

ADULT LEARNING THEORY WITH SEMINAR PREPARATION GUIDE

Basic Principles of Adult Learning Theory

Desire

Need

Do

Solve

Apply

Experience

Variety



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BASIC PRINCIPLES OF ADULT LEARNING THEORY SUMMARIZED

Adults approach learning differently from children. Adult learning events require design with the following drivers in mind.

Must want to learn

- Learning new material is exciting BUT still represents change and can be uncomfortable
- Moves the learner out of their comfort zone (from unconsciously competent to consciously incompetent)

Learn only what they feel they need to learn

- Keep it practical
- Theory is nice BUT...

Learn primarily by doing

- Avoid lecture-only courses
- Make sure they have practice opportunities

Learn by solving practical problems

- Have learners identify how they will use this new information

Learn through application of past experiences

- Tie the new material to the past
- Help learners reference their prior experiences

Learn best in an informal and self-directed environment

- Focus needs to be learner-centric not instructor-centric

Learn best through a variety of training methods

- Short lectures
- Practice opportunities
- Games
- In-class rituals

TWO THEORIES OF ADULT LEARNING - MALCOLM KNOWLES



Malcolm Knowles, widely known and influential professor of adult learning, identified two approaches to learning and hence teaching. Pedagogy is the more traditional approach where the instructor holds the knowledge about the subject and dispenses said knowledge primarily via lecture. Andragogy takes the now more accepted approach of being learner-focused and learner-directed, focusing on solving the learners' problem or need to know. These two approaches are summarized below. The most effective seminars, workshops and classes follow the Andragological approach.

ANDRAGOGY VS. PEDAGOGY

	Pedagogy Assumptions	Andragogy Assumptions
View of learner	Dependent	Self-directed
Level of experience	Of little value	Experience rich
Time view	Someday	It's needed NOW
Orientation to learning	Subject-centered	Problem-centered
Relationship	Learner/trainer	Joint focus on learner need satisfaction

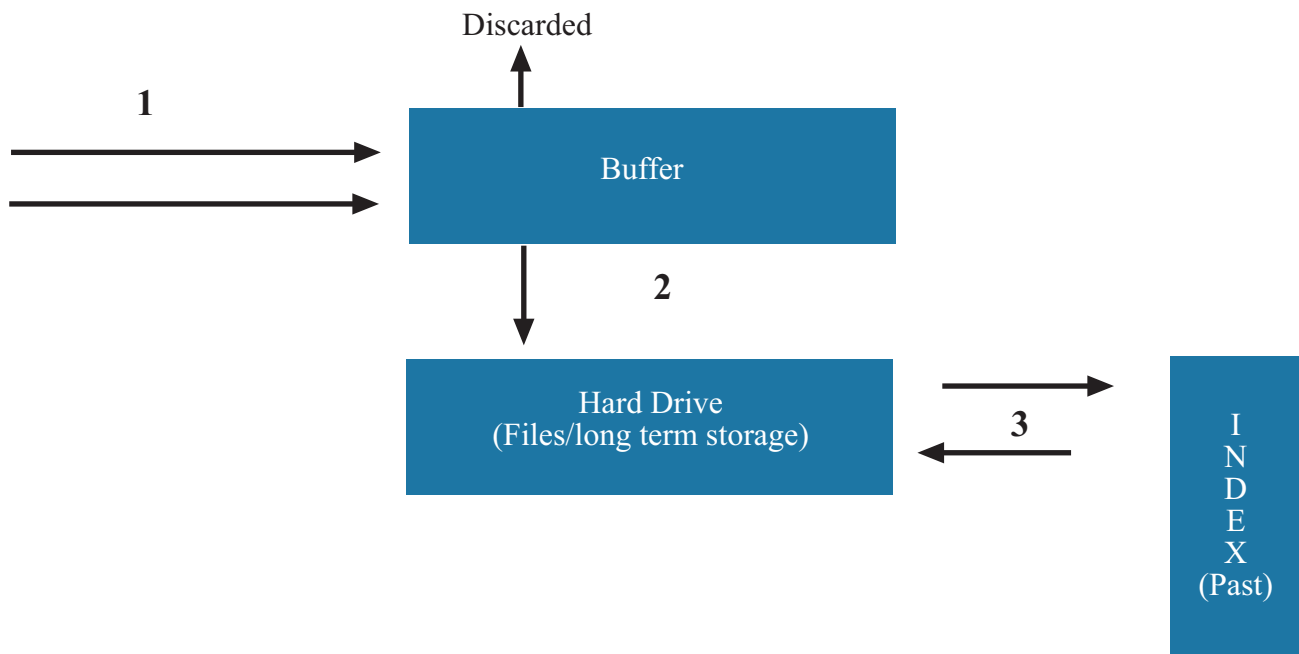
TWO THEORIES OF ADULT LEARNING - ELLIOTT MASIE



Elliott Masie is an internationally recognized futurist, analyst, researcher, and organizer on the critical topics of workforce learning, business collaboration, and emerging technologies. Based on his early work of teaching people to use personal computers (*The Computer Training Handbook: Strategies for Helping People to Learn Technology*, E. Masie and R. Wolman), Masie developed his “Indexing Theory of Learning” which focuses the need to attach new learning to old knowledge and experience in order for the learner to retain it. This theory is summarized below.

INDEXING THEORY

- 1: Information first comes into our “buffer” where we decide to forward or delete it.
- 2: If we pass it along it goes to our “Hard Drive” where we sort it and ultimately file what we decide to keep.
- 3: All new data and information are bounced against our “index” of memories and past experiences. We move information into files or long term storage (memory) on our mental hard disk based on whether or not we can reference or hook it to the past. That’s why new paradigms are so difficult to accept – there is no reference point or past experience on which to hook them.



“Only the curious will learn and only the resolute overcome the obstacles to learning.”

Eugene S. Wilson

STYLE PREFERENCES

“Develop a passion for learning. If you do, you will never cease to grow.”
Anthony J. D’Angelo,
The College Blue Book

When developing a seminar, workshop or class, it is important to present information in a variety of ways that allow for the various ways that people (1) take in information, (2) process that information and (3) choose to express their thoughts. The various preferences are summarized below.

PREFERRED SENSORY MODALITY - HOW LEARNERS TAKE IN & DEAL WITH INFORMATION

Visual Learners

- Focus on the big picture
- See “it” through visual imagery
- Tend to ask lots of questions
- Use visual references
 - “Let’s look at it another way (charts, graphs, pictures, PPT)”

Auditory Learners

- Talk things through, even with themselves
- Use the approach of “tape and playback”
- Relate to information by sound
 - “I hear what you are saying”
- Sense rhythm and harmony

Kinesthetic Learners

- Learn by doing
Moving around, touching
Hands on demos & activities
- Use physical references
“that feels right”
“I can grasp that”
- Need to walk through a concept or section of material
- Help them literally “be what’s happening”
e.g. for software or hardware architecture, put tape on the floor and have students walk through the architecture

PREFERRED THINKING STYLE - HOW LEARNERS PROCESS INFORMATION

Serial Thinking Learners

- Pay attention to detail
- Focus on a single task at a time
- Do step-by-step analysis
- Finish one thing before starting another
- Tend to be left-brained dominant

Parallel Thinking Learners

- Pay attention to the bigger picture
- Focus on several tasks at once multi-task
- Finish things at varying intervals
- Do multi-level analysis
- Tend to be right-brained dominant

PREFERRED MODE OF EXPRESSION – HOW LEARNERS EXPRESS THEIR THOUGHTS

Visually expressive learners

- Use visual imagery in speaking
- Produce and use visually-oriented products, charts, graphs, photos, diagrams

Auditorially expressive learners

- Use auditory imagery in speaking
- Want to discuss things
- Prefer giving verbal reports

Kinesthetically expressive learners

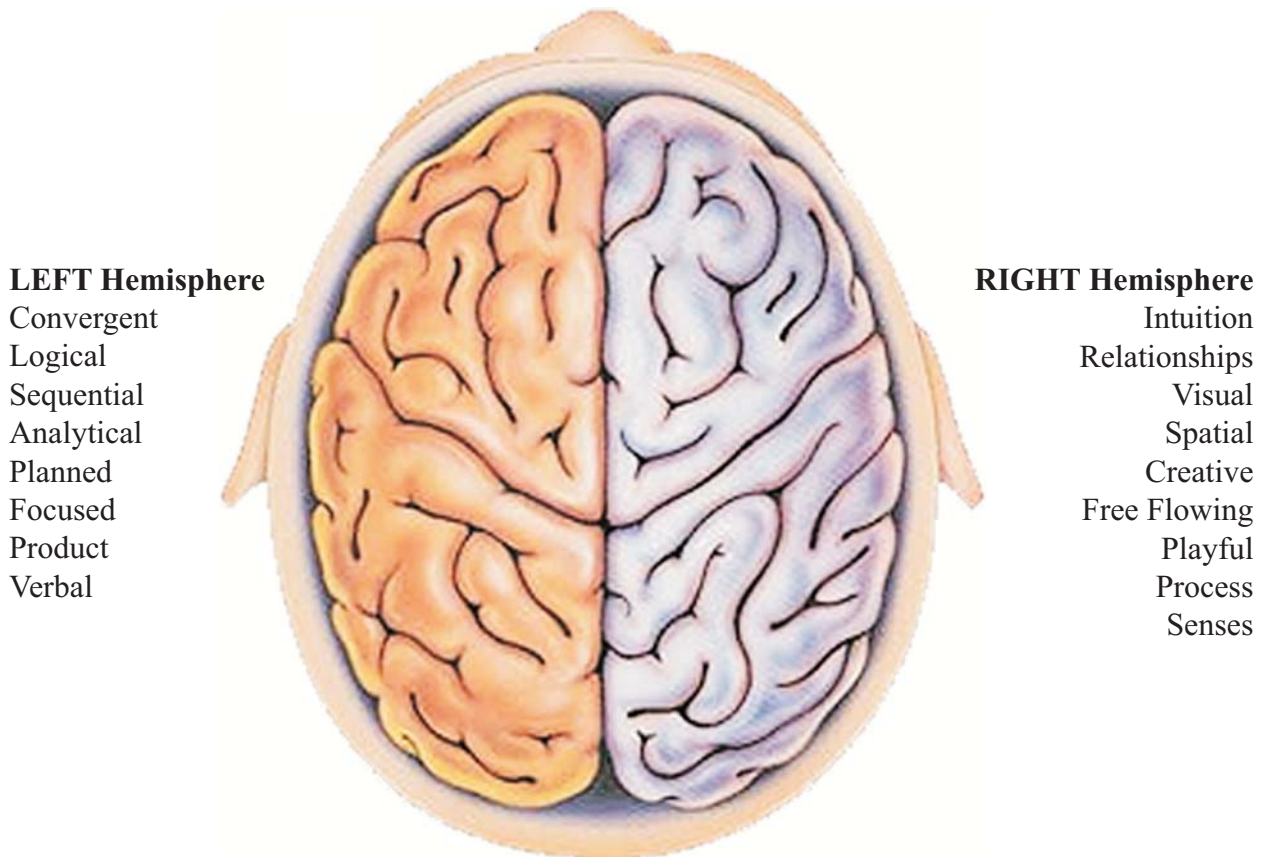
- Use kinesthetic imagery
“plod through”; “seems mushy”
- Produce models and mock-ups
- Like moving from one physical place to another

THE HOW & WHY OF MULTIPLE MODE TEACHING

Learning takes complex connections. Adults need to feel they are enhancing what they already know, they need to be engaged, and they need to be given the opportunity to be successful. Why this is so resides in the structure and chemistry of the brain.

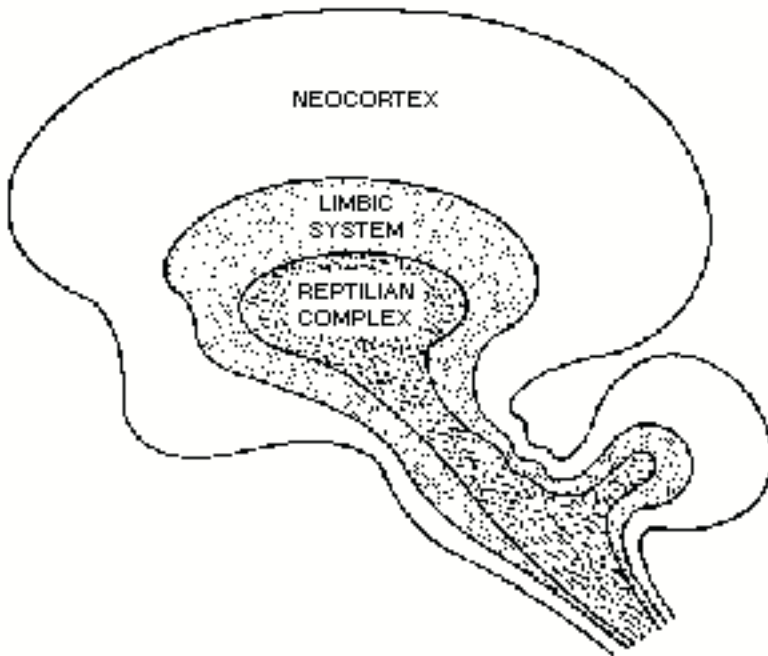
THE LEFT & RIGHT BRAIN

Brain research done by Robert Ornstein and Nedd Hermann has shown that the brain is divided into left and right hemispheres. The characteristics of each are summarized below. The important thing to keep in mind is that to get learning to “stick” you need to present information in multiple ways so that it can be received by both hemispheres.



Everyone uses both sides of the brain to take in and retain information. Presenting information in multiple ways, especially new information, gives the learner the opportunity to better process the information resulting in a higher rate of retention.

THE TRIUNE BRAIN



In addition to its left and right hemispheres the brain has three major parts – the Reptilian Complex, the Limbic System, and the Neocortex.

These can be thought of as concentric circles. Each area performs a separate and distinct function that must be taken into account when designing a seminar, workshop or class.

The Reptilian Complex or inner circle is the brain's most primitive area dealing with safety and physical survival. It governs your "fight or flight" response. This area is concerned with home territory, territorially nesting, social dominance

and hierarchy, and rituals among other things. It is absolutely essential that the learning environment be perceived as safe, however the students define safe. For example, stating and honoring such session rules as "What's said in here stays in here" or "There are no stupid questions." If you state a rule up front and then don't honor that rule, the environment is no longer safe and your learner will mentally check out and possibly drop out.

The Limbic System or middle circle is the brain's editor and regulator of emotions, and manages short and long-term memory. In the case of learning, memory and emotions are important areas. Unless something is tied to an emotion it does not exist. Learning processes that involve emotions in the experience tend to create flexibility in thinking and feeling. Music, color, and some smells can elicit positive emotions.

The Neocortex or outer circle is the brain's "thinking cap" and contains approximately 80% of the brain's grey matter. This area processes language (both spoken and written), vision, hearing, body sensation, and motor control as well as processing left and right brain functions.

On top of these three is a small area inside of the forehead called the Prefrontal Cortex. This area handles adaptive behaviors, planning, analysis, and sequencing learning from errors. The important thing about the Prefrontal Cortex is that it is not engaged in learning until the needs of the other three areas are met.

When designing your seminar, workshop, or course this four step model is useful.

1 PLAN 2 PREPARE 3 CONDUCT 4 EVALUATE

1 - PLANNING

Planning involves identifying your topic or subject, your purpose or goal, your intended audience along with any pre-requisites, and your specific, measurable learning objectives. It also answers the question, what's in it for me (the student) for taking this seminar, workshop or class? What will I personally get out of it?

2 - PREPARATION

Preparation involves pulling together your general outline and specific materials based on your purpose and learning objectives. When planning your timing remember two rules.

One, follow the 20/5/10 rule: 20 minutes to introduce new materials, 5 minutes to review and identify significant points and 10 minutes to practice or apply the material.

Two, add a break or some sort of physical change (such as standing up and stretching or moving to another area) every 50-60 minutes. The head can only absorb as long as the posterior is comfortable and humans can really only sit comfortably for 50-60 minutes. If you exceed this you will lose your students attention and concentration.

As you continue preparing, ask yourself four questions.

1: What is the learning environment (including necessary equipment)? This could cover hardware and software, a projector of some sort, a CD player (for music), etc. Identifying these things ahead of time ensures that everything is ready for you.

2: What exercises will you include in the seminar, workshop, or class to reinforce learning and help the students apply their learning to the challenges they are facing? Consider games such as Jeopardy and things like crossword puzzles which are effective reinforcements. Determine what examples you will use.

3: What rituals will you use throughout the seminar, workshop, or class? Rituals can be activities such as having students share with the class the one or two things that made the biggest impact on them at the end of each major section. At the end of the day have students share one or two major learnings from the entire day..

4: What rules will govern your session to ensure the session is a safe learning environment? Write them down, review them with your students, and post them in the room. Be sure to ask the students if they have any addition rules to add and then, most importantly, get everyone to commit to *honor all agreed upon rules*.

3 - CONDUCTING

Conducting your session should start with setting the stage, sharing a roadmap for the journey, introducing the students and the instructor/s, all the while maintaining focus on the learners and the problem or challenge being addressed.

Set the stage

by reviewing the

- Session purpose
- Audience
- Learning objectives
- Session rules

Share a roadmap

by reviewing the

- Session agenda
- Timeframe
- Expectations



Introduce all the participants while maintaining focus on learner goals by using an ice breaker designed to give everyone a chance to introduce themselves, share some not-too-personal information, and share their goals for the session. If the learners' goals are not included in the session's goals and objectives but do fit within the scope of the session, write them down as additions. If the learners' goals are outside of the session's scope, write them down as potential additional topics (or potential future session).

Example ice breaker

Have each person to share their name, an animal that best represents them and why, and what they want to get out of the session.

4 - EVALUATION

Evaluations can be done at the end of each major section, day, or the entire event.

- Ask the students what was most impactful and helpful.
- Share what you liked the best or felt was the most effective.
- Get suggestions from the students for making the session even better.
- Ask the students to complete and return a course evaluation.

Evaluations can be emailed to the students and then emailed back when completed although for greater participation it's best to take the time in the classroom.

Once you have gathered all of your evaluation data, make changes to the session as appropriate. It is always a good idea to thank the students for their input and let them know about the changes you made based on that input.

As a final reinforcement exercise, have the students write a letter to themselves in which they state how they are going to implement the technology, technique or behavior they have just learned in the next 30 days and how they will know if they are successful. Have them put their letter in an envelope, seal the envelope and then address the envelope to themselves. You collect the envelopes and commit to sending them to the students 30 days after the session. You provide the postage.

You may want to write/mail such a letter to yourself too.

SESSION AGENDA

Create an agenda for the complete course similar to the sample below.
Focus on the learner and what they need to know to be successful.

- **Welcome**
Thank the students for attending; review seminar title and description.
- **Instructor Bio**
Who you are (position, etc) and why you are qualified to teach this session (include related formal education AND experience).
- **Introductions**
Include a participant ice breaker and personal expectations. This will include their name, where they work, one way the class will remember them and what they hope or need to get out of the class (remember to write down their expectations).
- **Expectation management**
Review the session agenda and learning objectives and go through the list of objectives that the students shared; identify which of the students' objectives will be covered by the session, which new ones you can add into this session and which ones are out of scope and will not be addressed in this session.
- **Session Topics**
- **Debrief expectations**
Did the students get what they needed? Address unmet expectations.
- **Evaluation**
This should be done verbally as well as through written evaluations.

SESSION DELIVERY

Session Delivery comprises various components used from one to multiple times.
A list of basic components with samples is on the following page.

SESSION PRESENTATION COMPONENTS

Icebreakers

These short exercise help participants get to know each other, relieve any tension or increase familiarity. Icebreakers are generally used at the beginning of the session but can be used periodically throughout the session. Sample icebreakers are provided in appendix A.

Presentation



This is where topical material is shared; there can be one or multiple presentations over the length of a session. Use various presentations techniques including, but not limited to, mini-lectures, animated PowerPoint and video.

The important thing is to keep the length of the presentations to a maximum of 20 minutes. You can take up to 5 additional minutes to review and identify the most significant points. As you develop your presentation be sure to:

- Tie new information to your learners' prior knowledge and experiences
- Use language and activities that address the needs of multiple style preferences as well as both the left and right brain

Demonstration

This part of the session provides live examples and/or applications of the topic. Demonstrations can be:



- A walk-through of software application screens or of manual processes
- Live experiments
- Role playing

The important thing is for students to “see” how something operates or works. Demonstrations should be no more than 10 minutes. Again, be sure to:

- Tie new information to your learners' prior knowledge and experiences
- Use language and activities that address the needs of multiple style preferences as well as both the left and right brain

Application

This is the learners' opportunity to apply or tryout the new material and/or behavior and can include individual or group exercises, role playing, case studies and learner presentations, to name a few techniques. Depending on the complexity of the exercise, applications should take around 10 minutes; case studies will most likely take longer. Again, be sure to construct the exercise to



- Tie new information to your learners' prior knowledge and experiences
- Use language and activities that address the needs of multiple style preferences as well as both the left and right brain

Checks for Understanding



This is when you, as the instructor, verify that the students really understand the delivered content and can appropriately apply it. Techniques can include large group question and answer (Q&A), restatement of key points, group sharing, quizzes, and the like. This portion of the session should take approximately 10 minutes.

Personal Reinforcement

Rituals are activities used repeatedly through the session that give students the opportunity to state one or two things that they have taken away from that section or session. Rituals usually incorporate making a change in the students' physical state. A good reinforcing ritual would be done at the end of the check for understanding. Have people stand, stretch and then sit down. Then go around the room and have each student share one or two key things that they learned and ideally can quickly apply. Follow this activity with a break.



At the end of the session, an effective post session reminder/reinforcement is the personal letter technique described earlier in this document.

Evaluation

At the beginning of the second, and subsequent, sections and at the end of the class check in with the students. This is also your opportunity to voice your view of how it's going. At the end of the class have the students complete a paper evaluation.



- What's working and what's not
- Are you meeting their expectations (as identified at the beginning of the class)
- What changes would they like to see made in the structure of the session

SESSION FLOW

The following is a very high level flow for a half day session.

Welcome	}	15-30 minutes depending on class size
Instructor Bio/Qualifications		
Ice Breaker		
Expectations Management		
Topic Presentation	}	Repeat for each unique topic; up to 45 minutes Note, not all topics will use all components
Demonstration		
Application		
Checks for Understanding		
Personal Reinforcement Ritual		
Evaluation		
Break: 10-12 minutes		
Topic 2		
Break: 10-12 minutes		
Topic 3		
Session Review/Wrap-up: 15 minutes		
Post session reminder/reinforcement: 15 minutes		
Session Evaluation: 15 minutes		
TOTAL Time (worst case) = 4.25 hours.		

Individual

- State your name (can include company, department, etc.) and one thing we can remember you by.
- State your name and an animal that best represents you and tell us why.
- State your name and where you would go on your ideal vacation.
- State your name, where you live and what you like most about living there.

Pairs

- Get into pairs with each person introducing themselves to their partner
 - Sharing their name
 - Where they work
 - Where they live
 - One thing they hope to get out of this session

Reconvene the group and have each person introduce their partner using the information provided during the pairs' introductions.

Small Group or Table

- Each person introduces themselves to the group and tells two truths and one lie about themselves; the group has to guess which of the three pieces of information shared is the lie.
- Provide a topic or question related to the session topic to each table or group (it can be the same one); have the people at the table "go around" and introduce themselves to each other. The group should spend up to 10 minutes discussing the topic or question with someone serving as a recorder/reporter. At the end of the 10 minutes the recorder/reporters will present their groups' "results" to the rest of the session attendees.



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ABOUT THE AUTHOR

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Mary has spent her entire career in the Learning and Development space specializing in technical training. She has worked for large and small organizations in both the public and private sectors and in large and small organizations including the Federal Reserve Bank of Minneapolis and Target.

The Center's mission is to collaborate with industry to create and deliver IT expertise to ensure career and business success. To that end, Mary's focus is on partnering with the Center's members to develop opportunities for technology professionals to grow their skills to meet both current and future challenges.

The Center was established in 2005 as a Center of Excellence in the MnSCU system focusing IT Skills. Partner institutions are Metro State University, Inver Hills Community College and Minneapolis Community and Technical College. Check for more information about the Center, its mission and current activities.



Mary Texer, Director, IT Industry Relations