

Adult Principles of Learning

Residents and students are more likely to learn when:

1. Instruction is problem-centered.

Problem-centered Instruction

1. Emphasizes the learning of concepts, not just facts.
2. Enables instructor to evaluate reasoning process.

Problem-centered Instruction

3. Provides opportunity for practicing problem-solving skills.
4. Clarifies relevance of knowledge being taught to real life situations.
5. Provides experience in information-seeking skills.

Problem-centered Instruction

Teaching Tips

1. Pose case problems before or during teaching session.
2. Provide age, sex, and presenting complaint and invite learners to ask for information to diagnose and/or treat the patient. Must justify basis for questions.

Problem-centered Instruction

Teaching Tips

3. Make full use of the “teachable moment.”
4. Think aloud.

Adult Principles of Learning

Residents and students are more likely to learn when:

1. Instruction is problem-centered.
2. They are in a supportive environment.

Supportive Environment

1. Enables learners to test ideas and think freely in a non-threatening and non-judgmental environment.
2. Establishes mutual trust and respect.

Supportive Environment

3. Encourages self-confidence and initiative.
4. Promotes independence and maturity.

Supportive Environment

Teaching Tips

1. Be available and approachable.
2. Clarify expectations and negotiate goals.
3. Respond... don't react.
4. Treat others as you would like to be treated.

Supportive Environment

Teaching Tips

5. Show enthusiasm toward teaching, your topic, and learners.
6. Help learners feel that they are valued members of the team.
7. Reinforce success.

Adult Principles of Learning

Residents and students are more likely to learn when:

1. Instruction is problem-centered.
2. They are in a supportive environment.
3. Their learning is experience-oriented.

Experience-oriented Instruction

1. Advances learners through the three developmental stages of skill acquisition: cognitive, associative, autonomous.
2. Provides opportunities for supervised practice.

Experience-oriented Instruction

3. Reinforces learning.
4. Contributes toward skill building as some complex skills are composites of subskills.

Experience-oriented Instruction

Teaching Tips

1. Use an organized teaching approach including:
 - A. Demonstrate the procedure
 - B. Verbalize the step as demonstrated
 - C. Provide practice
 - D. Give feedback during practice
(verbal/manual)
2. Associate what you are teaching with the learner's visual, aural, or tactile images.

Experience-oriented Instruction

Teaching Tips

3. If possible, provide practice and supervise learners immediately after demonstrating a procedure.
4. Provide repeated practice over a period of time.
5. If a complex skills, identify and teach separately the subskills, and then practice as a whole.
6. Be patient, learners learn at different rates.

Adult Principles of Learning

Residents and students are more likely to learn when:

1. Instruction is problem-centered.
2. They are in a supportive environment.
3. Their learning is experience-oriented.
4. They receive feedback on what is being done correctly or incorrectly.

Feedback

1. Should be descriptive rather than judgmental.
2. Reinforces positive behaviors and motivates learner.
3. Prevents errors from being habitual.

Feedback

4. Clarifies areas needing improvement not readily examined by written tests.
5. Conveys an attitude of concern and interest between instructor and learner.

Feedback Teaching Tips

1. First, invite the learner's self critique.
2. Assure timely feedback.
3. Link your feedback to the learner's goals.
4. Directly observe performance.
5. Focus on behavior... not individual.
6. Catch them doing something right and give positive feedback.

Feedback Teaching Tips

7. Be specific and constructive.
8. Avoid premature feedback.
9. Help learners turn negative feedback into constructive challenges.
10. Follow-up on feedback when needed.

Adult Principles of Learning

Residents and students are more likely to learn when:

1. Instruction is problem-centered.
2. They are in a supportive environment.
3. Their learning is experience-oriented.
4. They receive feedback on what is being done correctly or incorrectly.
5. They are active versus passive learners.

Active Learners

1. Maintain attention and enhance retention.
2. Engage in critical thinking and inquiry.
3. Are more motivated to learn as interest escalates.

Active Learners Teaching Tips

1. Clarify “ground rules” and encourage multi-directional discussion.
2. Use open-ended and probing questions to promote critical thinking.
3. Be quiet and give learners time to think/respond.
4. Arrange seating to promote discussion.

Active Learners Teaching Tips

5. Have students work in small groups on specified exercise.
6. Use “active” learning/teaching methods
 - A. Brainstorming
 - B. Snowball discussion technique
 - C. Debate, role play, or simulation
 - D. Reflection.
7. Set up a conference call in class.