Andragogy in Practice: Clarifying the Andragogical Model of Adult Learning

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ABSTRACT

The andragogical model has stood for many years as a central model of adult learning. The purpose of this article is to offer a fresh look at certain aspects of andragogy that are important for performance improvement professionals as well as other adult educators. More specifically, the objectives are to clarify the current state of the andragogical principles, address certain key issues in using andragogy in practice, and offer a clearer framework for adapting andragogy to different practice conditions. An expanded model, Andragogy in Practice, is offered that more explicitly accounts for factors that must be considered in shaping andragogy to fit the learning situation. An analysis framework called andragogical learner analysis is also offered to utilize the andragogy model in practice during needs assessment and curriculum development.

One area of expertise needed by performance improvement professionals is an understanding of learning theory (Brethower, 1995; Gayeski, 1995; Stolovitch, Keeps, & Rodrigue, 1995). More specifically, they need a clear understanding of adult learning theory for situations in which the proper performance improvement intervention is training or learning. Yet only limited attention has been paid to adult learning in the performance improvement literature. Because improving performance still relies on developing individual adults' expertise through learning in many cases, it is important to have a complete and up-to-date understanding of adult learning theory. This article provides a fresh look at one adult learning perspective–andragogy–and considers some core issues that are relevant to performance improvement practitioners as well as other adult educators.

In the late 1960s when Knowles (1968) introduced andragogy in the United States, the idea was groundbreaking and sparked much subsequent research and controversy. Since the earliest days, adult educators have debated what

andragogy really is (Henschke, 1998). Spurred in part by the need for a defining theory within the field of adult education, andragogy has been extensively analyzed and critiqued. It has been alternately described as a set of guidelines (Merriam, 1993), a philosophy (Pratt, 1993), and a set of assumptions (Brookfield, 1986). Davenport and Davenport (1985) note that andragogy has been called a theory of adult learning/education, a method or technique of adult education, and a set of assumptions about adult learners. The disparity of these positions is indicative of the perplexing nature of andragogy. But regardless of what it is called, "it is an honest attempt to focus on the learner. In this sense, it does provide an alternative to the methodology-centered instructional design perspective" (Feur & Gerber, 1988).

Despite years of critique, debate, and challenge, the core principles of adult learning advanced by andragogy have endured (Davenport & Davenport, 1985; Hartree, 1984; Pratt, 1988), and few adult learning scholars would disagree with the observation that Knowles' ideas sparked a revolution in adult education and training (Feur & Gerber, 1988). Brookfield (1986), positing a similar view, asserts that andragogy is the "single most popular idea in the education and training of adults." Adult educators and performance improvement professionals, particularly beginning ones, find them invaluable in shaping the learning process to be more effective with adults.

The andragogical model has undergone a variety of refinements, some explicitly incorporated into the model and others as variations in practice. The purpose of this article is to offer a fresh look at certain aspects of andragogy. More specifically, the objectives are to:

1) Clarify the current state of the andragogical principles.
2) Address certain key issues for using andragogy in practice.
3) Offer a clearer framework for adapting andragogy to different practice conditions.

It is not our intent to reignite or rehash earlier debates (e.g., Davenport & Davenport, 1985), review the entire history of andragogy, or attempt to proclaim it again as the universal model of adult education. We do believe that there are some important issues that need to be clarified and discussed from a different perspective than has previously occurred in other literature. In doing so, we believe andragogy can become more useful to a broader array of practitioners, including performance improvement professionals.

Clarifying the Core Andragogical Model

Popularized by Knowles (1968), the original andragogical model presents core principles of adult learning and important assumptions about adult learners. These core principles of adult learning are believed to enable those designing and conducting adult learning to design more effective learning processes for adults. The model is a transactional model (Brookfield, 1986) in that it speaks to the characteristics of the learning transaction. As such, it is applicable to any adult learning transaction, from community educa-

tion to human resource development in organizations.

Depending on which citation is consulted, various authors present andragogy in different ways. Accordingly, it has often been difficult to ascertain both the number and content of the core assumptions of andragogy. This difficulty stems from the fact that the number of andragogical principles has grown from 4 to 6 over the years as Knowles refined his thinking (Knowles, 1989). In addition, many authors still seem to prefer to use Knowles (1980) as the core citation for his andra-gogical assumptions, despite the fact that he updated the list twice since then. The addition of assumptions and the discrepancy in the number cited in the literature has led to some confusion.

Figure 1 shows the six principles (or assumptions) of the current model, as well as the ones cited in previous works. As the figure indicates, andragogy was originally presented with 4 assumptions, numbers 2 to 5 (Knowles 1980, 1978, 1975). These first four assumptions are similar to Lindeman's (1926) four assumptions about adult education, although there is no evidence that Knowles obtained his early formulation of andragogy directly from Lindeman (Knowles, Holton, Swanson, 1998; Stewart, 1987). Assumption number 6, motivation to learn, was added in 1984 (Knowles, 1984a) and assumption number 1, the need to know, was added in more recent years (Knowles, 1987, 1989, 1990).

Thus, today there are six core assumptions or principles of andragogy (Knowles et al., 1998):

1) Adults need to know why they need to learn something before learning it.
2) The self-concept of adults is heavily dependent upon a move toward self-direction.
3) Prior experiences of the learn-er provide a rich resource for learning
4) Adults typically become ready to learn when they experience a need to cope with a life situation or perform a task.
5) Adults' orientation to learning is life-centered, and they see education as a process of developing increased competency levels to achieve their full potential.
6) The motivation for adult learners is internal rather than external.

These core principles provide a sound foundation for planning adult learning experiences. Absent any other information, they offer an effective approach to adult learning. See Table 1.

The second part of the andragogical model is what Knowles (1984a, 1995) called the *andragogical process design,* steps for creating adult learning experiences. Originally, Knowles presented these as seven steps (Knowles 1984a, 1990). Recently, he added a new first step, preparing learners for the program, which brought the total to eight steps (Knowles, 1995):

1) Preparing learners for the program.
2) Establishing a climate conducive to learning.
3) Involving learners in mutual planning.
4) Involving participants in diagnosing their learning needs.
5) Involving learners in forming their learning objectives.

ANDRAGOGY IN PRACTICE
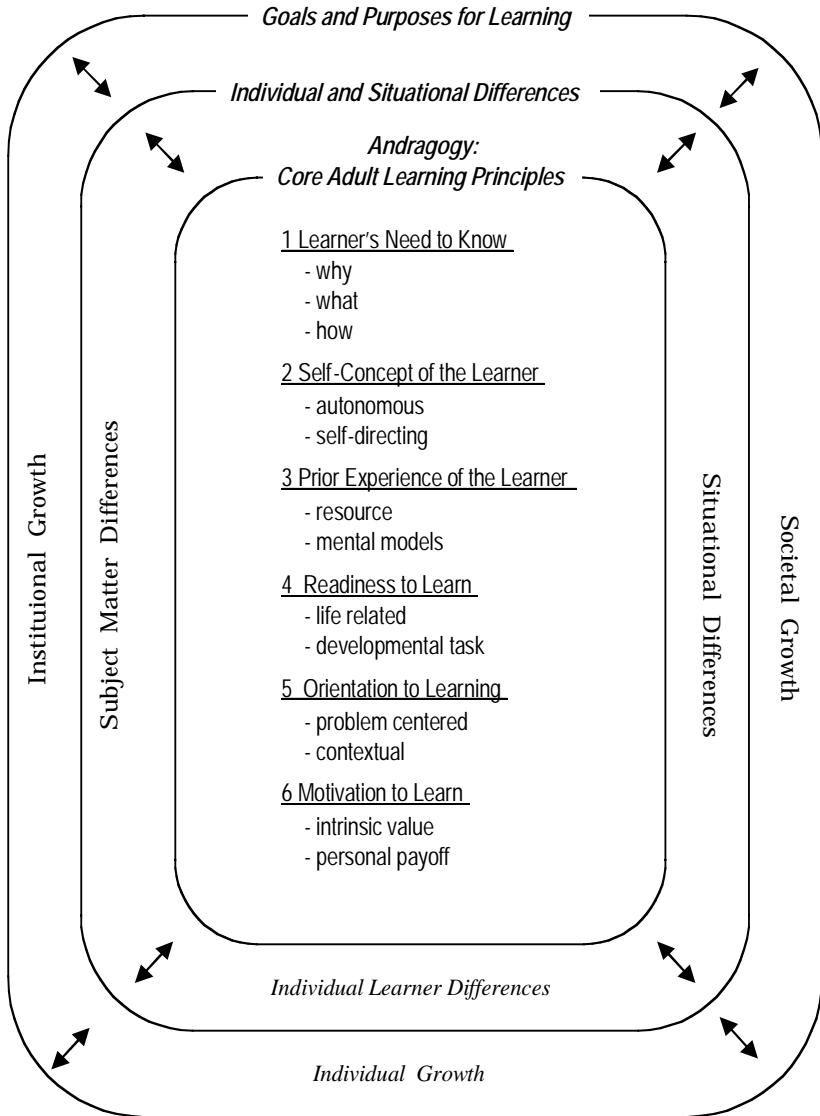
(Knowles, Holton & Swanson, 1998)

Goals and Purposes for Learning

Individual and Situational Differences

Andragogy:
Core Adult Learning Principles

1 Learner's Need to Know
  - why
  - what
  - how

2 Self-Concept of the Learner
  - autonomous
  - self-directing

3 Prior Experience of the Learner
  - resource
  - mental models

4 Readiness to Learn
  - life related
  - developmental task

5 Orientation to Learning
  - problem centered
  - contextual

6 Motivation to Learn
  - intrinsic value
  - personal payoff

Institutional Growth

Subject Matter Differences

Situational Differences

Societal Growth

Individual Learner Differences

Individual Growth

Figure 1. Andragogy in Practice Model

Table 1
Changes in Core Andragogical Principles

	The Adult Learner (5th ed., Knowles, Holton, & Swanson, 1998)	Adult Learner (4th ed., Knowles, 1990)	Making of an Adult Educator (Knowles, 1989)	Adult Learner (3rd ed., Knowles, 1984)	Andragogy in Action (Knowles, 1984)	Modern Practice of Adult Education (2nd ed., Knowles, 1980)	Adult Learner (2nd ed., Knowles, 1978)
Need to Know	✔	✔	✔	✔			
Learner Self-Concept (self-directed)	✔	✔	✔	✔	✔	✔	✔
Learner's Experience	✔	✔	✔	✔	✔	✔	✔
Readiness to Learn (life tasks)	✔	✔	✔	✔	✔	✔	✔
Orientation to Learning (problem-centered)	✔	✔	✔	✔	✔	✔	✔
Motivation to Learn (internal)	✔	✔	✔		✔		

6) Involving learners in designing learning plans.
7) Helping learners carry out their learning plans.
8) Involving learners in evaluating their learning outcomes.

The significance of the second part of the andragogical model for this discussion is that it emphasizes that Knowles' conception of the andragogical model focused primarily on the learning process and learning transactions. Table 2 shows the andragogical process elements as presented by Knowles (1990) and updated by Knowles (1995).

An Individual-Transactional Framework

Some of the sharpest criticism of andragogy has come from theorists operating from a critical philosophical perspective. Grace (1996), for example, criticizes andragogy for focusing solely on the individual and not operating from a critical social agenda or debating the relationship of adult education to society. Cross (1981, p. 227) concluded, "Whether andragogy can serve as the foundation for a unifying theory of adult education remains to be seen." Others have pushed for adult learning theory to reach beyond the teaching-learning transaction to encompass some elements of desired outcomes. Most prominent of these include perspective transformation (Mezirow, 1991) and a critical paradigm of self-directed learning (Brookfield, 1984b, 1987). Pratt (1993) also criticizes andragogy for not adopting a critical paradigm of adult learning. He concludes: "Clearly andragogy is satu-rated with the ideals of individualism and entrepreneurial democracy. Societal change may be a by-product of individual change, but it is not the primary goal of andragogy" (Pratt, 1993, p. 21).

Andragogy's critics are correct in saying that andragogy does not explicitly and exclusively embrace outcomes such as social change and critical theory, but they are incorrect in thinking that it should. Knowles (1989, 1990) and others (Darkenwald & Merriam, 1982; Grace, 1996; Merriam & Brockett, 1997) clearly identify andragogy as being rooted in humanistic and pragmatic philosophy. The humanistic perspective, reflected by the influence of Maslow and Rogers (Knowles, 1989), is primarily concerned with the self-actualization of the individual. The pragmatic philosophy, reflected in the influence of Dewey (1938) and Lindeman (1926) on Knowles, valued knowledge gained from experience rather than from formal authority (Merriam & Brockett, 1997).

It is easy to see from its philosophical roots that andragogy is an individual-transactional model of adult learning (Brookfield, 1986). The philosophies of pragmatism, behaviorism, humanism, and constructivism focus most of their assumptions on two dimensions: the learner and the learning transaction. Critical theory, however, is much more concerned with the outcomes of learning, namely social change (Merriam & Brockett, 1997). Knowles implicitly acknowledged this tension when he wrote of the philosophical debates between 1926 and 1948, with "one side holding that this goal [for adult education] should be the improvement of individuals,

Table 2
Process Elements of Andragogy

Process Elements	
Element	**Andragogical Approach**
Preparing Learners	Provide information Prepare for participation Help develop realistic expectations Begin thinking about content
Climate	Relaxed, trusting Mutually respectful Informal, warm Collaborative, supportive
Planning	Mutually by learners and facilitator
Diagnosis of Needs	By mutual assessment
Setting of Objectives	By mutual negotiation
Designing Learning Plans	Learning contracts Learning projects Sequenced by readiness
Learning Activities	Inquiry projects Independent study Experiential techniques
Evaluation	Be learner-collected evidence validated by peers, facilitators, and experts. Criterion referenced.
Developed from Knowles (1992) and Knowles (1995)	

and the other holding that it should be the improvement of society (Knowles, 1990, p. 44).

Our view is that Knowles never intended for andragogy to be a theory of the discipline of adult education as it is defined by the critical theorists, or any of its sub-fields, for that matter. Attempts to embed the specific goals and purposes of any sub-field into the andragogical model of adult learning are conceptually and philosophically flawed. Adult learning occurs in many settings for many different reasons. Andragogy is a transactional model of *adult learning* that is designed to transcend specific applications and situations. *Adult education* is but one field of application in which adult learning occurs. Others might include organizational human resource development, higher education, or any other arena in which adult learning occurs.

Furthermore, adult education is a very diverse discipline with little agreement as to its definition. For example, many definitions of adult education would incorporate human resource development (HRD) as a sub-field, but few definitions of HRD label it as such. Each sub-field engaged in adult learning has its own philosophical foundations regarding the role of education in society and the desired outcomes from educational activities for adults (Darkenwald & Merriam, 1982; Merriam & Brockett, 1997). For example, in HRD, critical theory is only one of several theoretical frames. Unfortunately, andragogy has been critiqued mostly through the critical philosophical lens, which is only one sub-field interested in a particular type of adult learning.

The debates about the ends and purposes of adult learning events are important and vital but should be separated from debates about models of the adult learning process. There are real issues that each arena of adult education must debate and carefully consider. Our point is that those issues are not, and were never intended to be, part of andragogy. So, for example, scholars might debate whether organizational HRD should be approached from a critical theory or a performance perspective—but that is *not* a debate about andragogy. We suggest that these criticisms are more relevant to *why* adult learning events or programs are conducted (i.e., their desired outcomes) than to *how* the adult learning transaction occurs, which is the more central concern of andragogy. Andragogy may not be a defining theory of *any* sub-field of adult education.

It is important to note that andragogy also does not *prohibit* combining it with other theories that speak to the goals and purposes. We now know that andragogy can be embedded within many different sets of goals and purposes, each of which may affect the learning process differently. So, for example, one could engage in adult learning for the purpose of social change (critical theory) and use an andragogical approach to adult learning. Similarly, one could engage in adult learning for performance improvement in an organization (performance/human capital theory) and use an andragogical approach.

To the extent that critical theory has become the predominant paradigm among adult education researchers, prior criticisms of andra-

gogy point to missing elements that keep it from being a defining theory of the *discipline of adult education* (Davenport & Davenport, 1985; Grace, 1996; Hartree, 1984), not of *adult learning*. Merriam and Brockett (1997, p. 5) note that, "Adult education can be distinguished from adult learning, and indeed, it is important to do so when trying to arrive at a comprehensive understanding of adult education." Knowles may have invited this confusion with his statements in early works that andragogy might provide a unifying theory for adult education or for all of education (Knowles, 1973, 1978), a stance which he has since softened (Knowles, 1989).

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A Dynamic View of Andragogy

That andragogy does not speak to all possible goals and purposes of learning is not a weakness but a strength because andragogy can then transcend arenas of application. Ironically, by focusing andragogy more narrowly on its original intent, it may become stronger and more versatile, though incomplete as a full description of adult learning in all situations. We recognize that critical theorists would likely disagree because they have a particular worldview that emphasizes adult education for a certain purpose. As Podeschi (1987) points out, the debate about andragogy has been confounded by conflicting philosophical views about adult education. It is unfortunate that andragogy has not been as heavily critiqued and researched from other philosophical perspectives, as it may well be more appropriate when viewed through other philosophical lenses.

There are other theories that are similarly neutral to goals and purposes. Consider, for instance, Kurt Lewin's (1951) three-stage theory of change (unfreezing—movement—refreezing) that has long stood as one cornerstone of organization development theory. His theory also does not debate the ends or means of any particular type of change but rather simply focuses on the change process. We could criticize Lewin's theory because it does not embrace the goals of reengineering or of egalitarian corporate structures, for example, but it would be violating the boundaries of the theory. As Dubin (1969) notes, one critical component of any theory building effort is to define the boundaries of the theory. It seems that much of the criticism of andragogy has come from attempts to make it become more than it was intended to be, particularly within the adult education scholarly community. Such efforts violated the boundaries of the theory and resulted in confusion and frustration.

Knowles (1980, p. 26) conception of "adult education" was broad. His

definition of an adult educator was "one who has responsibility for helping adults to learn." He also noted that there were at least three meanings of the term "adult education" (Knowles, 1980). One meaning was a broad one to describe the *process* of adult learning. A more technical meaning, he suggested, was of adult education as an *organized set of activities* to accomplish a set of educational objectives. Finally, a third meaning was a combination of the two into a *movement or a field of social practice.* In his examples, he listed everyone in what we would today call adult education, human resource development, community development, higher education, extension, library educators–and more. It seems clear that he intended for andragogy to be applicable to *all* adult learning environments.

Integrated System or Flexible Assumptions?

In early works, Knowles presented andragogy as an integrated set of assumptions. However, through the years of experimentation, it now seems that the power of andragogy lies in its potential for more flexible application. As others have noted (Brookfield, 1986, Feuer & Geber, 1988; Pratt, 1998), over the years the assumptions became viewed by some practitioners as somewhat of a recipe, implying that all adult educators should facilitate the same in all situations. There is clear evidence that Knowles intended for them to be viewed as flexible assumptions to be altered depending on the situation. For example, Knowles (1979, 52-53) stated early on:

My intention, therefore, was to present an alternative set of assumptions to those that had been traditionally made by teachers of children so that others would have another choice. I saw them as assumptions to be tested (not to be presumed), so that if a pedagogical assumption was the realistic condition in a given situation, then pedagogical strategies would be appropriate. For example, if I were now, at age 66, to undertake to learn a body of totally strange content (for example, the higher mathematics of nuclear physics), I would be a totally dependent learner. I would have very little previous experience to build on, I probably would have a low degree of readiness to learn it, and I don't know what developmental task I would be preparing for. The assumptions of pedagogy would be realistic in this situation, and pedagogical strategies would be appropriate.

I would like to make one caveat to this proposition, though: an ideological pedagogue would want to keep me dependent on a teacher, whereas a true andragogue would want to do everything possible to provide me with whatever foundational content I would need and then encourage me to take increasing initiative in the process of further inquiry.

Knowles (1984b, p. 418) reiterated this point in the conclusion to his casebook examining 36 applications of andragogy. He noted that he had spent two decades experimenting with andragogy and had reached certain conclusions. Among them were:

1) The andra-gogical model is a system of elements that can be adopted or adapted in whole or in

part. It is not an ideology that must be applied totally and without modification. In fact, an essential feature of andragogy is flexibility.

2) The appropriate starting point and strategies for applying the andragogical model depend on the situation.

More recently, Knowles (1989, p. 112) stated in his autobiography:

So I accept (and glory in) the criticism that I am a philosophical eclectic or situationalist who applies his philosophical beliefs differentially to different situations. I see myself as being free from any single ideological dogma, and so I don't fit neatly into any of the categories philosophers often want to box people in.

> *It seems clear that Knowles always knew, and then confirmed through use, that andragogy could be utilized in many different ways and would have to be adapted to fit individual situations.*

He further stated that "what this means in practice is that we educators now have the responsibility to check out which assumptions are realistic in a given situation" (Knowles, 1990, p. 64).

It seems clear that Knowles always knew, and then confirmed through use, that andragogy could be utilized in many different ways and would have to be adapted to fit individual situations. Unfortunately, Knowles never offered a systematic framework of factors that should be considered when determining which assumptions are realistic in order to adapt andragogy to the situation. As a result, the andragogical assumptions about adults have been criticized for appearing to claim to fit all situations or persons (Davenport, 1987; Davenport & Davenport, 1985; Day & Baskett, 1982; Elias, 1979; Hartree, 1984; Tennant, 1986). While a more careful read of Knowles' work shows he did not believe this, andragogy is nonetheless open to this criticism because it fails to account explicitly for the differences. Because of the conceptual uncertainty, Merriam and Caffarella (1999, p. 20) go so far as to say, "Andragogy now appears to be situation-specific and not unique to adults."

Several researchers have offered alternative contingency models in an effort to account for the variations in adult learning situations. For example, Pratt (1988) proposed a useful model of how the adult's life situation not only affects her or his readiness to learn but also his or her readiness for andragogical-type learning experiences. He recognized that most learning experiences are highly situational and that a learner may exhibit very different behaviors in different learning situations. For example, it is entirely likely that a learner may be highly confident and self-directed in one realm of learning but very dependent and unsure in another. He operationalized this by identifying

two core dimensions within which adults vary in each learning situation: *direction* and *support*. Cross's (1981) Characteristics of Adult Learners (CAL) model also embodied a range of individual characteristics as well as some situational characteristics. Pratt (1998) discusses five different perspectives on teaching based on an international study of 253 teachers of adults. Grow (1991) also offered a contingency framework for self-directed learning.

These and others were attacking the same problem: the need for a contingency framework that avoids a "one size fits all" approach and offers clearer guidance to adult educators. It seems clear that this is one area in which andragogy has been weakest, though experienced users learned to modify it as needed. There seems to be a need to clarify andragogy further by taking into account more explicitly key factors that affect the application of andragogical principles. A more complete andragogical model of practice should direct users to key factors that affect its use in practice.

The Andragogy in Practice Model

Andragogy in Practice, the framework depicted in Figure 1, is offered as an enhanced conceptual framework to apply andragogy more systematically across multiple domains of adult learning practice. The three dimensions of Andragogy in Practice, shown as rings in the figure, are: 1) Goals and Purposes for Learning, 2) Individual and Situation Differences, and 3) Andragogy: Core Adult Learning principles.

This approach conceptually integrates the additional influences with the core adult learning principles. The three rings of the model interact, allowing the model to offer a 3-dimensional process for understanding adult learning situations. The result is a model that recognizes the lack of homogeneity among learners and learning situations and illustrates that the learning transaction is a multi-faceted activity. This approach is entirely consistent with most of the program development literature in adult education that in some manner incorporates contextual analysis as a step in developing programs (e.g., Boone, 1985; Houle, 1972; Knox, 1986). The following sections describe each of the three dimensions in the model.

Goals and Purposes for Learning

Goals and Purposes for Learning, the outer ring of the model, are portrayed as developmental outcomes. The goals and purposes of adult learning serve to shape and mold the learning experience. In this model, goals for adult learning events may fit into three general categories: *individual*, *institutional*, or *societal* growth. Knowles (1970, 1980) used these three categories to describe the missions of adult education, though he did not directly link them to the andragogical assumptions. Beder (1989) also used a similar approach to describe the purposes of adult education as facilitating change in society and supporting and maintaining good social order (societal), promote productivity (institutional), and to enhance personal growth (individual).

Merriam and Brockett (1997) discuss seven content-purpose typologies (Apps, 1985; Beder, 1989; Bryson, 1936; Darkenwald & Merriam, 1982; Grattan, 1955; Liveright, 1968, Rachal, 1988), using Bryson's (1936) five-part typology (liberal, occupational, relational, remedial, and political) and noted that the purposes for adult learning have changed little since then. Bryson's (1936) typology would also fit into Knowles' three-part typology with "liberal," "relational," and "remedial" fitting into the individual category, "occupational" fitting into the institutional category, and "political" fitting into the societal category. Thus, Knowles' three-category typology can be seen as also encompassing all of the categories found in other major typologies of purposes for adult learning.

That so many researchers have attempted to create typologies for adult learning outcomes reinforces our position that the goals and purposes are conceptually separate from the core andragogical assumptions. As was seen in the early discussion about criticisms of the andragogical model, it is easy to attempt to imbue the core principles with value-based or philosophical dimensions of the goals and purposes. Andragogy has almost always been found lacking when examined from that perspective. That is, attempts to take a transactional model of adult learning and make it bigger have failed.

We are not suggesting that goals and purposes of the learning program do not affect the learning transaction. To the contrary, it is vitally important that they be analyzed alongside the core principles as they may influence how the core principles fit a given situation. It is unrealistic to think that the core principles of andragogy will always fit the same in learning programs offered for different goals and purposes. However, keeping them conceptually distinct and analyzing them separately allows andragogy to accommodate multiple perspectives on learning outcomes. Also, only then can the interactions between the goals, philosophies, and contexts with the adult learning transaction be fully identified and correctly defined.

It is for that reason that Knowles talked extensively about adapting the use of andragogy to fit the purpose of the learning event (Knowles, 1980, 1984b). Consider adult literacy programs as an example. Such programs may be conducted by an adult

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education center to help individuals improve life skills (an individual goal); by a corporation to improve job and organizational performance (an institutional goal); or by some other entity seeking to help a disadvantaged group of citizens improve their socio-economic position (a societal goal). While the goal differs in each of these situations, the actual learning program and immediate learning outcomes (e.g., improved literacy) may be quite similar or even identical. Therefore, andragogy is equally applicable to each scenario because andragogy focuses on the learning transaction, as opposed to the overall goal for which the program is offered.

However, the goal will also likely affect the learning process. For example, when offered for societal improvement purposes, extra emphasis may be placed on developing self-directedness among the learners. When offered for work-related performance improvement, extra emphasis might be placed on relating the content to work situations. However, these changes are *not* a direct result of applying the andragogical model but of the context in which andragogy is utilized. This illustrates the strength of andragogy: it is a set of core adult learning principles that can be applied to all adult learning situations.

Individual Growth. The traditional view among most scholars and practitioners of adult learning is to think exclusively of individual growth. Representative researchers in this group might include some mentioned earlier such as Mezirow (1991) and Brookfield (1984a, 1987). Others advocate an individual development approach to workplace adult learning programs (Bierema, 1996;

Dirkx, 1996). At first glance, andragogy would appear to fit best with individual development goals because of its focus on the individual learner.

Institutional Growth. Adult learning is equally powerful in developing better institutions as well as individuals. Human resource development, for example, embraces organizational performance as one of its core goals (Brethower & Smalley, 1998; Swanson & Arnold, 1996), which andragogy does not explicitly embrace either. From this view of human resource development, the ultimate goal of learning activities is to improve the institution sponsoring the learning activity. Thus, control of the goals and purposes is shared between the organization and the individual. The adult learning transaction in an HRD setting still fits nicely within the andragogical framework, although the different goals require adjustments to be made in how the andragogical assumptions are applied.

Societal Growth. Societal goals and purposes that can be associated with the learning experience can be illustrated through Friere's work (1970). This Brazilian educator saw the goals and purposes of adult education as societal transformation and contended that education is a consciousness raising process. From his view, the aim of education is to help participants put knowledge into practice and that the outcome of education is societal transformation. Freire believed in the human ability to recreate a social world and establish a dynamic society and that the major aim of education is to help people put knowledge into action. Doing so, according to Friere (1970),

would enable people to change the world–to humanize it. Friere is clearly concerned with creating a better world and the development and liberation of people. As such, the goals and purposes within this learning context are oriented to societal as well as individual improvement. Once again though, the actual adult learning transactions fit within the andragogical framework, though with some adjustments.

One reviewer remarked that we might be confusing levels of analysis with the individual learning perspective of andragogy. This is not the case. Rather, this perspective acknowledges that learning occurs for a variety of reasons, has outcomes beyond the individual level, and frequently is sponsored by or embedded in organizational or societal contexts (Boone, 1985; Brookfield, 1986; Knowles, 1980). Andragogy is an individual learning framework, but individual learning may occur for the purpose of advancing individual, institutional, or societal growth.

Individual and Situational Differences

Individual and Situational Differences, the middle ring of the Andragogy in Practice Model, are portrayed as variables. We continue to learn more about the differences that impact adult learning and which act as filters that shape the practice of andragogy. These variables are grouped into the categories of individual *learner differences*, *subject matter differences*, and *situational differences*.

Subject Matter Differences. Different subject matter may require different learning strategies. For example, individuals may be less likely to learn complex technical subject matter in a self-directed manner. Or, as Knowles stated in the earlier quote, introducing unfamiliar content to a learner will require a different teaching/learning strategy. Not all subject matter can be simply taught or learned in the same way.

Situational Differences. The situational effects category captures any unique factors that could arise in a particular learning situation and incorporates several sets of influences. At the microlevel, different local situations may dictate different teaching/learning strategies. For example, learners in remote locations may be forced to be more self-directed, or perhaps less so. Or learning in large groups may

> *As part of needs assessment for program development, andragogical learner analysis uses the Andragogy in Practice Model to determine the extent to which andragogical principles fit a particular situation.*

mean that learning activities are less tailored to particular life circumstances.

At a broader level, this group of factors connects andragogy with the socio-cultural influences now accepted as a core part of each learning situation. This is one area of past criticism that seems particularly appropriate. Jarvis (1987) sees all adult learning as occurring within a social context through life experiences. In his model, the social context may include social influences prior to the learning event that affect the learning experience, as well as the social milieu within which the actual learning occurs. Thus, situational influences prior to the learning event could include anything from cultural influences to learning history. Similarly, situational influences during learning can be seen as including the full range of social, cultural, and situation-specific factors that may alter the learning transaction.

Individual Differences. In the last decade, there has been a surge of interest in linking adult education literature with psychology to advance understanding of how individual differences affect adult learning. Tennant (1997) analyzes psychological theories from an adult learning perspective and argues for psychology as a foundation discipline of adult education. Interestingly, a group of educational psychologists have recently argued for building a bridge between educational psychology and adult learning, calling for creation of a new sub-field of adult educational psychology (Smith & Pourchot, 1998).

This may be the area in which our understanding of adult learning has advanced the most since Knowles first introduced andragogy. A number of researchers have expounded upon a host of individual differences affecting the learning process (e.g., Dirkx & Prenger, 1997; Kidd, 1978; Merriam & Cafferella, 1999). This increased emphasis on linking adult learning and psychological research is indicative of an increasing focus on how individual differences affect adult learning. From this perspective, there is no reason to expect all adults to behave the same, but rather our understanding of individual differences should help to shape and tailor the andragogical approach to fit the uniqueness of the learners. It is somewhat ironic that andragogy first emerged as an effort to focus on the uniqueness between adults and other learners. Now, we know that andragogy must be tailored further to fit the uniqueness among adults.

It is beyond the scope of this article to delineate all the individual differences that may affect learning. However, Jonassen & Grabowski (1993) present a typology of individual differences that impact on learning which incorporates three broad categories of individual differences: *cognitive* (including cognitive abilities, controls, and styles), *personality*, and *prior knowledge*. Table 3 shows their list of individual differences that may impact upon learning.

While there remains much uncertainty in the research, the key point is clear–individuals vary in their approaches, strategies, and preferences during learning activities. Few learning professionals would disagree. At one level, merely being sensitive to those differences should significantly improve learning. Even better, the more that is understood

Table 3
Individual Learner Differences (Jonassen & Grabowski, 1993)

COGNITIVE

1. **General Mental Abilities**
   - **Hierarchical abilities (fluid, crystallized, and spatial)**

2. **Primary Mental Abilities**
   - **Products**
   - **Operations**
   - **Content**

3. **Cognitive Controls**
   - **Field dependence/independence**
   - **Field articulation**
   - **Cognitive tempo**
   - **Focal attention**
   - **Category width**
   - **Cognitive complexity/simplicity**
   - **Strong vs. weak automatization**

4. **Cognitive Styles: Information gathering**
   - **Visual/haptic**
   - **Visualizer/verbalizer**
   - **Leveling/sharpening**

5. **Cognitive Styles: Information organizing**
   - **Serialist/holist**
   - **Conceptual style**

6. **Learning Styles**
   - **Hill's cognitive style mapping**
   - **Kolb's learning styles**
   - **Dunn and Dunn learning styles**
   - **Grasha-Reichman learning styles**
   - **Gregorc learning styles**

PERSONALITY

7. **Personality: Attentional and engagement styles**
   - **Anxiety**
   - **Tolerance for unrealistic expectations**
   - **Ambiguity tolerance**
   - **Frustration tolerance**

8. **Personality: Expectancy and incentive styles**
   - **Locus of control**
   - **Introversion/extraversion**
   - **Achievement motivation**
   - **Risk taking vs. cautiousness**

PRIOR KNOWLEDGE

9. **Prior knowledge**
   - **Prior knowledge and achievement**
   - **Structural knowledge**

about the exact nature of the differences, the more specific learning theorists can be about the exact nature of adaptations that should be made.

Another area of individual differences in which our understanding is expanding rapidly is adult development. Adult development theories are generally divided into three types: physical changes, cognitive or intellectual development, or personality and life span role development (Merriam & Cafferella, 1999; Tennant, 1995). Cognitive development theory's primary contributions are two-fold. First, they help to explain some differences in the way adults learn at different points in their life. Second, they help to explain why the core learning principles are exhibited in different ways at different points in life. Life-span role development theory's primary contribution is to help explain when adults are most ready for and most need learning and when they may be most motivated to learn.

An understanding of individual differences helps make andragogy more effective in practice. Effective adult learning professionals use their understanding of individual differences to tailor adult learning experiences in several ways. First, they tailor the manner in which they apply the core principles to fit adult learners' cognitive abilities and learning style preferences. Second, they use them to know which of the core principles are most salient to a specific group of learners. For example, if learners do not have strong cognitive controls, they may not initially emphasize self-directed learning. Third, they use them to expand the goals of learning experiences. For example, one goal might be to expand learners' cognitive controls and styles to enhance future learning ability. This flexible approach explains why andragogy is applied in so many different ways (Knowles, 1984b).

Applying the Andragogy in Practice Framework

The Andragogy in Practice Framework is an expanded conceptualization of andragogy that incorporates domains of factors that will influence the application of core andragogical principles. We turn now to an example to illustrate how to use the *Andragogy in Practice* Model.

As a general note, we have noted interesting differences in the way people apply the model and therefore the best way to explain it. Those familiar with the six core principles of andragogy tend to want to begin conceptually in the middle of the model, working outward to adjust the six principles to fit the individual and situational differences as well as differences due to the goals and purposes. For them, the outer two rings act as "filters" through which the core principles are examined to make adjustments. Those unfamiliar with the six principles seem to prefer to start with the outer ring and work inward. For these individuals, it makes more sense to analyze the goals and purposes first, then the individual and situational differences, and then to adjust their application of the core principles to fit the full context.

Both perspectives have merit, depending upon the application. We suggest a three-part process for ana-

lyzing adult learners with the Andragogy in Practice Model:

1) The core principles of andra-gogy provide a sound foundation for planning adult learning experiences. Without any other information, they reflect a sound approach to effective adult learning.
2) Analysis should be conducted to understand: a) the particular adult learners and their individual characteristics; b) the characteristics of the subject matter; and c) the characteristics of the particular situation in which adult learning is being used. Adjustments necessary to the core principles should be anticipated.
3) The goals and purposes for which the adult learning is conducted provide a frame that shapes the learning experience. They should be clearly identified and possible effects on adult learning explicated.

This framework should be used in advance to conduct what we call *andragogical learner analysis*. As part of needs assessment for program development, andragogical learner analysis uses the Andragogy in Practice Model to determine the extent to which andragogical prin-

ciples fit a particular situation. Figure 2 is a worksheet created for this purpose. The six core assumptions are listed in the left-hand column and comprise the rows in the matrix. Each of the two outer rings and the six groups of factors contained within the Andra-gogy in Practice Model are shown in the other six columns. Thus, each cell of the matrix represents the potential effect of one of the factors on a core assumption.

> *That so many researchers have attempted to create typologies for adult learning outcomes reinforces our position that the goals and purposes are conceptually separate from the core andragogical assumptions.*

The analyst using the andra-gogical lens should first assess the extent to which the andra-gogical assumptions fit the learners at that point in time and check the appropriate ones in Column 2. Then, he or she must determine the extent to which each of the six groups of factors would impact on each of the six core assumptions. That impact might be to make it more important, less important, not present in the learner group, etc. Deviations and potential changes should be noted in the appropriate cell of the matrix. When used for this purpose, it is probably best to start with the outer ring and work inward. On the other hand, if one does not have much of an opportunity to analyze the learners in advance, then it may be more appropriate to begin the program with the core principles as a guide and make adjustments as the

Figure 2. Andragogical Learner Analysis

Andragogical Principle	Applies to learners?	Expected Influence of					
		Individual and Situational Differences			Goals and Purposes for Learning		
		Subject matter	Individual learner	Situational	Individual	Institutional	Societal
1) Adults need to know why they need to learn something before learning it.							
2) The self-concept of adults is heavily dependent upon a move toward self-direction.							
3) Prior experiences of the learner provide a rich resource for learning							
4) Adults typically become ready to learn when they experience a need to cope with a life situation or perform a task							
5) Adults' orientation to learning is life-centered; education is a process of developing increased competency levels to achieve their full potential.							
6) The motivation for adult learners is internal rather than external.							

other elements of the model become known.

For example, a municipal government has developed a new management development program to help change the organization to a high-performance workplace. It was developed based on "best practices and thinking" in performance improvement leadership. Figure 3 shows the andragogical learner analysis form completed for this scenario.

An analysis of the learners indicates that they generally fit the core assumptions of the andragogical model (check marks in column two). This presents several problems because the program cannot be conducted in a completely andragogical approach (comments that follow are noted in the appropriate cell in Figure 3). First, the ultimate goal of the program is to enhance organizational performance. Thus, learners will not have as much choice about the content of the learning (goal factor). It was determined that considerable effort will have to be devoted to convincing the learners of the "need to know" because some may not perceive they need the program. Second, most of the learners are experienced managers who consider themselves to be reasonably accomplished at their jobs. However, the program will challenge learners' mental models of management development as it presents a new approach to managing in the public sector. Thus, their prior experience could actually be a barrier to learning (individual difference factor). Next, it was determined that few of them had engaged in self-directed learning with regard to management issues. This fact, coupled with the unfamiliarity of the material, will make self-directed learning unlikely, at least in the early stages of the program. Further complicating the design is that there is likely to be little formal payoff because public sector employment systems do not allow for performance- or skill-based pay increases (a situational factor). Much of the "payoff" will be intrinsic, and learners will have to be convinced of the value. Finally, the subject matter itself will shape the learning. The approach being taught would be unfamiliar to these managers and rely on a complex integration of theories. Thus, some portions of the program may be more didactic than others (subject matter factor).

This example illustrates how andragogy becomes more powerful by explicitly accommodating contingencies present in most adult learning situations. It is difficult to explicate the precise mechanisms by which the factors in the outer ring will influence application of the core assumptions because of the complex ways in which they interact. But andragogical learner analysis based on the Andragogy in Practice Framework provides practitioners a structured framework within which to consider key ways in which andragogy will have to be adapted.

Conclusion

What we have offered in this paper is a clarified conceptualization of the andragogical model of adult learning that more closely parallels the way andragogy is applied in practice and, we believe, is closer to Knowles' original intent. The *Andragogy in Practice* Model expands andragogy's utility by a) con-

Figure 3. Andragogical Learner Analysis for Management Development Case

Andragogical Principle	Applies?	Expected Influence of					
		Individual and Situational Differences			Goals and Purposes for Learning		
		Subject matter	Individual learner	Situational	Individual	Institutional	Societal
1) Adults need to know why they need to learn something before learning it.	✓					Learners may not perceive they need program so must work harder here	
2) The self-concept of adults is heavily dependent upon a move toward self-direction.	✓			Few have engaged in self-directed learning on management issues			
3) Prior experiences of the learner provide a rich resource for learning	✓	Prior experiences may be a barrier to learning because new program is very different					
4) Adults typically become ready to learn when they experience a need to cope with a life situation or perform a task	✓	Will have to convince learners of the value of the new learning				Need for program is not immediately apparent in their everyday jobs	
5) Adults' orientation to learning is life-centered; education is a process of developing increased competency levels to achieve their full potential.	✓	New material may be complex and unfamiliar; learners may feel threatened					
6) The motivation for adult learners is internal rather than external.	✓			No formal rewards in public sector for participating so will depend on internal motiv.			

ceptually separating the goals and purposes of learning from the core andragogical principles of the learning transaction so the interactions and adaptations can be more clearly defined, and b) explicitly accounting for individual, situational, and subject matter differences in the learning situation.

This is not an attempt to reignite previous debates about andragogy or to suggest that andragogy should be the single defining model of adult learning. Rather, we tend to agree with Merriam and Cafferella (1999, p. 278) who said: "We see andragogy as an enduring model for understanding certain aspects of adult learning. It does not give us the total picture, nor is it a panacea for fixing adult learning practices. Rather, it constitutes one piece of the rich mosaic of adult learning." Our understanding of Knowles' work suggests that this is entirely consistent with his views. To the extent that andragogy is the right model of adult learning in a given situation, the Andragogy in Practice Framework should improve its application.

As some critics have pointed out, andragogy has not been tested well empirically (Grace, 1985; Pratt, 1993). However, the reality is that none of the prominent theories or models of adult learning have been tested well empirically (Caferella, 1993; Clark, 1993; Hiemstra, 1993; Merriam & Caffarella, 1999), and all, including andragogy, are in need of more research. Knowles (1989, p. 112) himself acknowledged in his autobiography that he no longer viewed andragogy as a complete theory:

> I prefer to think of it as a model of assumptions about adult learn-

ing or a conceptual framework that serves as a basis for emerging theory.

However, such research should not ask questions about andragogy that are outside its intended theoretical frame. Thus, we have offered some alternative perspectives that should help guide future research. It is important that andragogy be evaluated from multiple perspectives. Further research is needed to more explicitly define how the andragogical principles will be affected as different factors change. We see this as an initial attempt to clarify how andragogy can be a more realistic, and therefore useful, approach to adult learning.

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