

MODULE 3: Adult Learning

Performance Objectives for Module 3

- Given information regarding principles of learning the student will discuss 15 principles of learning they will use as a teacher. The statement will be considered successful if the student can answer 80% or better of the questions correctly on a written examination and complete the activity.
- Given information regarding adult learner characteristics the student will describe how adult characteristics will affect his or her teaching methodology. The description will be considered successful if the student can answer 80% or better of the questions correctly on a written examination and complete the activity.

Introduction



Andragogy (Theory of Adult Learning)

The basis for andragogy is that adult students are different from younger students, therefore must be taught through different, prescribed practices for maximum effectiveness (Fidishun, 2005; Knowles, 1974; Reischmann, 2005). In 1833, Alexander Kapp, a German high school teacher, developed the term andragogy as a formal adult learning methodology. Kapp's original book was based on his version of Plato's educational ideas. He differentiated methods of teaching adults from those used to teach children. His prescribed method was an education of inner, subjective personality, and outer objective competencies required throughout one's lifetime. Additionally, he described adults learning not through teachers, but through self-reflection and life experience (Reischmann, 2005). The term continued to be used in Europe and around the year 1968, Dusan Savicevic, from Yugoslavia, introduced the concept to the United States. At that time, Malcolm Knowles, a professor of education at Boston University from Missoula Montana, learned of andragogy from Savicevic. He became interested in and began to study adult education and in 1974 published an article in *Adult Leadership*.

Dr. Knowles article delineated his theory of andragogy and the psychology of teaching adults (Fidishun, 2005; Knowles, 1974).

Knowles theory of andragogy was adults have different learning needs than children and should be taught differently. His four assumptions were adults are self-directed, they draw upon prior experiences for learning, learn based on needs for new roles, and want immediacy in problem solving and use of new knowledge. He suggested adult educators use a cooperative learning climate in which students play a part in planning. In addition, teachers should diagnose or assess student needs and interests, then base teaching objectives and methods on that assessment. Knowles' andragogy did not address the need to teach contextually, for transference of skills to the workplace. Nor did andragogy consider teaching for fluency of expert practice. Cognitive learning theory and brain based learning theory uphold andragogical concepts regarding learning for all ages regarding the concept of new information building on prior knowledge. These theories expand on andragogy and propose learning is expedited by contextual teaching practices (Funderstanding, 2005; Huttenlocher & Dabholkar, 1997; Mergel, 2004; Miller, 2004; Phillips, 2005).

Dr. Knowles maintained teaching activities should be sequential in design; and assessment should occur to diagnose future learning needs (Dover, 2005; Knowles, 1974). The teacher should be a facilitator of learning, not the controller of information and content and adults will resent practices, which do not respect their needs (Atherton, 2004; Knowles, 1974; Witmer, 1996). Knowles felt adults should acquire maturity, with a deep understanding of themselves, develop an attitude of acceptance, love and respect for others, see experiences as learning opportunities, view problems as a whole not symptomatically, achieve their full potential as a human, learn to value human experience, and understand society and work toward social change (Infed, 2005; Knowles, 1974).

Although Dr. Knowles believed in a cooperative learning climate in which students play a role in the planning, it has been suggested that a collaborative learning climate may be more appropriate. In 1996, Ted Panitz defined cooperative learning as, "a set of processes which help people interact together in order to accomplish a specific goal or develop an end product which is usually content specific." Dr. Panitz also

suggested that cooperative learning is directed and controlled by the teacher. He suggested a collaborative learning situation respected each member of a group by a “sharing of authority and acceptance of responsibility.” Learning in this situation would be through a consensual goal setting (Panitz, 1996).

Principles of Learning

Psychologists and educators have researched the learning process extensively. They identify many principles of learning. By using the following principles, we can help a student learn:

- All people have the ability to learn. While there are differences in the individual's ability to learn, everyone is capable of learning. sometimes, learning ability is more a factor of the individual's style of learning than of intelligence.
- Learning occurs inside the learner and is activated by the learner. No one directly teaches anyone anything. People learn what they want to learn, when they want to learn it. Learning happens in the unique world of the learner. Teaching only assists learners to explore and discover the personal meaning of events for themselves. Individuals forget most of the content taught to them if they do not perceive it as meaningful or useful. If you believe that adults are responsible for their own learning, you will believe that you can attempt to motivate them but recognize that the decision is theirs.
- Learning is the discovery of personal meaning and relevance of ideas. Learners select, learn and implement those concepts, ideas, skill, etc., which they find meaningful and relevant to their needs and problems.
- Learning is a consequence of experience. People do not change their behavior simply because someone tells them to do so. Learning occurs by experiencing the personal meaning of ideas and materials.
- Learning is cooperative and collaborative. Individuals enjoy working independently, but they also function interdependently. Working with others seems to challenge individuals to put forth their best efforts; it challenges them to be creative and find solutions to their unique problems as well as those defined cooperatively.

- Learning is evolutionary. Learning (behavior change) usually requires hard work, patience, and time. It involves a number of different stages and events before it genuinely results in behavior change.
- Learning is sometimes uncomfortable. Behavior change often calls for giving up the old "tried and true" ways of believing, valuing, thinking and reacting. If growth is to occur a certain amount of discomfort must be tolerated on the way to the discovery of new knowledge or ideas. The key is to relate new information to what the individual believes and then add to, rather than take away from what is known.
- The learner must gain personal satisfaction from the learning experience. Involvement and personal responsibility are directed toward increasing personal satisfaction. The more satisfied the learner is, the more receptive to learning, and the less resistant he or she will be. The student's motivation is a key factor in effective learning.
- The learner must have appropriate materials, sufficient time to practice, and feedback from the teacher. While most teachers are aware of the need for appropriate learning materials, they often underestimate the time people need to practice a new skill. People must practice a new skill under the direct guidance of the teacher, who can tell them what they are doing correctly and which part(s) of their performance needs to be corrected.
- Standards should be set for learning. Unlike the traditional concept of grades, this concept refers to competency based learning. Competency means the ability to perform. It is very important that the teacher establish minimum levels of competency for all major learning objectives.
- The learner should be rewarded for learning. Recognition is a very strong motivator in the classroom. People deserve recognition for the effort required of them for learning. Teachers need to provide positive feedback instead of negative feedback.
- The learner is one of the richest resources for learning. Each individual has a wealth of experiences, ideas, beliefs, feelings, attitudes, and skills which comprise

a rich source of materials for problem solving or gaining new knowledge.

Sometimes we fail to tap this source of learning power.

- Learning is emotional as well as intellectual. Feelings and emotions are strong motivators for learning. Some adults have not had good past learning experiences. These past experiences will color how they respond to you as the teacher in this new learning situation. Treating adults as adults with the respect and dignity they deserve can help. A teacher on an ego trip may discourage and demotivate students.
- Problem solving and learning are unique and individual. Each person has a style of learning. Some styles are more effective than others. Teachers need to assist students in becoming familiar with their preferred method of learning and helping them find methods of adapting to other learning situations.
- Learning how to learn is a major educational goal. Helping students become reflective learners will help them know how to learn in the future. Knowledge in most areas is increasing faster than ever before. Students need to know how to learn in the future to help their knowledge from becoming obsolete.

Learning Styles

Researchers have identified that all people learn differently. Differences between right brain thinking and left brain thinking, genders, multiple intelligences and individual differences all interplay so that each student is unique. Not only are the students unique, but each teacher is unique. All these differences combine to make the communication of information from one adult to others difficult. The more you know about the process and incorporate different methodologies into your classroom, the higher the success rate will be for student learning.

In module one you read about right brain and left brain thinkers, and the differences they will display as an adult learner. Additional factors that will make a difference in how an adult student will learn include a preferred use of visual, auditory, kinesthetic, or experiential learning. Theorists hold that people will generally have one dominant learning style with a lesser used, ancillary, back up style.

Visual Learners

Visual learners will sit in the front of the class where they can watch the teacher's facial expressions and body language. They like to see videos or models to learn. They will display emotions visually too, through facial expressions. Visual learners may prefer to read. However, there is controversy about reading and learning styles. One line of thought is that reading is visual, on the other hand some feel that as we read we say the words to ourselves and reading is really an auditory form of learning. These students will quickly notice changes in the classroom and may feel uncomfortable with them. Visual learners feel comfortable with scenarios or demonstrations that portray the information in a way they can see.

Auditory Learners

People who learn best through auditory means hearing information. They will pay attention in class to the teacher's speech patterns and nuances of speech. They will be the students who like to discuss learning material with other students. They may repeat information to themselves. These students may have trouble with note taking because they are so busy listening! Role playing demonstrations would feel comfortable to them if it includes verbalizations of what is going on during the vignette.

Kinesthetic Learners

Kinesthetic learners will learn information best through touch and movement. These students may have problems sitting and listening to a lecture. They will learn best through active participation in a lesson through a role play or interactive demonstration. They may benefit from interjecting the didactic (theory or classroom) information into a role-playing or interactive demonstration. For example if you want a student to learn the normal blood pressure ranges you might ask them what the normal range is during a hands on return demonstration.

Experiential Learning

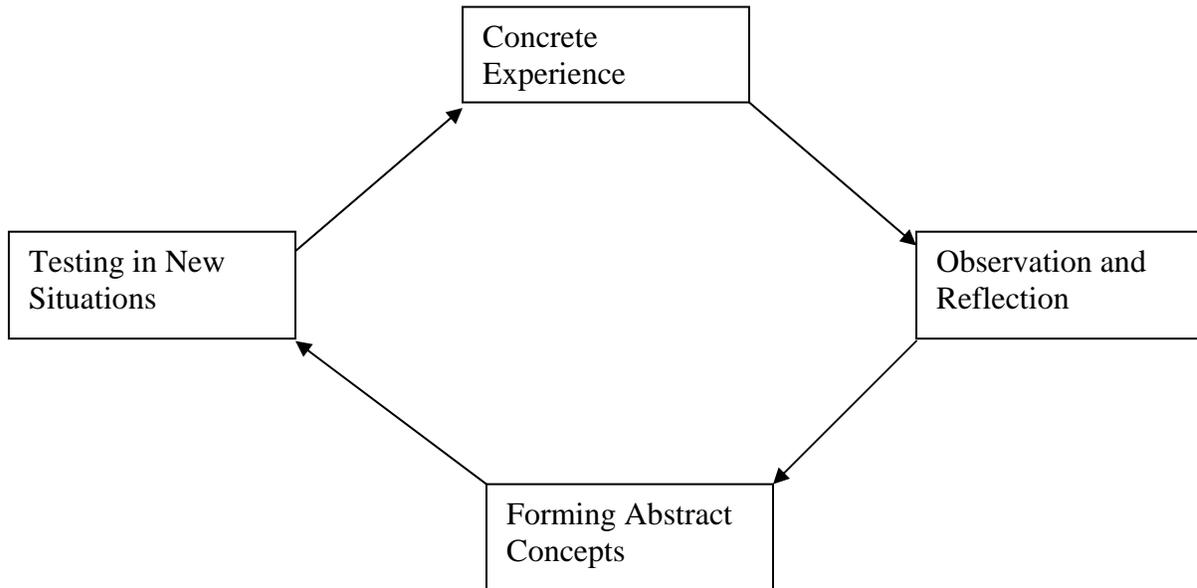
“Experience is, for me, the highest authority. The touchstone of validity is my own experience. No other person's ideas, and none of my own ideas, are as authoritative as my experience. It is to experience that I must return again and again, to discover a closer approximation to truth as it is in the process of becoming in me.” - Carl Rogers in *On Becoming a Person*.

Experiential learning is a theory that attempts to explain how people best learn. Although there have been many theorists who have worked on and developed theories of learning based on experiential learning, two lines of reasoning stand out. The first is that learning is best accomplished in a situation that mimics real life situations. The knowledge should be provided in an immediate and relevant setting. The second is that education happens best as a result of direct participation in real life events. In this theory education is best provided in “job shadow or on the job,” situations. Adult learning in professional technical educational settings such as an EMT class or a CNA class uses many of the techniques of experiential learning.

Carl Rogers (1902-1987) was an American psychologist who developed a humanistic approach to his field. He contributed much knowledge to the field of education. He felt that all humans had an innate desire to learn. Dr. Roger's categorized learning into two main areas. One was meaningless or cognitive such as rote memorization of multiplication tables. The other was significant or experiential knowledge that was applicable to real life needs. He felt the teacher's job was to set a positive climate for learning, make clear the purpose of the learning, facilitate learning resources, balance intellectual and emotional portions of learning and to share with the students without dominating the classroom. He also felt that people learned best when the subject matter is relevant to them, people learn best when the threat of new information is minimized, and that when people self-initiate learning they will remember it best.

Many other researchers and professionals have contributed to the experiential learning theory such as Jack Mezirow and David Kolb. Mezirow suggested that experience is the core of all learning. The experience would lead to critical reflection with resultant learning. Dr. Kolb, whose work was heavily influenced by John Dewey,

Kurt Lewin, Jean Piaget, and J. P. Guilford, added two more steps in a learning styles-
abstract conceptualization and testing in new situations or active experimentation.



The above learning cycle can begin at any point, but people will have a preference for one specific point dependant upon the learning situation. This theory contends that people will favor two of the above four learning styles. Dependent upon where the two preferences meet, according to David Kolb and Donna Smith in the "Learning Styles Inventory" (a copyrighted instrument to determine where an individual's preferences fall), people will in general fit into one of four categories.

Converger (1): Forming abstract concepts/testing in new situations. These people will prefer practical applications.

Diverger (2): Concrete experience/observation and reflection. These people will prefer brainstorming and observing others.

Assimilator (3): Forming abstract concepts/observation and reflections. These students will prefer to see a variety of observations and develop a single logical deduction.

Accomodator (4): Concrete experience/testing in new situations. These people like to participate in new experiences and to learn through trial and error.

The tools to determine learning styles are available on the internet, mostly for a small fee.

Individual Differences

People are individualistic. They all have different capabilities and backgrounds. Here are some examples of how students in your classes may differ.

- **Interest.** If you do not have the interest of your students the instruction will be futile. Adults will learn best when they have a sustained interest. Otherwise they may rebel and become bored, failing to see a benefit in the material.
- **Intelligence.** General intelligence is considered to be the ability to respond quickly and successfully to new or unusual situations. It has been theorized that general intelligence (IQ level) changes very little throughout one's life and cannot be increased with education. Newer research theories are focusing on Multiple Intelligences. It is believed that individuals have higher intelligences in different areas. There is more information on multiple intelligences in a following section.
- **Past Experiences.** Each adult's experience differs. They will process information through a lens colored by their past experiences. Also, additional learning will build on the information they already know.
- **Concentration.** It is hard for people to pay attention on one idea for very long. It is important to change teaching methodology and not drone on about one area for long periods of time to help people with concentration.
- **Memory.** A persons' ability to remember is extremely important in the learning process. People will remember information that is presented through methods that are vivid, unique, repeated frequently and that they feel is important.
- **Well-Being.** Mental and physical comfort increases one's power of concentration. On the other hand, pain, discomfort, and emotions such as grief, irritation, anger, or worry hinder mental processes. It is very important to make sure the classroom is comfortable both in physical and emotional realms.
- **Self-Confidence.** Students learn better if they think they can. It becomes a self-fulfilling prophesy. Fear of bodily injury, fear of failure, criticism, or humiliation make learning difficult if not impossible.
- **Imagination.** Imagination is the power to form a mental picture of things that are not actually present. It enables the craftsman, for example, to visualize a finished

job before beginning it. The ability to visualize or to imagine helps with learning.

- **Socio-Economic Status.** Sociological and economic deprivation may affect one's ability to concentrate on learning.
- **Motivation.** Individuals differ in their desire to learn or perform in various ways. Some students are turned on toward the activity and learning, especially since they have chosen to come to the class. Others may be in class as a review or may not be as motivated.
- **Physical Maturation.** People differ in their physical makeup. Differences in physical characteristics can enhance or hinder learning.
- **Aptitude.** People not only differ in intelligence levels, but in their capabilities or potential to learn or perform.
- **Speed of Response.** Individuals differ in the speed in which they can react or respond to a situation.
- **Age.** A person's age can have a definite effect on his or her ability to learn. Older learners may learn faster or slower than a younger person, depending upon multiple factors.
- **Performance or Achievement.** People differ in their characteristic levels of achievement and performance in specific situations.
- **Cultural Differences.** Each person's culture will contain different values and ways of acceptable behavior. How they learn will be affected by their cultural beliefs.

Multiple Intelligences

Dr. Howard Gardner is a professor of Education at the Harvard Graduate School of Education. He also works as a research psychologist at the Boston Veterans Administration Medical Center and adjunct professor of Neurology at the Boston University School of Medicine. He has studied with Eric Erickson and influenced by the works of Jean Piaget.

Dr. Gardner, introduced a concept of multiple intelligences, versus the single intelligence quotient accepted in the past. Dr. Gardner became aware of, and interested in, multiple intelligences through his work with people after they experienced a traumatic brain

injury. He developed his theory to be of interest to the world of psychology, but included information in his 1983 book, "Frames of Mind," regarding multiple intelligences in education. However, Dr. Gardner maintains he is a psychologist, not an educator and "does not presume to know best how to teach a class or run a school," (Gardner, 1993 p 7). Dr. Gardner originally introduced seven intelligences and now believes people have eight or nine intelligences with higher and lower skills in each, with no two people having identical profiles (Gardner, 1993). The interest to educators of Dr. Gardner's theory is in helping teachers understand students and how they learn.

Seven Intelligences

Linguistic intelligence is the sensitivity to language, both written and spoken. People who are high in linguistic intelligence have the ability to learn and use language to express him or herself.

- Logical-mathematical intelligence is the ability to logically analyze problems. This intelligence deals with the ability to detect patterns, perform reasoned deduction and think logically. People with high intelligence in logical-mathematics are good at mathematical operations.
- Musical intelligence describes the ability to perform, compose or appreciate musical patterns. The ability to recognize musical pitches, tones, or rhythm is connected to this intelligence.
- Bodily-kinesthetic intelligence is the ability to use the body to solve problems. It interrelates the ability to use mental attributes to coordinate body movements.
- Spatial intelligence is the ability to recognize patterns in space.
- Interpersonal intelligence deals with one's ability to understand intentions, motivations and desires of those around you.
- Intrapersonal intelligence is the understanding of oneself, insight into ones intentions, motivations, and desires.

Dr. Gardner feels people have a blend of all the intelligences, with one or more being



Adults Learn Best When:

- They can apply what they have learned. It is best if a minimal time span between initial learning and practice or application occurs.
- They are ready to learn. The needs, purpose, interests, and readiness of the students must be taken into consideration when planning instructional sessions.
- New learning is built on information the student's already have. It is important to establish what past experiences students come to class with, and build from that point.
- What is learned is in logical order. Generally, this means to begin with basic information and proceed to the more complex.
- Learning problems are challenging, but can be solved. The learning experiences should be within the ability range of students, but present challenges to hold their interest.
- Information to be learned is presented through several different sensory channels. Learning content should be presented so students can use more than one sense, seeing and hearing, or seeing, hearing, and feeling, etc.
- They are impressed with material first taught. Teachers must be careful to not convey incorrect impressions which must later be changed.
- They have a reasonable chance of achieving early success in their attempts at learning. Teachers should attempt to select learning activities which will enable the learner to experience some degree of success early and then at spaced intervals.
- They use what they learn frequently. Teachers must provide opportunities to use materials and behaviors frequently through practice or repeat learning situations.
- They are motivated. Teachers must aid students to discover their own needs and wants to provide them with learning experiences that will help make it possible for them to realize their goals.
- They are active participants in the learning experience. Passive learners rarely learn content past the informational level. To reach higher levels, students must be motivated and involved in the process. Most people learn best by doing.

- Learning is viewed as personal and subjective. Learning environments in which individuals can feel his or her ideas, feelings, and solutions have value and significance encourage student success.
- Individual differences are accepted and encouraged. If adult learners are to find their own personal meaning they must be free to be different from other learners. The environment must be respectful of the uniqueness of each individual.
- Evaluation is helpful and cooperative, with self-evaluation being valued. Teachers need to provide opportunities for student-teacher and peer group evaluations. The process of evaluation needs to be viewed as supportive not punitive.
- They have guidance. Some structure is required for students to best learn. The role of the teacher of adults is to provide as little direction as possible to encourage independent thought and judgment, while maintaining an efficient progress toward the established learning objectives.

How to Motivate the Adult Learner in the Classroom

There are a number of ways to promote participation by the adult learner. Students can be encouraged to practice a process or procedure during or after the demonstration. They can also be guided to visualize the task after a demonstration or video. In addition, students may be asked to verbalize the steps in the task or idea by restating each step in the sequence while visualizing it. The best method is for students to practice the task in a realistic setting, as in a job shadow situation. A lab situation can be used for practice time, however, adults will learn more of the realistic nuances and factors in a real setting, provided they are given support from the teacher or mentor needed. In a 2006 study of Idaho Post-secondary certified nursing assistant students it was found that students, who were put into a clinical situation without adequate support from their mentor or teacher, felt the time detracted from, rather than enhanced their learning (Stricklin, 2006).

Remember, adults will learn when they can actively participate in a situation. They may become bored and begin daydreaming and not pay attention, if the class does not hold their interest. Having students take notes during lecture or demonstrations can

help keep students' attention focused on the lesson, as long as they are not missing important points while they are writing. Having students restate the information from class in their own words will help them commit it to memory.

Comprehension

Another factor in effective adult learning is comprehension. Each teacher's hope is the students in class will comprehend the information being presented. Comprehension is similar to understanding. It is perceiving the significance of information, recognizing the application of, or reasoning for learning. Students get a sense of something and grasp the principles involved. They understand the key concept and the organization of information and ideas so they become internal knowledge in the learner. It is the purpose of any teaching and students should be grasping the concepts during class. Comprehension involves using the foundation principles of motivation, concentration, organization, and participation. Once the foundation is established, a teacher or student can build on the knowledge to further learning.

One way to promote comprehension is for the teacher to make sure the meaning of the material they teach is clear. If a student concentrates on finding hidden meanings or unknown terminology, they may stop listening and miss important points. Meanings and implications should be given to students, in a basic class so they can pay attention and learn or comprehend.

A way to assess student comprehension is for student to restate the information in their own words. This allows students to associate it with information they already know and helps them integrate for retention. A goal of student comprehension is for them to be able to apply the new knowledge when solving a problem or completing a task.

Knowledge of Results or Confirmation

In order for learners to relax and spend their time learning, instead of worrying about their progress, they must be kept informed about how well they are performing. Adults will tend to repeat behavior that leads to successful completion of experiences or provides satisfying results. They are inclined to avoid repetition of unsuccessful behavior. It is generally accepted that if students receive appropriate feedback they will continue moving toward success. It is best to frequently evaluate student behavior and

response, and to provide feedback about the evaluations. They need to know why their response or behavior was right or wrong and how to correct if needed. If adult students understand the why of their actions, they have a better understanding on which to choose future actions if they encounter a similar experience.

Adults must be recognized as such and you as the teacher must respect their dignity. If you are critiquing a student performance, it should be done in private away from other students. The critique should be immediate, specific, and performed in a positive manner. Make sure the student knows it is their performance, not them you are critiquing. Once you have given feedback, do not dwell on the critique. People become resentful if they are not allowed to move forward.

Repetition

People rarely learn a lesson that involves complex issues in one session. In general, learning requires repetition under favorable conditions. However, conditions must be conducive to learning with consideration of all the factors of learning and teaching considered.

Repetition of information will help the students learn material and skills to the point it will become somewhat automatic. This is important especially in a health care situation. Repetition of any one methodology of teaching can become boring, as a teacher one should provide repetition though differing techniques such as reading, lecture, demonstration and practice situations. It is especially helpful if practice situations can be performed in a realistic setting.

Some factors to consider when using repetition:

- Structure practice or repetition teaching in realistic settings.
- Develop learning experiences as a whole-part-whole learning sequence.
- Apply the principle of distributed practice. This principle holds that learning is facilitated when practice periods are spaced over intervals, rather than given all at one time. Information studied for 15 minutes each day is more likely to be retained than material studied for an hour, without review.

- Practice session should follow learning experiences as closely as possible. In other words, retention is facilitated if there is no or minimal delay between the initial learning and the repetition or practice session.
- It is best to break up a complex learning experience into steps, beginning with the simple and moving toward the complex. Intermingled instruction and practice helps students to integrate information and retain the learning.



Generalization and Application

The purpose of teaching in health care is for students to be able to apply or transfer the knowledge into their practice. This is not an automatic process and the learners must receive specific training for the transfer to happen. Role-play and realistic practice session can provide structure and opportunity for students to learn how to transfer their knowledge into practical applications.

How Do I Choose a Teaching Style?

With all the different personality and learning styles, how can one teacher teach a class of six or more students, and be successful? This is a difficult question, one that all teachers face. It is not possible to deliver a class to a group of students that will be individualized to specifically meet the needs of each particular student. However, by being aware of different learning styles and monitoring each student's progress you will be able to help students to compensate if their learning style does not match your teaching style. Knowledge of differences in learning styles will help you for example, suggest to a student who is an auditory learner to audiotape classes.

Using a variety of teaching methods in a class will also help to meet student learning needs. If you avoid methodology that includes all lectures, or make a lecture interactive with student input, you will be able to hold student interest. Varying your use of methodology will help you to meet the needs of students. Incorporation of

discussions, role plays, lectures, small group work, and demonstrations will not only help avoid student boredom but to meet learning needs of a variety of students. As you grow and learn to be a teacher, you will cultivate a teaching style of your own. Mindful reflection on strategies that work and those that don't work coupled with careful planning and preparation work will help you develop a purposeful use of teaching methodologies for successful classes.



Module 3 Quiz

Fill in the blank(s) or mark the letter of the correct answer for each question below:

1. _____ is a theory of adult learning.
2. Malcolm Knowles theory of Andragogy had _____ basic assumptions of adult students.
 - A. 1
 - B. 2
 - C. 3
 - D. 4
 - E.
3. Adult students need to have personal meaning to learn subject matter.
 - A. True
 - B. False
4. Teachers are the richest resource for learning in the classroom.
 - A. True
 - B. False
5. _____ learners like to sit up front in a classroom so they can observe the teacher's facial expressions.
 - A. Visual
 - B. Auditory
 - C. Kinesthetic
 - D. Empathetic
6. Carl Rogers developed theory about Kinesthetic learning.
 - A. True
 - B. False
7. Older students learn slower than younger students.
 - A. True
 - B. False
8. Dr. Howard Gardner is an psychologist who developed the theory of multiple intelligences.
 - A. True
 - B. False
9. List four conditions under which adults learn best.

10. List two techniques the teacher can use to help motivate adult students.

Module 3 Activity

Answer each question with a short paragraph or two. Your answers should be type written or computer generated in at least font 12 using Times New Roman or Arial. You should email, mail or give your answer sheet to the teacher for each module as you finish it. Thank you for your work in this class. Please feel free to include any comments for improvement, or items that helped you through the course as you move through each activity.

- Please provide a brief (one paragraph) description of the class you are planning to teach.
- Next, write a paper with discussion of ten principles of learning you will incorporate into your teaching methodology for this class. Describe the tools you will need to incorporate the ten principles, and how you think you will develop your teaching plan for incorporation of the principles. Also, discuss what type of student learning style will be reached through the use of each principle.
- Read the following scenario about Mario.
 - A) Identify and make a list of at least six factors that can be expected to influence Mario's learning in class.
 - B) Make another list of how the six factors you have identified will affect you as the teacher and teaching methodologies you will use to address Mario's needs.

Mario is 30 years old; he is from a Spanish speaking family. His parent never took English classes, or learned to fluently speak English. Mario dropped out of high school to help bring in more money for the family. He worked in low paying jobs, but decided to complete his G.E.D. He married at the age of 20, and now he and his wife have four children, the youngest just started school. Mario's wife works part-time as a checker in a local grocery store. Mario has never felt successful. He would like to be a health care worker. He thinks he can help people. He was able to get a job on the housekeeping staff at a local hospital. He has a letter of recommendation from his

employer saying how reliable and conscientious he has been as an employee. Mario is compassionate and is liked by his peers.

MODULE 4: Teaching Aids

Performance Objective for Module 4

- Given information in this class the student will discuss teaching aids, their uses, disadvantages and advantages. The discussion will be considered successful if the student can answer 80% or better of the questions correctly on a written quiz and complete the activity at the end of the module.

Introduction for Module 4

The old adage, "One picture is worth a thousand words," depicts how inadequate verbal or written communication may be.



Teachers attempt to transfer information to students through words. The potential for miscommunication and misunderstandings is astronomical. Words sound and look alike; students may attribute different meanings to words than the teacher. All the pitfalls with communication are heightened in a classroom setting. A class may fail because of the failure of communication!

Oral teaching needs help from time to time. The function of any teaching aid is to provide this help by supplementing and supporting those explanations that are consistently difficult. Training aids also play an important part in sustaining student interests--particularly where words have proven inadequate. To perform as it should, an aid must contain specific characteristics. Most important of these are legibility, simplicity, realism, and accuracy. A wide variety of aids are available and the teacher must decide which is most suited to a particular presentation. Careful preparation and execution of aids enhance the effectiveness of an entire presentation.

An example might be if a student is asked to describe the design of a stairway leading to the top of a lighthouse. They may use the descriptor word, spiral, but have difficulty describing in other words, "What is a spiral?" They may try to describe it with an analogy to a bed spring or corkscrew, but these words are also descriptors and it is difficult to explain them to someone who might not know what a bed spring or corkscrew

looked like. If the student could show a picture or model of a spiral staircase, would be very descriptive. The picture or the model is what is meant by a teaching aid.

What are Teaching Aids?



Definition

A teaching aid may be defined as any material, equipment or device, such as a video tape, slides, charts, recordings, or models that are used to clarify information in a lesson.

Functions

Each teaching aid is used for two major functions; they support explanations and motivate interest. The teacher is responsible to ensure clarity of information in a lesson. Students require a clear, correct, and complete mental understanding of each concept. Anything less will produce undesirable results when the student tries to adapt the knowledge to a complex use. If information is difficult to explain through verbal techniques, the teacher should use a teaching aid to illustrate the explanation. Learning becomes much easier when the teacher reinforces explanations with concrete visual aids, whether it is a picture, model, or demonstration using actual equipment. Choosing the correct aid is important; one must make sure it is the correct depiction of what is being taught.

Demonstrations

Teaching aids used in a demonstration help the teacher to show and explain procedures and equipment, while also teaching standards of performance. There are issues that must be taken into consideration when using teaching aids in a demonstration. The size of the class or the seating arrangement may make it difficult for all students to clearly see the demonstration. As the teacher, you must make sure all students can

adequately see your demonstration, and that you position yourself so they can see each step you perform.

Emphasis

Even with the use of teaching aids, the words you speak will have an impact. The impact can be increased or decreased through certain verbal and vocal techniques. It is a rare person who can use verbal language to equal the dramatic influence of photos or scale models of the information of the lesson. Certain abstract ideas such as diet formulas, as well as more tangible specifications or quotations can be emphasized by showing them as they are actually written. Whenever there is a need to emphasize or clarify in an explanation, there is a need for teaching aids.

Motivation

The use of teaching aids can help motivate student interest in a lesson. Colorful equipment, intriguing pictures, scale models can all help to attract and maintain student interest and increase their motivation. If you view the film clip above, think about how this aid might motivate students to begin training.

Increase Sensory Appeal

Psychologists have indicated that the greater the sensory appeal of what is to be learned, the more thorough and enduring the student's retention will be. If a person can see, touch, taste, or smell information in a lesson the more complete his understanding will be. For example a teacher may spend an hour lecturing on the circulatory system, when the lesson would be shorter, understood better, retained longer, with less chance for miscommunication of the concepts through the use of an anatomical model depicting the circulatory system. Teaching aids do not take the place of a teacher; they only enhance and clarify your presentations.

Approaches to Teaching Using Aids

Advertisers have devised numerous approaches for attracting and holding attention. Teachers have been slow to adopt their methods. Perhaps teaching

professionals feel professionalism would be lessened through use of advertising techniques. However, these techniques work. Variety in design, dramatic presentations, and use of the unexpected appeals impress products on the human mind. The advertising industry spends tremendous amounts of money in research to find what methods to use to impress their image on the market consumer. It might be worth your time as a teacher to integrate some of their methods into your classes. However, all methods used should be done so with common sense, good judgment, and discretion. Lessons must be presented tastefully and with regard for all the various student beliefs and cultures that may be in your class. Time is a valuable and often times adult classes are time limited for numerous reasons. If teaching aids can save time, their value increases exponentially.

General Tips for Using Teaching Aids:

- When you letter your teaching aids the smallest letter or number should be visible to the person the greatest distance away.
- When using color remember:
 - Only use color for impact
 - Don't automatically use black
 - Colors jump out and call attention
 - Red for most important
 - Green for secondary emphasis
 - Blue and black for basic text, non-key words
 - Orange, Violet and Brown for boarder or trims
 - Yellow is not recommended and is hard to read

Desirable Characteristics of Teaching Aid

The correct design, careful selection and professional handling of teaching aids all contribute to the effectiveness of their use. There are seven characteristics that must be considered to help ensure their usefulness in a teaching situation.

Legibility: Students must be able to see, decipher and understand an aid for it to be useful. Legibility involves overall design, size of lettering (2 inch minimum for use in a sixty foot classroom), and have a strong sharp contrast. The clarity of details and qualities of accuracy and realism should also be considered.

Simplicity: A simple aid has more appeal than a complex one. This is true of both verbal and pictorial aids. Verbal aids include words written on slides, charts, whiteboard, or chalkboard. Often a teacher tries to put too much information on a single slide or chart and the result is confusing. This problem is exacerbated in pictorial aids, or pictures of complex equipment. For example if the students are being introduced to the equipment used for extrication or intravenous therapy a picture of individual pieces of equipment will be more effective than one depicting the entire set up. Teachers tend to overload slides and it is hard to see individual components of the equipment. Non-essential information should be avoided in pictorial aids, the extra information becomes distracting to students.

Accuracy: The difference between accuracy and realism is not always distinct. Generally, however, accuracy means precision. If an aid is accurate, specific facts, statistics, specifications, scales, or formulas as needed, must be included. If an aid is designed to scale, it must be designed to scale throughout.

Realism: While both accuracy and realism will strengthen the effectiveness of an aid, accuracy is not needed to present a real, i.e., vital, image. That "having been there" feeling aroused by a realistic aid creates a strong impression on the student; who becomes emotionally involved with learning. To accomplish this the teacher must pursue the appropriate design, necessary details and type of aid to be used. At times, dramatized presentations and demonstrations are used because they allow the viewer to project into the action, learning by participation.

Colorful: Exploiting a student's sense of color can help them retain the information. Properly colored aids are more realistic and a predominant color helps to focus attention. For example, a gauge on a respirator could be highlighted with a circle of red on an otherwise all black and white photo. Colorful displays, exhibits, or dramatizations have more emotional appeal than their black and white counterparts. Because color is such a basic concept, it should be applied to all training aids if possible. However, one caveat with colors is one must avoid the overuse. Too much color can become overwhelming and confusing. Again, the aid must be evaluated for its use.

Durability: Teaching aids should last a reasonable length of time. This is important because development of aids can absorb considerable teacher time and labor. Their value

in teaching justifies the expenditure, provided the aid will last for some time. Special materials or treatments such as covering a poster with transparent plastic can be employed to extend their life. While an aid should last a reasonable time, it should not be expected to continue to be used after it is worn out. When choosing aids or designing aids the teacher must exercise discretion and use only those that can reasonably be determined to be helpful.

Manageability: Teaching aids should be a useable size and easy to handle.

Occasionally, a full-sized model or an over-sized reproduction is needed, but smaller substitutes will usually serve the teacher's purposes. If large aids are needed or an unwieldy aid is being used, the teacher should re-examine goals and facilities. If students are ready for direct contact with material or equipment the teacher can substitute the aid with actual equipment.

Commonly Used Teaching Aids

Chalkboard or Whiteboards

Advantages

- Familiar and usually available in a regular classroom
- Flexible in application
- Capable of conveying a variety of information during a single lesson
- Requires no special equipment or mechanical skills
- Can be used in practically any situation where another aid would require previous preparation
- Can be used in situations where a prepared training aid would be too cumbersome

Limitations

- One of the most abused/overused training aids
- Is difficult to show designed elements or those requiring graphic renderings



Magnetic Boards

Advantages

- Eliminates wear and tear on training aids because no thumbtacks are necessary
- Teacher can arrange and rearrange materials at will
- Can be used as a chalkboard

Limitations

- Not a normal part of a traditional classroom



Transparencies

Advantages

- Teacher can face audience while projecting information on the screen
- Transparency masks can include the teacher's notes
- Teacher is free to use a pointer
- Additions or corrections can be written in while on display
- Preparation can be readily learned

Limitations

- Can be overused, thereby becoming boring
- May be used as a substitute, rather than an aid by the teacher
- Advanced planning is necessary
- Often requires screen adjustments for all students to see
- When updates are needed a completely new overhead must be prepared
- Rooms are not often conducive for everyone to read the content
- Light bulbs frequently need to be replaced
- Tendency to use too many
- Partially obscures vision of the teacher/students

Overhead Use Tips:

- Only use the first $\frac{3}{4}$ of the page

- Keep letter/font size readable
- When showing a form only use the parts of the document required
- Use key words and key concepts only
- Do not just read the material, discuss the concept or information
- Match copies of your overhead to handouts
- Only use three overheads per page
- Content is important, not the extraneous stuff on the page
- Borders add to a professional touch
- All symbols assist in leading the viewers eyes to the area of discussion



Flip Charts

Advantages

- Easy to use
- No extra equipment needed
- Portable
- Can be developed prior to class

Limitations

- Often hard to see depending on size of room and class
- Wrong pens can bleed on next page or on wall

Flipchart Use Tips

- Alternate colors for each line
- Easier to use paper with lines included
- Prepare in advance whenever possible
- Space words:
 - Draw a center line, top to bottom (lightly in pencil)

- Count letters in words
- Put a middle letter over the center line
- Sketch letters right of center to see if they fit
- Make a check sheet for under the page, great if you do several pages

Film Strips and Slides

Advantages

- Can be tailored to meet individual teacher's needs and abilities
- Can be made by the teacher with little training time
- Projector is relatively easy to run and readily portable
- Slides, as independent units, can be used at whatever order and pace to suit the lesson requirements
- Sound strips use trained voices and can be re-shown without sound to give the teacher opportunity to give explanations

Limitations

- Must be previewed so the teacher can tie in their lecture and set the sequence
- Are difficult and time consuming to develop if they are tailor made
- Film strips require rigid continuity
- In sound slide voice is controlled by rate or record



Motion Pictures and Video Tapes

Advantages

- Unexcelled to show motion, timing and phasing including changes occurring over extended periods of time
- Show functioning of hidden parts or invisible processes
- Show operations either accelerated or retarded
- Presents scenes and sound realistically which otherwise would be impossible

- Assures students will receive a uniform and consistent message about the processes or information provided

Limitations

- Audience viewing may be limited by room design
- They are costly and outdate quickly
- Room must be darkened
- Requires a power supply
- Must be stored and maintained
- Difficult to secure desired films at the time you need them and for the time period required
- Does not permit interruptions to capitalize on student interest in certain points (although this can be overcome)
- Requires pre and post showing discussions with the students

Video use tips:

- Preview video prior to purchase and note the year of production
- If possible check for a training manual
- Determine your objective for use of the video
- Familiarize yourself with the video content
- Write key concepts for discussion to reinforce content
- Before beginning the video, introduce the topic
- Tell students objective of viewing the video so they can prepare for discussion
- Ask students to evaluate the video for its usefulness
- If you are beginning in the middle of a video always have the video in the correct beginning spot before class begins



Tape Recorders

Advantages

- Gives the ability to record teacher, student, and interviewee voices

- There is an increasing supply of commercial tapes available
- The recording and play back process is simple
- Tapes can be reused if a permanent copy is not required

Limitations

- Room must be quiet and arranged for optimum recording quality
- Awareness of being recorded may prevent the free flow of ideas and expressions
- People who have speech difficulties may be embarrassed on play back



Computers-Projectors-Power Point

Advantages

- Can be choreographed to the presentation to allow stunning visual affects
- Easy to update
- Handouts can be printed for students to ease note taking
- Sound can be included to increase comprehension and interest levels

Limitations

- Can be overused and become boring
- Teacher can use to take the place of lecture
- Takes time to learn how to use the program to its fullest potential
- Must have a computer and projector
- Presentations are lost on computers
- Unless you are wireless you must be near the mouse
- Room size can affect student view
- Equipment is expensive and may fail

Power Point Tips

- Only use first $\frac{3}{4}$ of the page
- Keep letter/font size readable
- Only use the part of a form or document you need

- Use key words and key concepts only
- Do not just read the material from the slide
- Match copies of your presentation to the handouts
- Use only three slides per page on handouts
- Content is more important than extraneous material on the page
- Use web elements judiciously, too much takes away from content
- Always make a backup copy of your presentation
- Prepare for malfunction of equipment and possibility of not being able to use your Power Point presentation
- Check your colors to make sure your slide is readable in a big room



Selecting a Teaching Aid

Selecting an appropriate and effective aid is no easy achievement. Many teachers treat their aids so casually that they ignore the possibility that there may be better ones available. Whenever new material is taught, new aids should be brought into the classroom to support it. Even a slight change in the objective of an existing lesson may render an otherwise effective aid useless. To meet the requirements of changing lessons and lesson objective's teachers should constantly re-evaluate their teaching aids. Certain key factors, however, should always be observed when replacing an aid or designing a new one.

Determine Need

The first and probably the most important consideration is need. An aid is needed whenever there are teaching points that are difficult to explain. If an oral description fails to convey a clear and complete image to the student's mind, an aid is needed. This criterion should be applied not only to the new lessons, but to older established lessons in the program of instruction.

Aids can do more than support an explanation. They can also be used to motivate interest at appropriate points in the development of a lesson. However, any aid the teacher chooses to perk up the lesson must be related to the material he or she is teaching. If not, the aid ceases to function as it should and serves to distract.

Required Information

If you decide an aid is necessary, you should determine what you want the aid to do; that is, what do you want the aid to accomplish in terms of the lesson objective and what image do you want to establish in your students' minds.

Please refer to section 1.05 if you need to review the levels of learning. The lesson objective will determine the level of teaching required.

Clear Image

As the teacher you must have a distinct mental image of an aid before it can be reproduced. Your knowledge of the subject matter should guide the aid's content and context. Experience and observations should help with decisions regarding configuration, color, size and other physical characteristics that are necessary to convey the image.

What is the right image? Simple, it is the one that is essential, exact and basic. Frequently, experts in subject matter overlook fundamental points that are essential to student understanding. Consequently, they select too complicated an aid for the beginning student. Two simple aids, used in sequence are preferable to a single complex one.

The teacher should dry run the aid with the lesson materials. There is no exception to this practice rule. Practice allows for smooth handling of the aid(s), careful timing and other professional techniques. Equally important is that the teacher can determine during practice, the appropriateness of the aid. Other people can watch the rehearsal and help with comments and reactions.

Once the aid works in a practice session, the teacher can then use it in the lesson. Again, the results should be first evaluated. If the teacher senses the students did not respond as anticipated, the aid must be re-evaluated. A few inquiries among member of

the class may help suggest corrections or changes that should be made. The aid should then be improved or replaced before reusing it.

Using Teaching Aids

Aids must be used proficiently if they are to function effectively. An entire lesson will be handicapped if the aids used to support it are not employed in as professional way. If the aids are not used in proper sequence, or expressed at the proper time, they will detract from the presentation rather than making it more meaningful to the students.

Appropriate Number

Too many aids produce a bewildering effect. Too few, especially when important points are not given equal emphasis, weaken the students' ability to recall the material. Only the teacher can determine how many aids are needed. This needs to be considered along with the decision about which image the teacher wishes students to retain.

Orderly Sequence

The teaching aids should be coherently arranged to fit in the lesson plan seamlessly. An unorganized presentation of teaching aids has the same effect as a rambling verbal lecture.

Smooth Handling

If a fashion model tripped over the train of an exclusive gown she was modeling, there would probably be quite a hubbub. The dress would go unnoticed and quite possibly the model would be discharged on the spot. A smooth presentation is an expectation of the fashion model. Similarly teachers need to present visual aids in as polished a manner as possible.

First as the teacher should make sure all students can see. If it is a demonstration make sure to stand so the procedure you are demonstrating is visible. If graphic aids are used, make sure they are placed for optimal visualization for all students. If you write information on the chalkboard or white board, make the letters at least 2 inches in height and write legibly.

Being prepared with your aids is vitally important. If you are going to show a portion of a video, the video start point must be predetermined. If not, valuable class time is wasted trying to find the information you want to display. You will lose student interest and then spend the time to draw them back into the lesson.

Use of a look-point-talk technique you can maintain contact with students while using a teaching aid. When you need to refer to the aid, you should look at it and point to the area under discussion. The students will follow your eyes and their attention drawn to the important elements. You should then return your attention to the students and begin the explanation once you are facing the students. If you continue to point to the aid, the students can easily refer back and forth between the verbal and visual explanations.

Using a three dimensional aid poses a special visibility problem. When using actual equipment, for example, students should be grouped in various positions around it. They will see the equipment from different angles and only be able to visualize a limited version of the item. Ideally, the teacher can correct this by rotating each student to critical spots and reviewing teaching individually if needed. However, class time limitations may not permit this individual training.

Exact Timing

Correct timing involves not only handling technique, but coordinating aids with the points to be taught. Aids should be used or exposed only when they support the verbal explanation. They should be brought into view when they are necessary, and removed from view when they no longer serve a purpose.

Module 4 Quiz

Fill in the blank(s) or mark the letter of the correct answer for each question below:

1. Teaching aids should be used to clarify information in the lesson.
 - A. True
 - B. False

2. Advertising techniques have no place in an educational setting.
 - A. True
 - B. False

3. Use of a complex teaching aid that depicts the total process is more desirable than an aid showing a portion of a process.
 - A. True
 - B. False

4. At times, dramatized presentations and demonstrations are used because they allow the viewer to project into the action, learning by _____.

5. Please give two advantages of using a whiteboard as a teaching aid.

6. Using transparencies to present the entire lesson is desirable.
 - A. True
 - B. False

7. If you use a chalkboard, how large should the writing be?
 - A. 1 in
 - B. 2 in
 - C. 3 in
 - D. 4 in

8. It is important to test the efficacy of a teaching aid before using it in class.
 - A. True
 - B. False

Module 4 Activity

Answer each question with a short paragraph or two. Your answers should be type written or computer generated in at least font 12 using Times New Roman or Arial. You should email, mail or give your answer sheet to the teacher for each module as you finish it. Thank you for your work in this class. Please feel free to include any comments for improvement, or items that helped you through the course as you move through each activity.

- Plan a presentation of a lesson topic from the class you intend to teach after finishing this course that includes the use of at least one teaching aid. Describe how you will use the aid and how you will overcome any barriers to the use. If the aid is a power point presentation, or an overhead produce an example of what you will use in the class.
- Choose a learning video and develop an objective for the use of the video in your class. Please write a summary of what teaching actions you will take after showing the video to your students.
- Choose a demonstration you plan on using in your class. Please indicate how you will overcome the challenges associated with your demonstration and how you will overcome them.