Andragogy's Transition Into The Future: Meta-Analysis of Andragogy and Its Search for a Measurable Instrument

Bryan Taylor
Michael Kroth

Abstract

This article is a meta-analysis of the theory of andragogy and its search for a measurable instrument. The article explores three areas surrounding andragogy: (a) its concept and history, (b) its assumptions, and (c) its primary criticisms. In examining these three areas, a foundation is established for the creation of an instrument to provide measurable data on the assumptions put forth by Malcolm Knowles.

Introduction

The idea that adults learn differently than younger students has been well documented in literature. Two models appear in educational research to describe how individuals learn: andragogy and pedagogy. Andragogy derives from the Greek root –*agogus*—meaning "leading." "*Andra*" translates as the word *adult*, which makes andragogy the art and science of teaching/leading adults (Knowles, 1980, p. 43), whereas "*peda*" or "*paid*" translates as child, which makes pedagogy the art and science of teaching children (Conner, 2004; Knowles, 1980).

Unlike pedagogy, which has been around for thousands of years, andragogy emerged in the 1800s and then grew in popularity from 1960

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Bryan Taylor, J.D. is a doctoral candidate, Adult/Organizational Learning and Leadership, University of Idaho, Boise, ID. Michael Kroth is Assistant Professor, Adult/Organizational Learning and Leadership, University of Idaho, Boise, ID.

to 2000 when Malcolm Knowles began to synthesize the concept. Knowles' writings on andragogy and adult learning transformed and energized the profession. It gave adult education a brand name and provided the community something new to discuss. Although andragogy is strongly recognized and guides practices, over the last decade, it has come under scrutiny of critics. The general criticism of andragogy is that it lacks the fundamental characteristics of a science because of the limited empirical evidence produced (Merriam, Caffarella, & Baumgartner, 2007; Pratt, 1993; Rachal, 2002). The literature on andragogy demonstrates the need to establish an instrument to provide measurable data, which would further strengthen the theory and allow for the assumptions to further guide adult education into the future.

Purpose of Article

The purpose of this article is to demonstrate the need to establish an instrument that provides measurable data concerning the Knowlesian assumptions of andragogy. This article intends to explore three areas surrounding andragogy: (a) its concept and history, (b) its assumptions, and (c) its primary criticisms. By examining these three areas, a foundation will be established for the creation of an instrument to provide measurable data on the assumptions put forth by Malcolm Knowles.

Significance of This Research

An integrative literature review is a form of research that "reviews, critiques, and synthesizes representative literature on a topic in an integrated way such that new frameworks and perspectives on the topic are generated" (Torraco, 2005, p. 356). Since andragogy appears to lack a recent comprehensive meta-analysis, an integrative literature review is timely. Through this meta-analysis, the building blocks are laid to create the proposed instrument.

How the Review Was Conducted

The review began with seminal books on andragogy and pedagogy to gather insight on their history and evolution. This was followed by cross

referencing the bibliographies in each. Articles and dissertations over the past 40 years on andragogy were then reviewed. This was followed by an extensive search through library databases, with terms such as "andragogy, pedagogy, model, instrument, and test," which resulted in limited information regarding a model or instrument to test the assumptions to andragogy. The absence of a testable model suggests the need for a measurable instrument.

Andragogy: What Is It and Where Did It Come From?

Andragogy is the theory of adult learning that sets out the "scientific fundamentals of the activities of learners and teachers in planning, realizing, evaluating, and correcting adult learning" (Zmeyov, 1998, p. 106). Andragogy is referred to as learner-focused education, whereas pedagogy is referred to as teacher-focused education (Conner, 2004). Andragogy provides a set of assumptions for designing instruction with learners who are more self-directed than teacher-directed (Birzer, 2004; Conner, 2004). An instructor using andragogical principles focuses more on being a facilitator of learning instead of being a transmitter of knowledge and evaluator. "When adults teach and learn in one another's company, they find themselves engaged in a challenging, passionate, and creative activity" (Brookfield, 1986, p. 1).

Andragogy can be traced back to 1833, when Alexander Knapp developed the term while trying to describe the practice Plato exerted when instructing his pupils who were young adults (Knapp, 1833, p. 241). The term disappeared until around 1921 when Eugen Rosenback revived it at a Frankfurt conference (Forrest III & Peterson, 2006). As the number of adults who began to return to academia in the early 1920s increased, the concept of adult education became more popular.

Two streams of inquiry in the early 1920s developed around adult education. First, the psychological perspective based on the psychologist Edward Thorndike's approach to adult capacity and ability to learn. Second, the social perspective based on the educator Eduard Lindeman's more applied setting of formal adult education (Cartor, 1990).

Thorndike tried to inform educators how human nature and human variation impacted the way individuals learned (Thorndike, 1973; Thorndike, Bregman, Tilton, & Woodyard, 1928). Thorndike wrote, "only one thing [human] is unreservedly good, the power to make it

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better. This power of learning…is the essential principle of reason and right in the world" (Thorndike, 1913, pp. 281-282). Thorndike's research on adult learning was conducted in a controlled environment, whereas Lindeman worked in a more applied setting (Knowles, 1984a).

Lindeman's *The Meaning of Adult Education* in 1926 began the mainstream discussion of adult learning. Lindeman explored the methods by which adult education could become more effective (1926). Lindeman adamantly believed adults need to learn through experience (Knowles, 1980, 1984a; Lindeman, 1926). "Too much of learning consists of vicarious substitution of someone else's experience and knowledge" (Lindeman, 1926, p. 6). Although Lindeman used the term, he did not develop his themes around the term andragogy, rather he chose "adult education" (Rachal, 2002).

Following Lindeman, a number of scholars over the next 20 years studied the most effective methods of educating the returning adult learner in higher education. Cartor (1990) synthesized these articles from the Journal of Adult Education focusing on effective methods/techniques of educating the adult returning to the academic classroom between the late 1920s to the 1940s. Some examples of the "new" techniques included: "group discussions, applied problem solving sessions, joint goal setting, interviews instead of quizzes, and learning contracts" (Cartor, 1990, p. 10). All of these examples are forms of andragogical techniques; however, during this time they had not yet been categorized into a unified theory. It was not until 1968, when Malcolm Knowles popularized the term "andragogy" within the educational community, that these techniques were synthesized into a unified approach (Saunders, 1991).

In the summer of 1967, Dusan Savicevic attended one of Knowles summer sessions on adult learning and conveyed that what Knowles was practicing is what European scholars had coined as "andragogy" (Knowles, 1984b). It was here Knowles inherited the word surrounding the growing body of knowledge of adult education as a parallel to pedagogy (Knowles, 1984b). When Knowles first published *The Modern Practice of Adult Education: Andragogy Versus Pedagogy* (1970), the term started to be used throughout the educational community. Through Knowles' use of andragogy, the adult education field tried to become more integrated creating a separation between adult education principles and child education principles (Forrest III & Peterson, 2006).

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Knowles and his successors distinguished andragogy from pedagogy as adult learning versus the way children learn. Knowles (1980) posed two critical questions to determine when the learner is an adult. First is the psychological definition of the image of an adult self. Knowles expressed that "a person is an adult to the extent that the individual perceives herself or himself to be essentially responsible for her or his own life" (Knowles, 1980, p. 24). Second, is the "social definition" of who behaves as an adult and who performs adult roles. Knowles believed "a person is adult to the extent that the individual is performing social roles typically assigned by our culture to those it considers to be adults— the role of worker, spouse, parent, responsible citizen, soldier, and the like" (Knowles, 1980, p. 24).

Darkenwald and Merriam (1982) narrowed the definition offered by Knowles. They held that an adult is an individual who has assumed the primary social role of worker, spouse, or parent and has left the primary social role of full-time student. This definition combines both the social and psychological roles and distinguishes an adult from a child.

Forrest and Peterson further stated "adults are those individuals who have taken on adult roles in society, whether they are the 16-year-old mother or the 87-year-old retiree" (2006, p. 114). They believed the need for a set age is not necessary. Determination of an "adult" focuses more on an individual's role in society and those factors surrounding them.

Since 2000, articles and studies continue to be written incorporating andragogy with a particular discipline. For example, how andragogy applies to teacher professional development (Terehoff, 2002), criminal justice programs (Birzer, 2004), challenges of educational leaders focused on social justice (Brown, 2006), and nursing (Norrie & Dalby, 2007). What appears to be missing in the literature, however, is whether andragogy is present in the instructional design.

Assumptions of Andragogy

The theory of andragogy contends that adults should be taught differently than children because the learning processes are drastically different (Birzer, 2004; Cartor, 1990; Cross, 1981; Knowles, 1975, 1980, 1984a, 1984b; Knowles, Holton, & Swanson, 1998). Knowles summarized six key assumptions about adult learners, which are the foundation of adult learning. Those assumptions are as follows:

1. *Self-concept*: As a person matures, his/her self-concept moves from one of being a dependent personality towards one of being self-directed. Adults tend to resist situations in which they feel that others are imposing their wills on them.
2. *Experience*: As a person matures, he/she accumulates a growing reservoir of experience that becomes a resource for learning. Adults tend to come into adult education with a vast amount of prior experiences compared to that of children. If those prior experiences can be used, they become the richest resource available.
3. *Readiness to learn*: As a person matures, his/her readiness to learn becomes oriented to the development task of his/her social roles. Readiness to learn is dependent on an appreciation of the relevancy of the topic to the student.
4. *Orientation to learn*: As a person matures, his/her time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his/her orientation towards learning shifts from one of subject-centeredness to one of problem-centeredness. Adults are motivated to learn to the extent in which they perceive that the knowledge in which they are acquiring will help them perform a task or solve a problem that they may be facing in real life.
5. *Motivation to learn*: Internal motivation is key as a person matures. Although adults feel the pressure of external events, they are mostly driven by internal motivation and the desire for self esteem and goal attainment.
6. *The need to know*: Adults need to know the reason for learning something. In adult learning, the first task of the teacher is to help the learner become aware of the need to know. When adults undertake learning something they deem valuable, they will invest a considerable amount of resources (e.g., time and energy). (Forrest III & Peterson, 2006; Kidd, 1973; Knowles, 1984a, 1984b; Knowles et al., 1998; Lindeman, 1926; Ozuah, 2005; Thompson & Deis, 2004)

Knowles lists these six assumptions with the understanding that adults will have more experiences than children and have created pre-established beliefs. Experience is the most important as adults are focusing more on the process rather than the content being taught.

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"Andragogy is an organized and sustained effort to assist adults to learn in a way that enhances their capacity to function as self-directed learners" (Mezirow, 1981, p. 21). Through this view, these assumptions become a personal interactive agreement between the learner and the learning endeavor, the "experience" (Birzer, 2004).

Criticisms of Andragogy

The general body of literature critiquing andragogy asserts that it lacks the fundamental characteristics of a science because it cannot be measured (Merriam et al., 2007; Pratt, 1993; Rachal, 2002). Critics do not argue that the philosophical foundation of andragogy offers important value to adult learning; however, the anecdotal evidence far outweighs the experimental evidence (Rachal, 1994). "Due to the elasticity of meanings of andragogy and the consequent variability of interpretations, empirical examinations of andragogy—its science…-- have tended to be inconclusive, contradictory, and few" (Rachal, 2002, p. 211). Very few studies have attempted empirical investigation of andragogy (Merriam et al., 2007). Davenport and Davenport (1985), 15 years after the emergence of andragogy, called for it to rise to a higher level with regards to the educational theories. Twenty years after Davenport, the educational community is still being asked whether andragogy can serve as the unifying theory of adult education (Rachal, 2002). Cross (1981) posed the question, "does andragogy lead to researchable questions that will advance knowledge in adult education?" (p. 228) Pratt (1993) raises concerns about the lack of empirical studies: "We cannot say, with any confidence, that andragogy has been tested and found to be, as so many have hoped, either the basis for a theory of adult learning or a unifying concept for adult education" (p. 21).

Finding a way to empirically measure the effect of andragogy allows researchers to examine the legitimacy of this theory and silence some of the criticism. Four major obstacles seem to affect the ability of andragogy being tested to produce empirical evidence.

The first obstacle is whether andragogy is a theory of adult learning (Merriam, 2001). Davenport and Davenport (1985) indicated that andragogy has been classified "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"(p.

157). Are these just principles of good practice or are they descriptions of "what the adult learner should be like" (Hartree, 1984, p. 205)? After excessive criticism, Knowles resigned to explaining andragogy as less of a theory of adult learning than a "model of assumptions about learning or a conceptual framework that serves as a basis for an emergent theory" (1989, p. 112). Whether Knowles did this to silence the critics of the theoretical applications of andragogy, and to focus them instead on what andragogy could do for the practice of adult education, is unknown.

Second, there is an absence of a clear meaning as to what procedures constitute andragogical practice (Rachal, 2002). There are many different approaches to teaching methodologies, but even Knowles indicated that the means for evaluation are all collaboratively determined by the learner and the facilitator.

Thirdly, andragogy faces a "Catch-22" like situation (Heller, 2004). Knowlesian andragogical "effectiveness" is largely determined by learner achievement which is often measured by tests and grades; but for Knowles, tests and grades are anathema to the very idea of andragogy (Rachal, 2002). This places researchers in a quagmire because the only way to produce evidence of andragogy's legitimacy is by measuring it.

A fourth obstacle is the extent to which the assumptions are characteristic of "adult" learners only (Merriam, 2001). The characteristics that Knowles presents are not always found in adults. For example, some adults are highly dependent on a teacher for structure, while some children are independent self-directed learners. Further, children in certain situations may have a range of richer experiences than some adults possess (Merriam, 2001). If the characteristics cannot be separated to clearly define adult versus children, then the basic assumptions are at question.

Moving Andragogy Forward: The Need for an Empirical Testing Instrument

The educational community embraced the concept of andragogy when it was brought into the mainstream by Knowles. Its assumptions at first glance and through further examination make sense; yet, the criticisms cannot be ignored. An instrument needs to be created to measure whether andragogical assumptions are being incorporated in instructional settings.

The purpose of this instrument would be two-fold: (a) to provide a tool for practitioners to use in the field to assess andragogical learning, and (b) to provide a guide for scholars to assess andragogy in adult learning settings both formal and informal. Upon its creation, the instrument would provide data for practitioners in three different settings. First, the instrument will provide a prescriptive assessment to prepare for a training situation and/or instructional setting, by allowing for the instructor to assess what type of adult learning should take place. Second, the instrument will provide for a formative assessment, where the instructor can re-align the class/training while in the middle of instruction. Finally, the instrument can provide a summative assessment, by providing data that could help an instructor/facilitator to redesign the class/training after the fact. By assessing what worked and what did not work based on the andragogical assumptions incorporated, future classes/trainings can be more successful for learners. For scholars, this instrument would be a baseline to begin the development of more quantitative measures of andragogy in the field of adult education.

A few empirical studies have lightly incorporated andragogical assumptions by developing questions into a Likert scale questionnaire (Brown, 2006; Norrie & Dalby, 2007). The most notable empirical instrument found in the literature was developed by Lucy Guglielmino, who created the Self-Directed Learning Readiness Scale (1977). Her instrument tested an individual's self-directed learning readiness. Her study involved two major parts: (a) a Delphi study in which authorities on self-directed learning helped to solidify a definition of self-directed learning and its key characteristics; which led to (b) a self-reported Likert scale questionnaire disseminated to 307 participants (Guglielmino, 1977). Guglielmino's work focuses on one of the assumptions of andragogy, the assumption of self-concept, that is, moving toward self-directedness.

The instrument proposed in this article would be based on the methodology used to develop Guglielmino's instrument. The research design would first survey a panel of experts through a Delphi study. All six assumptions of andragogy would be included, expanding upon Guglielmino's work. This would then be followed by creating and validating a Likert style questionnaire. The instrument would provide data on how andragogical assumptions are being incorporated in different instructional approaches.

For andragogy to remain a fundamental focus in adult education, it must overcome the major criticism that has plagued it for the last 30 years: Finding empirical data. The literature provides the foundation to begin constructing a testable instrument. It is from here that andragogy begins its transition into future use.

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