providing educational guidance in which there is little differentiation between child and adult education. The two groups of learners are assumed to learn under the same philosophy. Conversely, andragogy, advanced by Malcolm Knowles in the 1970s, is a well-known approach to address the distinct needs of adult learners. Knowles' concept of andragogy has been widely adopted by educators from various disciplines around the world. Andragogy is based upon six assumptions: (a) self-directedness, (b) need to know, (c) use of experience in learning, (d) readiness to learn, (e) orientation to learning, and (f) internal motivation. This paper presented a synthesis of research that discussed the applications of Knowles' andragogy in different settings.

Developing Human Capital in a Global Economy

Globalization has become a common term in the 21st century. It brings about change in trade, economic, social, and educational issues (Merriam, Caffarella, & Baumgartner, 2007). In order to survive in the global economy, businesses need to invest in advanced technology, modern machinery, and human capital to keep up with the changes in this volatile environment. Barney (1991) states that although competitors can easily imitate tangible assets such as technology and machinery, these assets are not sufficient to maintain competitiveness. The competitive

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advantage can be best sustained through human capital, and the development of human capital denotes education. Zmeyov (1998) states, "The main goal of education today is to provide individuals with a multifaceted training, and principally with knowledge and skills for creative activities, for adapting to the changes in the natural social environment … and for lifelong learning" (p. 104). Therefore, education is essential to the development of skills and knowledge to compete in the 21st century.

Having just identified education as a potential source to competitiveness is not an end task to itself. One needs to continue asking questions regarding the kinds of education to offer in schools, the approaches to use in classrooms, and ways in which to involve learners in the teaching and learning process. The discussion of these issues is prefaced below with a very brief history of teaching approaches.

Pedagogy

The history of training can be traced back to the Stone Age period when it was just a process of transferring skills from parents to their children (Swanson & Holton, 2001). According to Swanson and Holton, the educational system became more organized during the Greek and Roman periods (100 B.C.-300 A.D). The organized form of education (the origin of pedagogy) was implemented in cathedral schools in the seventh century (Knowles et al., 1998 in Ozuah, 2005). Since the eighteenth century, pedagogy has frozen the educational system in which teachers are responsible for making fundamentally every learning decision (Ozuah, 2005). It is apparent that the pedagogical approach is still embedded in the present educational systems and will keep playing its popular role in the teaching and learning process.

According to Ozuah (2005), pedagogy is defined as "the art and science of teaching children" (p. 83). Pedagogy placed the importance on the role of the teacher in education (Bedi, 2004). The teacher decides what students should learn, how students are taught, and when the teaching and learning process will begin. Pedagogy is a teacher-oriented approach (Ozuah, 2005). According to Knowles et al. (1998), pedagogy makes various assumptions: (a) learners have dependent personalities, (b) learning is subject-oriented, (c) extrinsic motivation is an essential factor to learning, and (d) learner's previous experience is not relevant to learning (cited in Ozuah, 2005). Apparently, these assumptions do not fit

all learners, especially adult learners. According to Merriam, Caffarella, and Baumgartner (2007), adult learners are self-directed, problem oriented, internally motivated, and independent learners. Knowles (1980) states that:

> When adult education began to be organized systematically during the 1920s, teachers of adults began experiencing several problems with the pedagogical model. One problem was that pedagogy was premised on a conception of the purpose of education—namely, the transmittal of knowledge and skills that had stood the test of time—that adult learners seemed to sense was insufficient. Accordingly, their teachers found them to be resistant frequently to the strategies that pedagogy prescribed, including fact-laden lectures, assigned readings, drills, quizzes, rote memorizing, and examinations. Adults appeared to want something more than this, and drop-out rates were high. (p. 40)

Zmeyov (1998) states that the rapid development of adult education changed its status within the realm of education. Adults had to improve their competencies to harmonize with their own anthroposphere. Therefore, there is a necessity for an educational approach that considers adult learning needs. The andragogical approach, developed extensively by Malcolm Knowles, is a well-lauded response to these needs.

Introduction to Andragogy

Andragogy is defined as "the art and science of helping adults learn, in contrast to pedagogy as the art and science of teaching children" Knowles (1980, p.43). The term andragogy has a long history of development and evolution. In 1833, Alexander Kapp, German educationalist, coined the term (Howard, 1993). However, the concept was not popular until Eduard C. Lindeman extended the idea in 1926 (Gessner, 1956 cited in Ozuah, 2005). In 1959, Malcolm Knowles further extended Lindeman's work on andragogy (Ozuah, 2005) and helped develop it into a theory of adult learning (Zmeyov, 1998).

According to Merriam, Caffarella, and Baumgartner (2007) and Forrest and Peterson (2006), Knowles' perspective on andragogy is based on six main assumptions:

1. Self-Concept: Adult learners are self-directed, autonomous, and independent.

2. Role of Experience: Repository of an adult's experience is a rich resource for learning. Adults tend to learn by drawing from their previous experiences.
3. Readiness to Learn: Adults tend to be ready to learn what they believe they need to know.
4. Orientation to Learning: Adults learn for immediate applications rather than for future uses. Their learning orientation is problem-centered, task-oriented, and life-focused.
5. Internal Motivation: Adults are more internally motivated than externally.
6. Need to Know: Adults need to know the value of learning and why they need to learn.

Applications of Knowles' Andragogy

Andragogy has become popular among educators and researchers in many countries, and its research body has been growing (Savicevic, 1991). According to Savicevic, andragogy was adopted by at least ten European countries such as Germany, England, Poland, France, Finland, Netherlands, Czechoslovakia, Russia, Hungary, and Yugoslavia. The andragogical approach has been adopted in multiple disciplines such as education (Bolton, 2006), medicine (Bedi, 2004), criminal justice (Birzer, 2004), and management (Forrest & Peterson, 2006). The following accounts review the applications of Knowles' andragogy in a variety of fields.

Forrest and Peterson (2006) claim that the andragogical approach is essential in management education to help prepare students for their working environment. Forrest and Peterson further state, "Modern management requires practical implementation of skills learned, not regulation of principles. Without implementation, students cannot adapt to the ever-changing workplace" (p.114). In short, management students value practical knowledge in the workplace. Using the andragogical principles, the instructor can tailor the instruction to meet student interest by involving the students in planning the learning objectives and activities and solving real-world business problems. Andragogy improves communication between the student and instructor; they work together as partners to design instructional content and methods to suit the learners' needs. As a result, the principles promote trust between the student and the instructor and enhance self-awareness in students.

Birzer (2004) examined the application of the andragogical principles in criminal justice programs. Birzer notes that behavioral and cognitive learning approaches have become embedded in criminal justice classrooms, and the two approaches have two problems: (a) teachers control the teaching and learning process with little learner participation and (b) learners are taught in the same consistent manner without differentiation between a child and an adult. Instead, the andragogical approach provides a guidance to design learner-centered instruction to enhance competencies and traits necessary for criminal justice professionals. Birzer proposes the application of the six principles of the andragogical practice in criminal justice, as follows:

1. Establish a physically and psychologically conducive learning atmosphere. In criminal justice classrooms, good physical and psychological climates help the instructor create mutual respect and a collaborative environment to ensure learning effectiveness in the classroom. Moreover, a psychologically conducive atmosphere helps promote trust during the first meeting, which is crucial in the justice program.
2. Involve learners in mutual planning: The instructor and students can jointly plan the learning process and adjust a syllabus based on learning interests and activities.
3. Involve learners in diagnosing learning needs: The instructor can help students determine the level of competency in the area of interest.
4. Encourage students to formulate the learning objectives.
5. Encourage learners to identify resources to accomplish the learning objectives: The instructor works closely with students to identify resources and sets up strategies to use those resources to reach the objectives. However, this requires students to be self-directed and motivated to achieve the objectives with the instructor's assistance.
6. Involve learners in learning evaluation. A learning assessment is important in andragogy. Not only does the instructor assess student performance, but students also assess themselves. This process helps reduce bias from a single judgment of the instructor.

Bedi (2004) applied the andragogical approach in training medical registrars. Bedi countered the traditional, pedagogical approach that encouraged training passivity and reliance of the registrars on the trainer

for a training structure, curriculum planning, and training activities by applying andragogical principles to engage the registrars in active learning to acquire practical skills.

In addition, Bedi also recommends the use of the andragogical approach in doctor consultations. To ensure effective consultations, doctors need to be an active listener to patients' ideas, concerns, and expectations. Using this patient-centered approach, doctors can establish understanding, collaboration, and enhanced relationships with patients. Bedi claims, "A pedagogical approach is doctor-centered and leads to a poor consultation, with the doctor imparting information to the patient and encouraging dependency" (p. 96).

Birzer (2003) examined how andragogy was applied in police training. Many training programs have followed behaviorist and militaristic approaches which are not best for police training and can cause subsequent problems, as well. Birzer argues that police officers should be self-starters in solving problems in the community. Applying the andragogical approach helped police officers develop problem-solving skills and become self-directed in dealing with community issues such as drug, crime, fear of crime, and urban decay. These skills allow the officers to prevent small disorders from becoming serious crime-related problems. Moreover, andragogy promotes the use of relevant learning experiences which is also a key element in police training. The instructor can create case scenarios in the classroom and encourage learners to utilize their experiences to solve the problems.

According to Robinson (2002), the informality of andragogy encourages the involvement of learners in their learning experiences and sets the parameters of those experiences. Therefore, "The artistic side of andragogy can capture all the thoughts of a shaman, a silent knower, as well as a deer talking in the wood" (p. 7). Robinson continues, "andragogy not only captures the beginning of the adult education movement, but its perspective is timeless and applies to adult education in a multicultural world" (p. 2). Cretchley and Castle (2001) note that andragogy has a profound impact on the beliefs and teaching philosophy of adult educators in several countries, including South Africa where the andragogical approach has been applied from adult literacy to adult higher education. Moreover, Cretchley and Castle state:

> In South Africa, the andragogical approach offered an alternative to education dominated by the goals and philosophies of an undemocratic state which had a firm grip on formal education at

primary and secondary levels. Adult education and higher education provided at least some space for resistance by empowering the individual. (p. 494)

According to Merriam (2001), andragogy contributes to the understanding of how adults learn, in what context, and the process of learning. Moreover, andragogy is a rallying point for separating adult education from other areas of education. Davenport and Davenport (1985) state that andragogy is considered "as a theory of adult education, theory of adult learning, theory of technology of adult learning, method of adult education, technique of adult education, and a set of assumptions" (cited in Merriam, 2001, p. 5). In the same article, Houle (1996) states that andragogy reminds educators to engage adult learners in their learning and to create conducive learning environments that helped them learn their best. Henschke (1998) notes that andragogy is a science discipline involving teaching and learning that helps adults to achieve their full level of humaneness (cited in Merriam, 2001).

However, according to Zmeyov (1998), "The andragogical principles of learning are widely needed now, and not only in adult education. Practically all sectors of educational services need these principles" (p.107). Zmeyov suggests that the principles might be successfully applicable when learners: (a) have a good amount of practical and social experience, (b) are aware of a life goal and of the applicability of their knowledge and skills, (c) have adequate background of the selected field study, and (d) are trying to attain short-term educational goals.

Not only are the andragogical principles applied in education, they have been used in training, as well. Zmeyov led a group of researchers to create an andragogical training standard. The standard lists skills, knowledge, abilities, qualities, and minimal levels of training requirements that are necessary to become adult educators. Based on the standard, the andragogical training programs were set up in a number of higher education institutions in Russia, specifically in the Moscow State Open Pedagogical University (Zmeyov, 1998).

Bedi (2004) provides insights regarding the role of andragogy in education. Bedi claims that andragogy helps educators understand a learner's behavior and identify causes of the learner's anxiety and encourages learners to search for options to a problem and to become self-directed learners. In addition, Bedi states that:

An understanding of andragogy has fundamentally changed me as a teacher because it has informed my teaching methods and expanded and harnessed my teaching skills. I would argue that there is a natural bridge between my expanding knowledge of learning styles and the way in which I have matured as an andragogical educator. This link, for me, is learning that we as trainers are not responsible for a student's learning, and that appreciating the learning style of an individual in a given situation helps us to better understand the learner. (p. 93)

Along this line, Carlson (1979) argues that, in a democratic society, learners take control of their learning, and educators should respect that (cited in Cretchley & Castle, 2001). From this perspective, Knowles' andragogy contributes to the establishment of the democratic society in which learning is no longer controlled by educators but by learners.

These previously stated selected examples of studies illustrate how the andragogical approach has been applied in different settings and disciplines. Many other studies exist in the literature through which one can search and learn about the application of andgragogy in other contexts. Andragogy has been adopted in many fields and by educators in different countries. Some have viewed andragogy as an adult learning theory, whereas others view it as an approach, a set of principles, a set of assumptions, or a guideline for educational practice. Regardless of the definition, andragogy contributes tremendously to adult learning and education.

Although andragogy has been perceived as important in adult education and has played a critical role in adult learning, there are also some criticisms on this approach. One criticism is that andragogy does not consider social and political contexts in an adult learning environment (Pearson & Podeschi, 1997; Sandlin, 2005 cited in Merriam, Caffarella, & Baumgartner, 2007).

Pratt (1993) and Wlodowski and Ginsberg (1995) criticize andragogy for not considering cultural perspectives (cited in Roberson, 2002). Roberson (2002) contends that the linear perspective of Knowles's learning contract emphasizes western notions of rationality and analysis and does not consider the cultural imperatives and diversity in ways of knowing across cultures world-wide.

Recommendations

In order to improve the effectiveness and increase the scope of the andragogical applications, the following recommendations are proposed.

1. The focus of andragogical practice could expand beyond that of the adult learner to also consider social, political, and cultural contexts. Learners are influenced by the surrounding contexts which shape their thinking and action.
2. Research (or more research) on the application of the andragogical approach in Asian countries could be conducted in order to examine whether the approach is applicable to those in the Eastern hemisphere.
3. Andragogy could address a situation of neither adult nor children, which Marshak (1983) called adolegogy to describe the adolescent state.
4. Although andragogy is an art and science of teaching adult learners, it is recommended that the approach be applied in the teaching of children and adolescents, as well. It is believed that passivity in a classroom does not help students to learn more effectively. Though children do not meet the andragogical assumptions, it does not necessarily mean that the andragogical approach would not be effective with them. Active learning is more effective than passive learning, regardless of age.

Conclusion

Andragogy is applicable in multiple contexts. The andragogical approach has changed the teaching philosophy of educators around the world. Given the current educational needs, the pedagogical approach has become less effective in teaching adult learners. Adult learners need more than passive transfer of knowledge from one person. Instead, they need to be involved actively in the learning process to construct their own knowledge, to make sense of the learning, and to apply what is learned. Educators as well as the educational systems world-wide should provide all learners, both children and adults, with the opportunities to be actively engaged in learner-centered educational experiences.

It is understood that the traditional teacher-centered teaching style has been well grounded in educational systems world-wide. Educators have been trained to use this one-way teaching mode to teach learners

and it is true that the educators are a product of their own environment. However, educators should not use this as a reason to deprive learners of more active and meaningful learning experiences. Therefore, it would be in the best interest of the learners if educators were to abandon traditional teacher-centered assumptions and consider adopting and applying andragogical principles, learner-centered approaches, and constructivist principles in the classroom. The use of these strategies will create a more engaging and practical learning environment, which can lead to creativity and innovation in the classroom and, ultimately, competent individuals prepared to compete in the 21st century workforce.

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