

Adult Learning & the Workplace: Characteristics and Strategies for Successful Professional Development

An Introductory Chapter

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Introduction

While Europeans began using the term andragogy in the mid 1800's, it wasn't until Malcolm Knowles adopted the term in the late 1960's that it gained popularity and broader recognition. According to Knowles (1984), "European adult educators had coined the term as a parallel to pedagogy, to provide a label for the growing body of knowledge and technology in regard to adult learning, and that it was being defined as 'the art and science of helping adults learn,'" (p. 6). Using this terminology allowed educators to give a name to a growing field that incorporated many different schools of thought, including developmental psychology, sociology, social psychology, and philosophy, and to create an integrated theoretical framework to better accommodate adult learners (Knowles, 1973). However, over time teachers questioned whether it was accurate to label all child-related learning as pedagogy, and all adult-centered learning as andragogy, as it seemed that children could sometimes benefit when the andragogical model was applied, and alternatively, "many teachers and trainers working with adults cited circumstances – especially in basic skills training – where the pedagogical model seemed to be required," (Knowles, 1984, p. 6). Therefore, a more nuanced understanding of these concepts presents pedagogy as teacher-centered learning and andragogy as student-centered learning (Merriam, 2007, 87). In this way, andragogy is not necessarily synonymous with adult learning, but rather it is a set of strategies and a science better associated with more developed learners.

Still, Knowles' work was critical in drawing attention to the idea that adult learners possess distinct characteristics that should be considered when designing and delivering instruction. His work helped establish the idea that in order to support adult education, it is necessary to gain a deeper understanding of what adults bring to a learning situation and what

they are looking to receive from instruction. This introductory chapter will examine the unique characteristics of adult learners and how these characteristics can be applied to the workplace in order to foster successful professional development. Instructional designers who design for adults can utilize the characteristics and strategies identified by incorporating them into their instructional practice. Specifically, this introductory chapter will answer the following questions:

1. What are the unique characteristics of adult learners that educators need to be aware of?
2. What strategies can be employed to help address the distinct characteristics of adult learners?
3. How can we leverage knowledge about adult learners and effective learning strategies to create successful instructional design?

Methods

In order to proceed with this undertaking, specific methods were taken to review the literature and address the research questions. As mentioned, the purpose of this chapter is to provide an overview of some of the key elements of adult learning. The content area researched looked firstly at characteristics of adult learners. As Malcolm Knowles has written foundational literature on this topic, I began by examining his principles of adult learning and then examined more contemporary notions and supplements. This was done through the lens of the social cognitive theory, which helped provide insight into how adult learners have come to hold these characteristics and how they shape an individual's identity.

After establishing the characteristics of adult learners, I looked at different strategies or tactics used to engage learners in a situated environment. As adult learners will be bringing their knowledge back to a community, in this case the workplace, the situated learning theory

was considered in the search for strategies that could be used to facilitate learning in a community.

Research Methods/Data Sources

In order to conduct thorough research on adult learning and synthesize this research in an introductory chapter, key books, articles and case studies were identified to the best of my ability given restraints like time, and the scope of such an undertaking. I consulted the University of Virginia library system and checked out a number of relevant books on adult learning to dive into some of the more foundational materials. From here I used the University of Virginia's online library database, Virgo, as well as Ebsco to search for articles related to adult learning characteristics, adult learning strategies and instructional design for adults. Keywords included, "adult learning," "adult instruction," "andragogy," "adult learning strategies," "learning strategies for adults," "how to help adults learn," "instructional design practices for adult learners," etc.

While these search terms are somewhat broad, the screening process was not as difficult as anticipated. By keeping in mind my research questions and carefully reading through abstracts it was fairly clear whether an article was applicable or not to this particular introductory chapter. Another useful tool was using the social cognitive theory and situated learning approach as a lens through which to view the articles. As I read through abstracts, I asked – Do these articles provide information that will provide insight into my research questions? What theoretical frameworks are discussed in the articles and do they align with the theoretical frameworks I am using? Is the information presented applicable to a corporate learning environment? If the answer to these questions was yes, then that article was further considered.

Analysis Framework

The goal of the introductory chapter is to help new instructional designers gain an understanding of adult learner characteristics and learning strategies to ultimately inform their instructional practices. Screening the abstracts was the first step in analyzing the data because it allowed me to focus on answering my research questions through the lens of the social cognitive theory and the situated learning theory. Using both these frameworks, as well as emphasizing professional learning environments helped me exclude irrelevant articles.

Once I determined that an article or book was credible, relevant and would inform the introductory chapter, I used a word document to take notes from the articles on key points and/or diagrams. From these notes I created a detailed outline for the introduction and was fortunate to be able to share this with nine peers in a works-in-progress session. My peers read this outline and provided feedback and suggestions for the final version of the chapter. I then begin writing and revising in earnest until the chapter was complete.

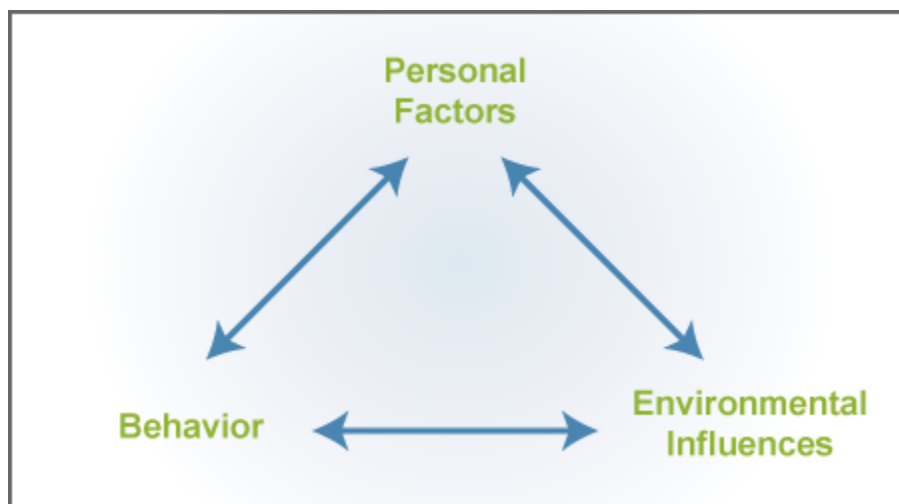
Key Theoretical Frameworks

As mentioned, many different fields, from social psychology to philosophy, have influenced adult learning. However, to address the research questions in this chapter it is useful to consider two different psychological theories, the social cognitive theory and the situated learning theory. The social cognitive theory helps frame how and why adult learners come to have unique characteristics, and the situated learning theory provides insight into what strategies and methods can be used in developing instructional design for adults. Having a firm grasp of these theories and their roles in shaping adult learners allows for a better understanding of the answers to the research questions explored in this chapter.

Social Cognitive Theory

Though this will be explored later in further detail, one of the characteristics of an adult learner is that he or she brings a great deal of prior experience to a learning situation. Knowles (1984) indicates that an adult's experience differs from a child's in that it is both quantitatively larger with more interactions over time, and qualitatively richer, with deeper, more profound experiences (p. 10). These life experiences, along with personal factors, like thoughts about self-efficacy, help shape behavior and define how adult learners come to their frame of reference and knowledge about the world. While adult learning theory is a theoretical framework in and of itself, it is important to note the role of Albert Bandura's social cognitive theory in helping shape adult learning. Schunk (2012) discusses Bandura's triadic reciprocal causality model that links behaviors, environment and cognitions as the core elements that make up human functioning. This aspect of the social cognitive theory overlaps quite nicely with some of the core principles of adult learning, accounting for individualized differences among learners, varied skill levels, established opinions, etc. The triadic model integrates personal factors like knowledge, expectations and attitudes with environmental factors like community membership and social norms, along with behavioral factors, like skills and practice, to shape human functioning.

Figure 1. Bandura's Triadic Reciprocal Determinism



In addition to the triadic model, Bandura (2001) emphasizes the control and agency individuals have over their thoughts and in their lives. The core features of human agency include insight, forethought, self-reactiveness and self-reflectiveness. The modes of human agency are direct personal agency, proxy agency and collective agency, which help describe an adult learner's internal motivation to learn. This intrinsic motivation is based on the desire to learn a new skill or concept, and the desire comes from insight into what's lacking in one's life (Bandura, 2001, p.10). Personal agency is required to help bring that desire to learn into fruition.

Another key aspect of social cognitive theory is that people can learn merely by observing other people perform behaviors, which also maps to adult learning. For example, while readiness to learn may occur as a result of a significant life event, it can also be induced by, "exposing learners to more effective role models," (Knowles, 1984, p. 11). Social cognitive theory argues that learning can occur through observation alone and also stresses the importance of modeling. This is an important aspect to consider in readiness of the learner, but also in the adult learner's experience. Some of this experience may be through direct action, but a longer lifespan also translates to more opportunities for observation, and therefore more opportunities for vicarious learning. Similarly, in the workplace one often has a model, be it a mentor, a manager or a higher level employee, from which they can learn through observations of their practices.

Social cognitive theory is extremely helpful in providing a framework to understand some of the nuances of adult learners; it provides an appropriate lens for looking at how the adult learners come to have those unique characteristics and experiences. Specifically, it does

this by giving careful consideration to the personal factors and environmental influences that help to shape an adult's behavior.

Situated Learning Theory

At this point in his or her development, the adult learner has a full set and range of experiences, and is ready to enter a new learning environment. From here, the process of adult learning focuses on the involvement of the learner in a social situation, both to acquire new knowledge and to contribute that knowledge to a larger social setting. To create this fundamental change requires learning through situated activity. Lave and Wenger (1991) argue for learning through the lens of legitimate peripheral participation, a concept in which learners participate in communities of practitioners. Learning, in this view, is a byproduct of being part of the community, where one begins as a newcomer of the community of practice, and transitions to an old-timer. Lave (1991) argues that learning is an integral and inseparable part of social practice and that there is no activity that is not situated.

This theoretical framework is useful for understanding adult learning strategies and tactics because rarely are adults interested in learning that has little relevance to their lives (Knowles, 1970), and thus they often engage in learning that has direct relevance to their workplace. Learning at this point will contribute not only to their ability to complete a task in the workplace, but also to the workplace itself as they improve the overall professional community with their knowledge. As Lave and Wegner argue (1991), there is no such thing as decontextualized learning, it always has a place in a greater environment.

Brown, Collins and Duguid (1989) also view knowledge as situated activity, based on the context and culture in which it is developed and used. This exists in opposition to the idea that "knowing what" and "knowing how" can be separated, as it is often taught in schools.

Instead, “situations might be said to co-produce knowledge through activity,” (Brown, Collins and Duguid, 1989, p. 1). This frame of reference provides some insight into the strategies, design practices and environment that should be created for successful adult education. Brown, Collins and Duguid (1989) suggest looking at conceptual knowledge as a set of tools, in that you can acquire tools without knowing how to use them, so you must use the tools actively, and in the culture and community, to learn. In other words, this theoretical framework suggests viewing strategies and plans for learning through authentic activities that take place in a community. Cognitive apprenticeship is another strategy that allows learners to use cognitive tools and produce activity in an authentic social environment.

Situated learning theory in practice provides a framework for creating adult learning in the workplace. Putnam & Borko (2000) explore this idea more deeply by looking at situated learning among teachers, following the idea that learning is not individualized, but is rather a process of enculturation. Different situated learning activities are explored by teachers, including sharing classroom experiences in workshops, using case-based activities, creating discourse communities for teachers and computer based tools to support teachers with virtual programs. Understanding the characteristics of adult learners allows for emphasis on situated strategies, which will help better inform instructional design practices for adults.

Results - Characteristics of Adult Learners

Malcolm Knowles established the core principles of adult learning in the 1970’s. Though contemporary literature does expand upon his six principles, the original principles are still considered the fundamental components of andragogy. However, as mentioned above, the principles of andragogy can apply to both younger and older learners alike, so it seems necessary to first define the term “adult,” as it relates to education and learning. In his book,

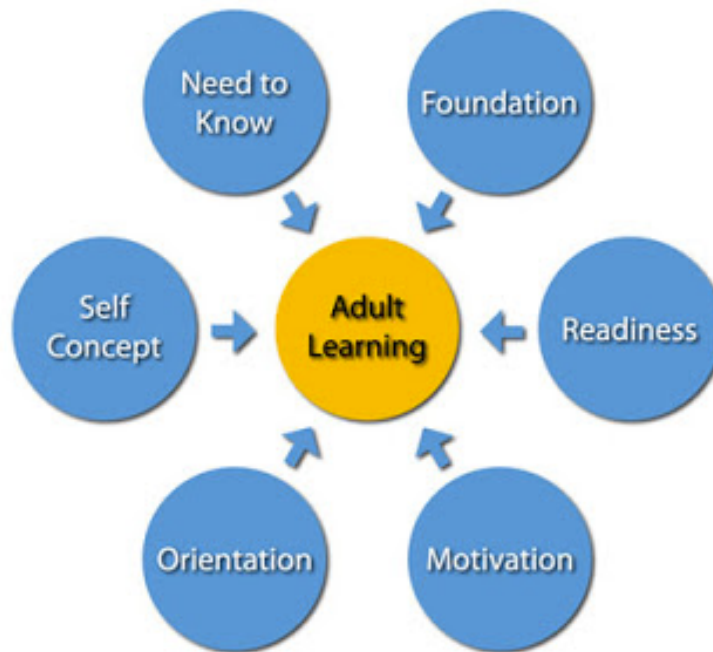
The Adult Learner, Knowles discusses some of the work of Eduard Lindeman, who helped lay the foundation for a theory of adult learning in the 1920's (Knowles, 1973, p. 36). Lindeman distinguishes the adult learner by saying, "Adult learners are precisely those whose intellectual aspirations are least likely to be around by the rigid, uncompromising requirements of authoritative, conventionalized institutions of learning," (Knowles, 1973, p.37). Lindeman further describes adult learning as the process by which adult learners become more aware of their experiences and begin to evaluate these experiences for themselves (Knowles, 1973, p. 37). In other words, an adult in an educational sense can be described as someone who has reached a level of maturation where they would like to feel more involved in their learning, they want to create their own parameters and make learning truly applicable to their own lives. Andragogy also speaks to a learner who is less dependent on the instructor and the traditional authoritarian learning context (Knowles, 1972, p.61). One might also describe this as a shift from a passive vessel that receives learning to more of an active participant, which aligns nicely with the situated learning theory and the idea of learning through active participation.

Now that a general definition of the term "adult" has been established, Knowles' principles of andragogy can be examined by thinking of the adult learner in this context. The first principle Knowles describes is an adult learner's need to know. Adults are hesitant to engage in learning without having a firm understanding of why they are undertaking the task at hand (Knowles, 1973, p. 60). The next principle deals with the self-concept of the learner, which is that an adult has a self concept of being responsible for making his or her own decisions. They want to feel like they have control in their life and have the ability to influence it's direction, and it is important that others also see them as self-directed (Knowles, 1973, p.

63). The third principle deals with the prior experience of the learner, or the idea that an adult comes into a learning situation with a greater quantity of experiences than that of a younger learner. What's more, these experiences are also closely tied to an adult's identity, helping define how they see themselves. While the experience the learner brings can provide a fountain of knowledge for an instructional designer or educator to draw upon, this knowledge can also take the form of possible negatives biases or habits (Knowles, 1973, p. 64-65). Special care needs to be taken to consider both this rich experience, and the potential for bias.

An adult's readiness to learn is the fourth principle, which states that an adult is ready to learn those things that will help them in real life. This often has overlap with developmental stages as well, such that adults are ready to learn those things that apply to their particular life stage, and they are also interested in authentic situations that will directly apply to real life (Knowles, 1973, p. 65). The fifth principles deals with an adult's orientation to learning, which has some overlap with their readiness to learn. This principles says that adults are life-centered, or problem-centered in their orientation to learning. They are motivated to learn to the extent that it helps them complete tasks or deal with real life problems, so the context of the learning is key (Knowles, 1973, p. 66). Lastly, the sixth principles deals with an adult's motivation to learn, which is fundamentally more intrinsic rather than extrinsic. While external motivators like promotions or a new job may be motivating, internal motivators, like better job satisfaction or a higher quality of life are far more powerful (Knowles, 1973, p. 67). Again, this intrinsic motivation tends to come from examining what's missing in one's life, as discussed above (Bandura, 2001, p.10). Below is a graphical representation of these core principles.

Figure 2. Graphical Representation of the Adult Learning Theory



In addition to the principles described above, contemporary literature further expands upon these characteristics, providing additional descriptors with which one may conceptualize the adult learner. However, it is important to note that there is a great deal of overlap between additional characteristics and Knowles' core principles of andragogy, which again suggests that the core principles are quite useful for laying a foundation for understanding the adult learner. For example, Goldsmith (2014) describes the adult learner as autonomous, or someone who prefers to have control over his or her learning experiences. Adults are also curious, and want to find solutions to their own problems and have new experiences (Goldsmith, 2014, p. 30-32). Goldsmith also characterizes the adult learner as experienced, as approaching a learning situation with pre-existing knowledge, and goal-oriented, suggesting that adults learn best when they know that the training event is meant to achieve a specific outcome (Goldsmith, 2014, p. 30-32). Goldsmith further suggests that adult learners are

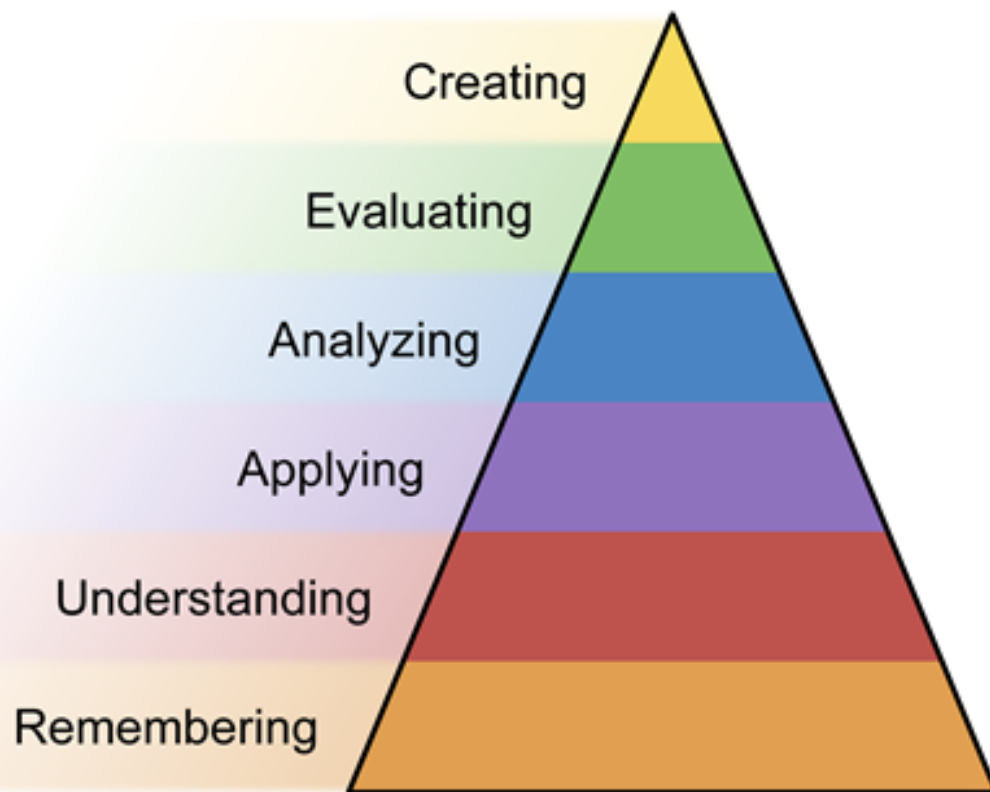
hands-on, need stimulation, are pragmatic, and skeptical, in that they assess the credibility of both the teacher and the content (Goldsmith, 2014, p. 30-32). Kelly (2012) suggests similar characteristics, noting that adults are autonomous and self-directed, practical and relevancy oriented. Finally, Caudron (2000), who comes to adult learning with a training background, suggests that adults do not learn best in formal training, that context is key, adults learn by experience, and value mentoring (p. 52). She continues her argument that most adults are non-traditional learners, who dislike being talked at, have a low tolerance for bureaucracy and value discussions, projects, and real world experiences (Cauldron, 2000, p. 52).

Results - Strategies and Models for Adult Learning

Having established that adults enter a learning situation with a robust set of experiences and characteristics, next we can examine what strategies can be used to consider these specific characteristics. Benjamin Bloom, an educational psychologist, created a way of conceptualizing and categorizing different cognitive objectives for learners, which is today called Bloom's Taxonomy. This taxonomy includes six levels that can be helpful for thinking about objectives in the cognitive domain (Moore, Ross, Kalman & Kemp, 2013, p. 107). Starting from the bottom, so to speak, the different levels of the taxonomy asks learners to engage in different levels of thinking. The six levels include knowledge, comprehension, application, analysis, synthesis and evaluation (Moore, Ross, Kalman & Kemp, 2013, p. 107) and the relative difficulty of the task increases as you make your way higher up the list. Simply remembering information (knowledge) would be the least difficult, or least engaging for adult learners, while evaluation and synthesis, which involves creation, would be most difficult, but also the more appropriate strategy for adult learners. Though the level of engagement is often

dependent upon the type of task that learners need to master, Bloom's Taxonomy provides a way of thinking about what level of instruction is appropriate for the unique characteristics of adult learners. The figure below provides a graphical representation of Bloom's taxonomy.

Figure 3. Graphical Representation of Bloom's Taxonomy



Bloom's Taxonomy can be described further by looking at the definitions for each level. The base level, knowledge, deals with the straightforward recall of information. Comprehension, the second level, is about interpreting information in one's own words. Application includes using knowledge learned in a new situation, while during analysis, a learner should break down knowledge into parts and be able to show the relationship among these. Synthesis and evaluation have been somewhat in flux in terms of which level is at the top, as both indicate higher level intellectual behavior. Evaluation deals with making

judgments or justifications given a set of criteria and finally synthesis, or creation, brings together parts of knowledge to create a whole new product or form (Moore, Ross, Kalman & Kemp, 2013, p. 108). Again, application of these strategies will depend on the task at hand, however, as Goldsmith (2014) said, “A well-designed and facilitated [learning] session is better able to accomplish cognitive change at the higher levels,” (p.32). As we know that generally adult learning aims for higher intellectual development (Knowles, 1973), it seems that activities that allow for analysis, evaluation and synthesis would work well for adult learners. Synthesis in particular aligns well with authentic real-life learning activities, and all three higher levels allow for more hands-on, autonomous thinking by actively engaging with the information. What’s more, all these levels can be explored in a collaborative context, such that analysis, synthesis and evaluation can happen as a group effort among learners, to both learn from one another and to mimic a common workplace scenario or working on a shared project.

In addition to looking at Bloom’s taxonomy, self-directed and self-regulated learning in particular provides some insight into accommodating the autonomous and independent nature of adult learners. Knowles (1973) describes self-directed learning as the extent to which learners take initiative to diagnose their own learning needs and goals. Kvedarait, Jasnauskaitė, Geležinienė, & Strazdienė (2000) were interested in understanding what kinds of activities and environments foster self-directed learning in adults, and how specifically this happens. Using a survey with open-ended questions, they held interviews with adult professionals in the corporate sector and educational field. They noted that the underlying theme in the workplace is that learning occurs by doing, through collaboration and through experience. Furthermore, the authors suggested that self-directed learning takes place by identifying individual needs, referring to personal experience and constructing knowledge by

challenging one's perception within a group (Kvedarait, Jasnauskaitė, Geležinienė, & Strazdienė, 2000). Being aware of these strategies, like collaboration and hands-on learning activities, can help trainers and instructional designers cater to the autonomous nature of adult learners.

Self-regulated learning, which overlaps with the concepts of student-centered learning and self-directed learning, is the degree to which learners can specifically regulate their thinking, motivation and behavior during learning (Nicol & Macfarlane-Dick, 2006) and speaks to a learner's overall sense of independence when it comes to learning. Nicol & Macfarlane-Dick (2006) also emphasize the role of feedback in the learning process, noting that learners can only achieve goals that they fully internalize and understand, so if these are goals set by the instructor, they will likely need feedback as to their progress. Nicol & Macfarlane-Dick (2006) additionally discuss the importance of time for self-assessment and reflection so a learner may develop an independent sense of where they stand when it comes to their learning. Lastly, things like positive motivation from the teacher or trainer, as well as opportunities to re-work activities based on feedback, are crucial for developing more of a self-directed learner (Nicol & Macfarlane-Dick, 2006).

Results - Instructional Design and Planning for Adults

After considering the characteristics of adult learners, and now different strategies, which include targeting the higher level components of Bloom's Taxonomy, allowing for collaboration and hands-on experience, as well as considering ways to foster self-direction and self-regulation in learners, we can begin to examine the instructional design practices that allow for such strategies. Knowles (1973) offers a diagram for understanding and addressing the different process elements of andragogy, as seen below (p. 91). This chart shows one

example of the different ways to think through the instructional process, specifically catering to adult learners.

Figure 4. Process Elements of Andragogy (Knowles)

Preparing Learners	<ul style="list-style-type: none"> • Provide information, help develop realistic expectations • Begin thinking about content
Climate	<ul style="list-style-type: none"> • Relaxed, trusting, mutually respectful, informal, warm, collaborative
Planning	<ul style="list-style-type: none"> • Mechanism for mutual planning
Diagnosis of Needs	<ul style="list-style-type: none"> • By mutual assessment
Setting of Objectives	<ul style="list-style-type: none"> • By mutual negotiation
Designing Learning Plans	<ul style="list-style-type: none"> • Sequenced by readiness problem units
Learning Activities	<ul style="list-style-type: none"> • Experiential techniques
Evaluation	<ul style="list-style-type: none"> • Mutual measurement of program

In particular, this process calls for more of a mutual understanding of learning needs and goals, as well as a shared evaluation of the program. These tactics help address a learner’s sense of autonomy, readiness to learn and orientation, allowing them to create a learning program tailored to their lives. Of course, there are many models of curriculum and instruction, which can also be tailored to adult learners. Moore, Ross, Kalman & Kemp (2013) provide a contemporary and relevant instructional process which starts with an instructional problem, then calls for an understanding of learner characteristics, completion of a task

analysis, creation of learner objectives, content sequencing, instructional strategies, message design, development of instruction and finally evaluation. No matter what model of instructional design is selected, careful consideration needs to be given to the target audience. When designing for adults, this means considering the characteristics of adult learners and some of the strategies listed above specifically for the contextual analysis and instructional strategies, but ideally through every step along the process.

When it comes to the development of the instruction in particular, adult learners often benefit from non-traditional methods like transformational learning experiences, authentic activities connected to real-world experiences and group support (Kelly, 2012). How this instruction is designed is of course decided by the teacher, trainer and/or instructional designer. John Heron (2004), a professional trainer and adult educator, argues that there are only six authentic interventions a teacher can make, as seen in the figure below. In terms of roles, teachers may act as facilitators, advocates of missing perspectives, adversaries of oppressive behavior, lecturers, recorders, librarians or mediators (Foley, 2004, p. 76-77). This table describes the different categories or actions an instructor might take, based on whether they are authoritative, a more traditional teaching style, or facilitative, a more modern approach, and one encouraged in andragogy.

Figure 5. Authoritative & Facilitative Learning Styles – Authentic Interventions

Styles	Category	Descriptions
Authoritative	Prescribe	Advise, judge, criticize, evaluation, direct, demonstrate
	Inform	Be didactic, instruct/inform, interpret
	Confront	Challenge, feedback, question directly, expose
Facilitative	Be Cathartic	Release tension in
	Catalyze	Elicit information, encourage
	Support	Approve, confirm, validate

In Heron’s chart it is clear that the facilitative teaching styles is often more supportive, though there might be room for some authoritative style as well, particularly in his categorization of feedback and challenging. Goldsmith takes some of the updated characteristics of adult learners mentioned above and explores how different instructional approaches, like traditional instruction and/or facilitation align with the adult learning principles that have been discussed.

Figure 6. Aligning Instructional Approaches with Adult Learning Principles

Aligning Instructional Approaches With Adult Learning Principles			
Adult Learning Characteristics	If I Teach	If I Teach and Facilitate	If I Facilitate
	...the degree that I will align with the adult learning characteristic in the left column will be:		
Autonomous	Low	Medium	High
Curious	Low - High	Medium - High	Medium - High
Experienced	Low - High	Low - High	Low - High
Goal-oriented	Low - Medium	Medium - High	High
Hands-on	Low - Medium	Medium - High	High
Need stimulation	Low - Medium	Medium - High	High
Pragmatic	Low - High	Medium - High	High
Skeptical	Low	Medium - High	High
Social	Low	Medium - High	High

Goldsmith's diagram is particularly compelling for the notion that facilitation is really the best strategy and instructional approach when it comes to specifically addressing the characteristics of adult learners. Goldsmith distinguishes between teacher-centered education, where the "teacher tells the participants what they need to know, and communication is exclusively one-way," (Goldsmith, 2014, p. 31) and facilitated learning that is participant-centered. In participant-centered learning, "the facilitator guides the discussion, but participants are encouraged to engage with it and the other learning activities...the participants drive their own learning," (Goldsmith, 2014, p. 31). In Figure 6 above, Goldsmith (2014) acknowledges that some of the alignment can be debated, but the overall trend is that facilitation should be a prominent strategy when designing instruction for adults.

Discussion

Adult Learner Characteristics

Adults come into a learning environment with significantly more experience than children, and what's more, they feel that this experience is extremely valuable and defines their identity. Using the social cognitive lens, this particular characteristic is well explained by Bandura's triadic reciprocal determinism, and helps provide evidence that these experiences should be seriously considered by the instructional designer, both as a source of knowledge and as a source of bias. Depending on the experiences an adult learner brings to the classroom, they may be resistant to the idea of change. Adults are also practical, they have greater intrinsic motivation to learn as evidenced by their sense of self-agency, and this is also tied to the fact that they want to learn something that they can directly apply to their daily lives. In other words, they are less likely to engage in material that is not relevant to them, and more

often than not they need to be actively involved in their learning making processes. Adults are likely to be more self-directed and want to feel like they have control over their environment and learning. They are looking for more of a peer-to-peer relationship with the instructor, with solid feedback along the way, as well as a less formal learning environment.

Strategies for Adult Learning

Adult learning and instructional activities must take into account individuals' previous experience. Using the situated model, previous knowledge will be key in sharing learning with the community, so each member has the power to learn from one another's experiences. To create new experiences, it seems that authentic activities must be used that incorporate an adult learner's desire to learn practical knowledge and problem-solving skills. These authentic activities should be active and hands-on if possible, and help inform tasks or practices that the learner will be asked to complete in real life. Thought should also be given to designing learning around evaluation, analysis and synthesis, again utilizing the support and community of other learners.

In order to help adult learners overcome resistance to change, working with them to creative objectives is key. If the learners feel like they are creating their own learning experience, they are more likely to feel invested in the learning. Additionally, the instructor can use language and dialogue that helps make the learner feel comfortable, for example, reassuring the learner that they're not going to learn anything or be asked to do anything that will make them feel uncomfortable. Encouraging self-direction, self-regulation and a more student-centered approach is also a strategy an instructor can use. This sort of participant-centered learner allows for more autonomy and greater satisfaction and control over the learning process.

Strategies for Instructional Design

Using effective strategies for adult learners depends on the context of the learning environment and to the end of learning a specific skill or task. Instructional design practices must first take a look at the learning need and then determine which instructional strategies will meet that need. Instructional design practices for adults will incorporate many of the strategies described above, such as utilizing adults' previous experiences, and using real-world authentic activities and assessments to help reiterate knowledge. Knowles provides a useful conceptualization of designing instruction specifically for adults by focusing on the mutual agreement of learning goals and evaluation. However, any instructional design model can be adopted to consider the unique characteristics and strategies used to engage learners as long as the instructional designer consistently considers his or her audience and their needs. Additionally, as evidenced by Goldsmith's chart in Figure 6, when aligning instructional strategies with adult learning principles facilitation is generally the method of choice when it comes to the actual role of the instructor. Though this is not the only role the instructor can play, the instructor as facilitator does help to foster more of a student-centered approach, which will also likely provide more opportunities for collaboration.

Implications

As discussed, Malcolm Knowles was a critical figure in the field of adult learning. His principles have helped shaped the field of andragogy and have given weight to the unique learning characteristics of adults. Yet while the conversation may begin with Knowles, it doesn't necessarily need to end there. Having a robust understanding of adult learning includes looking at the wider breadth of knowledge available in the literature. Using the social

cognitive theory as a framework for this study helps to account for some of the differences in learners and provide a more robust context for adult learning.

Creating successful adult education in the corporate learning environment is no small feat. Educators may understand intuitively that an adult cannot simply be put in a classroom and taught the same way a child is, but what is less known, especially for those just beginning their careers, is how they differ and what strategies and instructional design practices can be used to help teach adults. This is of vast importance for anyone who is involved in adult education. Situated learning theory in particular can be an extremely helpful theoretical framework in determining authentic activities that can help adults learn. Looking at the workplace specifically, it is important to think of adult education as situated because one's actions in the professional sphere almost always affect another.

This chapter provides six principles of adult learning, as well as some additional supplements that an instructional designer can and should consider when designing instruction for adults. Additionally, Bloom's Taxonomy, as well as strategies for collaboration, hands-on learning and the creation of self-regulation and self-direction, provide some insight into accounting for those unique characteristics of adult learners. Finally, no matter what instructional model is used, these elements can be considered along the way. Facilitation from the instructor is also a key takeaway from this chapter, specifically to the extent that it helps encourage group support, authentic learning and greater learner autonomy. Ideally this chapter, and this great body of work will provide a foundational knowledge and a set of strategies for helping adults learn in the workplace.

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