



Adult Learning: Mental Skills

GLOBAL COURSEWARE

Getting Started

The cognitive domain is the domain of knowledge and intellect, and it is the main focus of most educators.

Workshop Objectives



- Understand Bloom's Taxonomy
- Explain the cognitive domain
- Explore the two cognitive domains
- Explain types of knowledge
- Identify training in the cognitive domain

A grayscale landscape of layered mountains, with the foreground mountains in dark silhouette and the background mountains fading into a light, hazy sky. A white horizontal line is positioned above the quote. The quote is written in a white, italicized serif font. The author's name is written in a white, italicized serif font at the bottom right.

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A word devoid of thought is a dead thing, and a thought unembodied in words remains a shadow.

Lev S. Vygotsky

Bloom's Taxonomy

Bloom's Taxonomy has been a staple of educators for decades.

Educators should be familiar with the theory's history and how it has changed over the years.



Bloom's Theory

The learning hierarchy is the focus of Bloom's theory. In the hierarchy, students master the basic stage of the learning domain before moving on to the next one.

History

Evaluation

Synthesis

Analysis

Application

Comprehension

Knowledge





New Understanding

- Creating
- Evaluating
- Analyzing
- Applying
- Understanding
- Remembering

Definition

The cognitive domain is most often associated with education because it is knowledge based.



Practical Illustration



- Bloom's Theory
- History
- The New Understanding
- Definition

Module Two: Review Questions

1. What is necessary for reaching higher skills?

A. Hierarchy

B. Nothing

C. Develop learning strategies

D. Define learning

Module Two: Review Questions

2. What is created from the domains of Bloom's Taxonomy?

A. Learning objectives

B. Activities

C. Assessment

D. All of the above

Module Two: Review Questions

3. In what year was Bloom's Taxonomy developed?

A. 1973

B. 1956

C. 1964

D. Unknown

Module Two: Review Questions

4. What is a domain in Bloom's Taxonomy?

A. Cognitive

B. Psychomotor

C. Affective

D. All of the above

Module Two: Review Questions

5. What category did the updated model remove?

A. Understanding

B. Knowledge

C. Analysis

D. Creativity

Module Two: Review Questions

6. How was the taxonomy changed?

A. Action oriented

B. It was not

C. 7 stages

D. None of the above

Module Two: Review Questions

7. What actions benefit from the updated version?

A. Factual

B. Emotional

C. Comprehensive

D. Creative

Module Two: Review Questions

8. What domain do most people focus on?

A. Affective

B. Cognitive

C. Psychomotor

D. None

Module Two: Review Questions

9. Bloom's Taxonomy has been a staple of educators for _____.

A. Centuries

B. Years

C. Decades

D. None of the above

Module Two: Review Questions

10. Educators of _____ should be familiar with the theory's history and how it has changed over the years

A. Children

B. Adults

C. A and B

D. None of the above

A black and white landscape photograph of a fjord. In the foreground, a winding road leads down a steep, dark slope towards the water. The middle ground shows a calm body of water with a small island or peninsula in the center, featuring some buildings and what appears to be a small settlement. In the background, more mountains rise under a sky filled with dramatic, layered clouds. A thin white horizontal line is positioned above the main text.

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Education is the most powerful weapon which you can use to change the world.

Nelson Mandela

MODULE THREE

Knowledge

Knowledge must be mastered before moving on to comprehension.



Behavior

- Recite definitions
- Know rules
- Recognize processes
- Recall pertinent information

Actions

- Read
- Search online
- Take multiple choice test
- Use study aides





Examples

- Know
- Memorize
- Repeat
- Describe
- List

Implementation

When implementing objectives, the goal is to design activities that demonstrate learning objectives.



Practical Illustration



- Behavior
- Actions
- Examples
- Implementation

Module Three: Review Questions

1. What is an example of knowledge?

A. Unknown

B. Creativity

C. Synthesis

D. Recognize process

Module Three: Review Questions

2. What is the behavior based on?

A. Recalling

B. Recognizing

C. A and B

D. Organizing

Module Three: Review Questions

3. What do the actions demonstrate?

A. Activity

B. Understanding

C. Unknown

D. A and B

Module Three: Review Questions

4. What should actions align with?

A. Receiving

B. Example words

C. Assessments

D. Unknown

Module Three: Review Questions

5. What is another name for example verbs?

A. Outcomes

B. Goals

C. A and B

D. Keywords

Module Three: Review Questions

6. What is true of keywords in different domains?

A. Nothing

B. They may overlap

C. They are unique

D. None of the above

Module Three: Review Questions

7. What tool will help implement knowledge?

A. Lecture

B. Books

C. Aides

D. All of the above

Module Three: Review Questions

8. What should be avoided when using the knowledge domain?

A. Pacing

B. Instruction

C. Books

D. Overwhelming students

Module Three: Review Questions

9. In the knowledge stage of cognitive domain, the focus is on _____.

A. Memory

B. Experience

C. Education

D. Unknown

Module Three: Review Questions

10. The behavior of the knowledge stage is based on recognizing and recalling _____.

A. Data

B. Experiences

C. Memories

D. None of the above



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Neither comprehension nor learning can take place in an atmosphere of anxiety.

Rose Kennedy

MODULE FOUR

Comprehension

It is important to be familiar with the behavior, actions, example verbs, and implementation necessary to support students in their progress through the comprehension stage of this domain.



Behavior

- Reword
- Interpret
- Reason
- Translate

Actions

Create examples of information

Give solution to problems

Provide treatment ideas





Examples

- Convert
- Estimate
- Predict
- Rewrite

Implementation

Adult learners will require that activities be designed with their skills and needs in mind.



Practical Illustration



- Behavior
- Actions
- Examples
- Implementation

Module Four: Review Questions

1. How will students respond in this stage?

A. Interpret

B. Rerword

C. Reason

D. All of the above

Module Four: Review Questions

2. What should students display?

A. Memorization

B. Reading

C. Activity

D. Personal understanding

Module Four: Review Questions

3. What will action at this stage demonstrate?

A. Participation

B. Application

C. Knowledge

D. Understandings

Module Four: Review Questions

4. What will understanding example words help?

A. Organization

B. Understanding responses

C. Creativity

D. All of the above

Module Four: Review Questions

5. Keywords should be _____.

A. Nouns

B. Helping verbs

C. Action verbs

D. None of the above

Module Four: Review Questions

6. What will help assess performance?

A. Keywords

B. Objectives

C. Goals

D. Domain

Module Four: Review Questions

7. What should be considered when creating activities for adult learners?

A. Skills

B. Goals

C. Needs

D. A and C

Module Four: Review Questions

8. What will NOT improve comprehension?

A. Essay

B. Memorization

C. Cooperative learning

D. Notes

Module Four: Review Questions

9. It is important to be familiar with the _____, and implementation necessary to support students in their progress through the comprehension stage of this domain.

A. Behavior

B. Actions

C. Example words

D. All of the above

Module Four: Review Questions

10. Examples of actions that demonstrate the students' comprehension:

A. Create examples of information

B. Give solution to problems

C. Interpret the meaning of texts

D. All of the above



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*Tell me and I forget. Teach me and I remember. Involve me
and I learn.*

Benjamin Franklin

MODULE FIVE

Application

In the application stage, students will begin to apply general or abstract ideas to real world scenarios.



Behavior

Students are able to apply information on their own and exercise any theories that they have acquired.

Actions

- Demonstrate qualitative assessments
- Able to deconstruct processes
- Measure needs or requirements





Examples

- Solve
- Use
- Construct
- Respond

Implementation

When implementing the learning objectives at the application phase the goal is for students to act on their knowledge.



Practical Illustration



- Behavior
- Actions
- Examples
- Implementation

Module Five: Review Questions

1. What should students be able to exhibit in their behavior at this stage?

A. Exercise theories

B. Apply information

C. A and B

D. None of the above

Module Five: Review Questions

2. What should the focus of the application stage be?

A. Complex analysis

B. General use

C. A and B

D. None of the above

Module Five: Review Questions

3. What do actions at this stage align with?

A. Objectives

B. Commitment

C. Nothing

D. Learning outcomes

Module Five: Review Questions

4. What are actions based on?

A. Ideas

B. Theories

C. Principles

D. All of the above

Module Five: Review Questions

5. What helps identify mastery of this stage?

A. Application

B. Displays

C. Examples

D. Keywords

Module Five: Review Questions

6. What is true of keywords?

A. They are action verbs

B. They are nouns

C. They are passive

D. None of the above

Module Five: Review Questions

7. What will NOT increase the likelihood that students will apply knowledge?

A. Goals

B. Interests

C. Mandatory activities

D. None of the above

Module Five: Review Questions

8. What is the benefit of group-based activities?

A. None

B. Communicate knowledge

C. Demonstrate comprehension

D. Demonstrate application

Module Five: Review Questions

9. When implementing the learning objectives at the application phase of the cognitive domain, the goal is for students to act on their _____.

A. Knowledge

B. Own

C. Best behavior

D. Instincts

Module Five: Review Questions

10. Which of the following is a key word that will help identify successful mastery at this stage?

A. Engage

B. Modify

C. Excite

D. Unknown



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The ultimate authority must always rest with the individual's own reason and critical analysis.

Dalai Llama

MODULE SIX

Analysis

At this stage, students are able to breakdown content and recognize relationships.

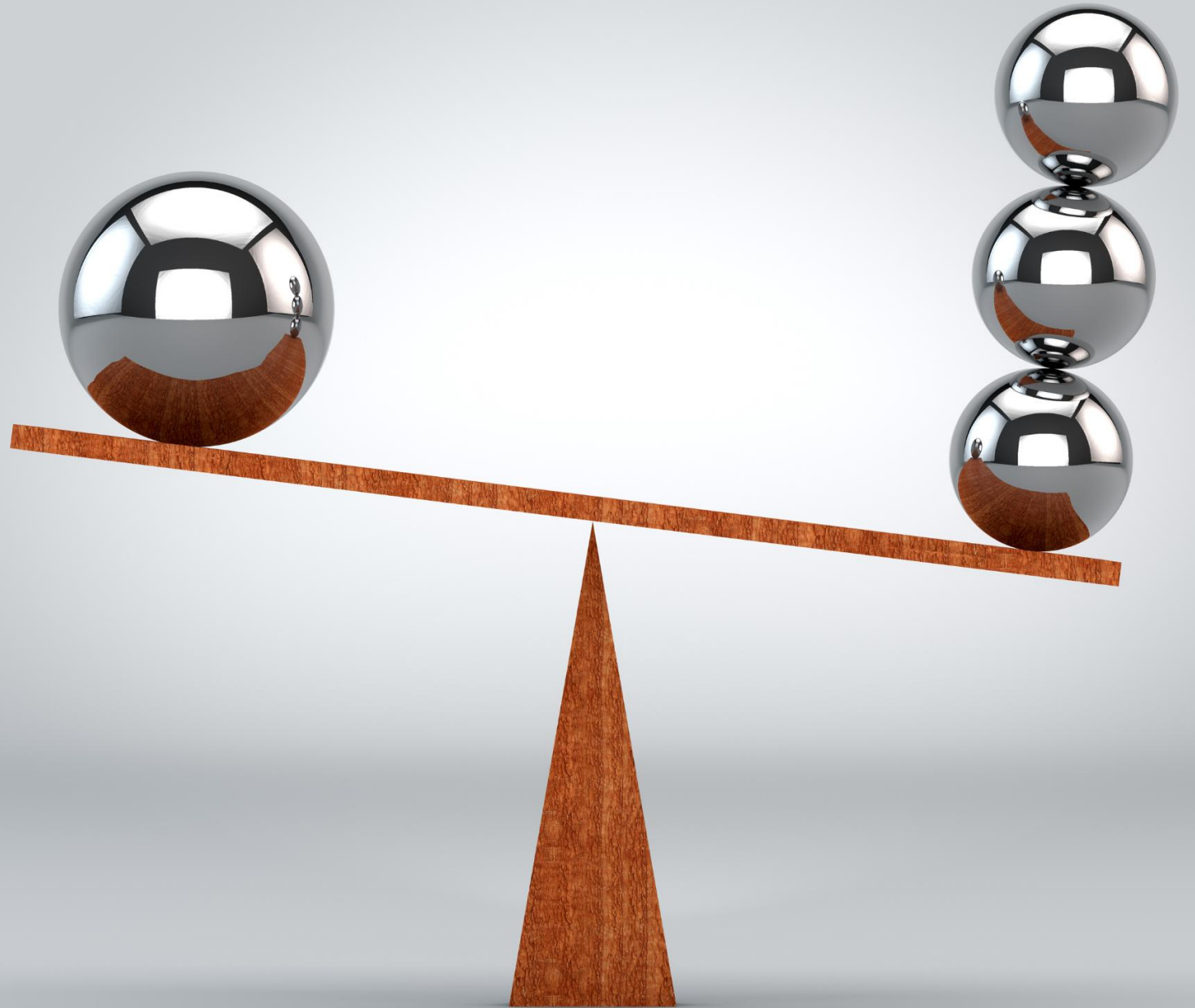
A photograph of a wooden chess king piece standing on a 3x3x3 wooden cube. The king piece is dark brown with a cross on top. The cube is made of light-colored wood blocks. The background is a plain, light-colored wall.

Behavior

- Elements
- Principles of organization
- Structure

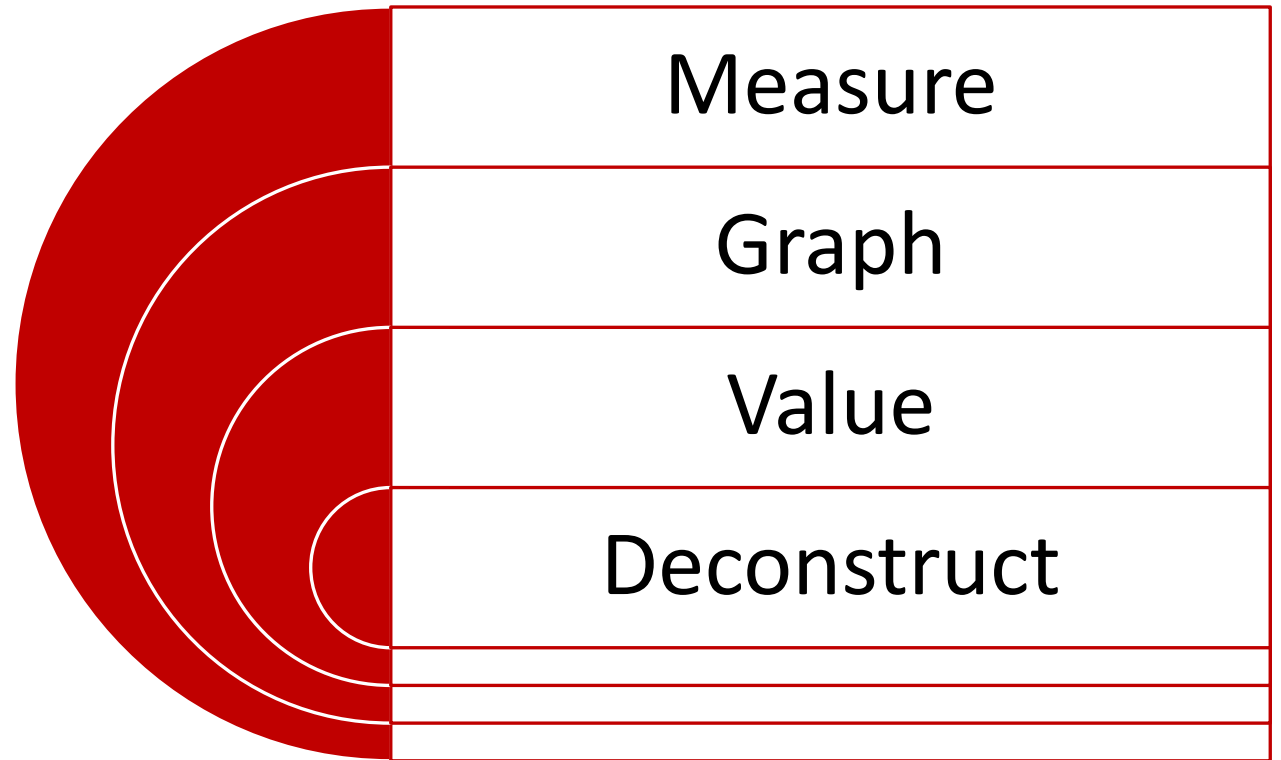
Actions

- Qualitative assessments of relationship parts
- Measure needs
- Measure requirements
- Qualitative assessments of values





Examples



Implementation

When implementing the analysis stage of the cognitive domain in class, you must require the students to practice logic skills.



Practical Illustration



- Behavior
- Actions
- Examples
- Implementation

Module Six: Review Questions

1. What is included in interpretation?

A. Elements

B. Organization

C. Structure

D. All of the above

Module Six: Review Questions

2. What should students be able to analyze?

A. Quality

B. Reliability

C. A and B

D. Implementation

Module Six: Review Questions

3. What should students be able to identify?

A. Logical relationships

B. Familiar knowledge

C. Academic decisions

D. None of the above

Module Six: Review Questions

4. Keywords are used in _____.

A. Learning outcomes

B. Organization

C. Goals

D. Reviews

Module Six: Review Questions

5. What do action verbs describe?

A. Student mastery

B. Development

C. Relationship

D. Nothing

Module Six: Review Questions

6. What do keywords do?

A. Predict

B. Assess

C. Show outcomes

D. A and B

Module Six: Review Questions

7. What skillset should students practice?

A. Creativity

B. None

C. Values

D. Logic

Module Six: Review Questions

8. What should students be able to identify at this stage?

A. Instruction

B. Implementation

C. Inferences

D. All of the above

Module Six: Review Questions

9. Which of the following is an example of a keyword used at this stage?

A. Age

B. Noun

C. Skill level

D. Deconstruct

Module Six: Review Questions

10. Which of the following is not a keyword used at this stage?

A. Quantify

B. Knowledge

C. Infer

D. Value



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Get the habit of analysis - analysis will in time enable synthesis to become your habit of mind.

Frank Lloyd Wright

MODULE SEVEN

Synthesis

Analysis is the ability to break down information logically, but synthesis is the ability to take the parts and make them into a whole.



Behavior

Once students understand and develop analysis skills, they will be able to develop synthesis behaviors.

Actions

The actions at this level display consistency, show creativity, and the ability to complete projects.



Examples



Implementation

At the implementation stage, students are developing creativity and new ideas.



Practical Illustration



- Behavior
- Actions
- Examples
- Implementation

Module Seven: Review Questions

1. What will behaviors demonstrate?

A. Analysis

B. Understanding

C. Values

D. Creativity

Module Seven: Review Questions

2. The behavior that shows synthesis will use various elements in creation and have what unique characteristic(s)?

A. Structure

B. Meaning

C. A and B

D. None of the above

Module Seven: Review Questions

3. Actions in the synthesis level will show the ability to _____ projects?

A. Interact

B. Complete

C. Value

D. Process

Module Seven: Review Questions

4. What do actions align with?

A. Personal decisions

B. Academic decisions

C. Keywords

D. Unknown

Module Seven: Review Questions

5. What will the keywords focus on?

A. Completion

B. Uniqueness

C. Nothing

D. Actions

Module Seven: Review Questions

6. What predicts student behavior in mastery?

A. Goals

B. Nothing

C. Domains

D. Example words

Module Seven: Review Questions

7. What develops at the implementation stage?

A. Application

B. Completion

C. Emotions

D. Creativity

Module Seven: Review Questions

8. What implements synthesis in the classroom?

A. Lectures

B. Humanities

C. Notes

D. Essay

Module Seven: Review Questions

9. Which of the following is an example of a keyword used at this stage?

A. Develop

B. Noun

C. Book

D. Lesson

Module Seven: Review Questions

10. Which of the following is not an example of a keyword used at this stage?

A. Plan

B. Formulate

C. Design

D. Verb



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I like to regard myself as someone who's capable of critical thought, that is to say, who can evaluate claims.

Bill Nye

MODULE EIGHT

Evaluation

Instructors at the evaluation stage need to be very careful because it is not easy to measure success at this point.



Behavior

- Critical thinking
- Evaluate effectiveness
- Assess external criteria
- Compare and review strategically

Actions

Evaluate
sustainability

Calculate and defend
finances

Complete SWOT
analysis





Examples

- Justify
- Defend
- Conclude
- Appraise

Implementation

At this stage, the students will show more expertise in their abilities than they have in earlier domains with the same exercises.



Practical Illustration



- Behavior
- Actions
- Examples
- Implementation

Module Eight: Review Questions

1. What will students understand?

A. Quantitative assessment

B. Cognition

C. Qualitative assessment

D. A and C

Module Eight: Review Questions

2. What is the goal for behavior at the evaluation stage?

A. Completion

B. Judge value

C. Cognition

D. Creativity

Module Eight: Review Questions

3. What will actions include?

A. Unique actions

B. Passive behavior

C. Those from earlier stages

D. None of the above

Module Eight: Review Questions

4. How will students act?

A. Creatively

B. Usefully

C. Independently

D. Unknown

Module Eight: Review Questions

5. What is true of the keywords in this stage?

A. They are nouns

B. They are action verbs

C. Nothing

D. They are helping verbs

Module Eight: Review Questions

6. What type of assessments work with evaluation assessments?

A. Qualitative

B. Quantitative

C. Various

D. None of the above

Module Eight: Review Questions

7. What is true of implementation at this stage?

A. Simple

B. Nothing

C. Expertise

D. Complex

Module Eight: Review Questions

8. What will students show?

A. Expertise

B. Nothing

C. Development

D. Complexity

Module Eight: Review Questions

9. What is an example of a keyword used at this stage?

A. Work

B. Nothing

C. Work alone

D. Justify

Module Eight: Review Questions

10. What is **not** a keyword used at this stage?

A. Defend

B. Evaluation

C. Critique

D. Conclude

A wooden boardwalk made of weathered planks winds through a misty, overcast landscape. The path curves from the bottom left towards the center of the frame. The background is a soft, greyish-white fog that obscures the horizon. The overall mood is quiet and contemplative.

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Change is the end result of all true learning.

Leo Buscaglia

Updated Version

The new version of the domain employs a more active view of learning and also employs verbs rather than nouns to label the stages.



Remembering and Understanding

Knowledge

Remembering

Understanding

Comprehension

Applying and Analyzing

Applying is the equivalent of Application, they only have minor differences.





Evaluating

Evaluate replaces Synthesis in the updated version of the cognitive domain.

Creating

Creating changes places with Evaluating and is similar to Synthesis.



Practical Illustration



- Remembering and Understanding
- Applying and Analyzing
- Evaluating
- Creating

Module Nine: Review Questions

1. What is an example of remembering?

A. Reflect values

B. Align with mission

C. Outline performance

D. Recitation

Module Nine: Review Questions

2. Where will students **not** find meaning?

A. Functions

B. Feelings

C. Activities

D. Writings

Module Nine: Review Questions

3. What technique might be used in the *applying* stage?

A. Lectures

B. Presentations

C. Learning goals

D. None of the above

Module Nine: Review Questions

4. What is **not** an action associated with analyzing?

A. Graphs

B. Organizing

C. Attributing

D. Distinguishing

Module Nine: Review Questions

5. In the Evaluating stage, students make decisions by using criticism based on _____.

A. Standards

B. Timing

C. Trust

D. Emotion

Module Nine: Review Questions

6. The evaluation process can be seen as _____ in the taxonomy.

A. Reports

B. Recommendation

C. Demonstration

D. All of the above

Module Nine: Review Questions

7. What is the most complex stage of this domain?

A. Evaluation

B. Synthesis

C. Applying

D. Creating

Module Nine: Review Questions

8. What is a characteristic of the creation stage?

A. Reproduced

B. Unique

C. Copied

D. Numerical

Module Nine: Review Questions

9. The cognitive domain of Bloom's Taxonomy was updated in what year?

A. 2020

B. 1977

C. 2000

D. 1976

Module Nine: Review Questions

10. Understanding (verb) replaces
_____ (noun) in the updated domain.

A. Supervision

B. Comprehension

C. Mentoring

D. Unknown



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*Human behavior flows from three main sources: desire,
emotion, and knowledge.*

Plato

Types of Knowledge

Levels of knowledge: factual, conceptual, and procedural, metacognitive.



Factual

- Details
- Symbols
- Elements
- Terms

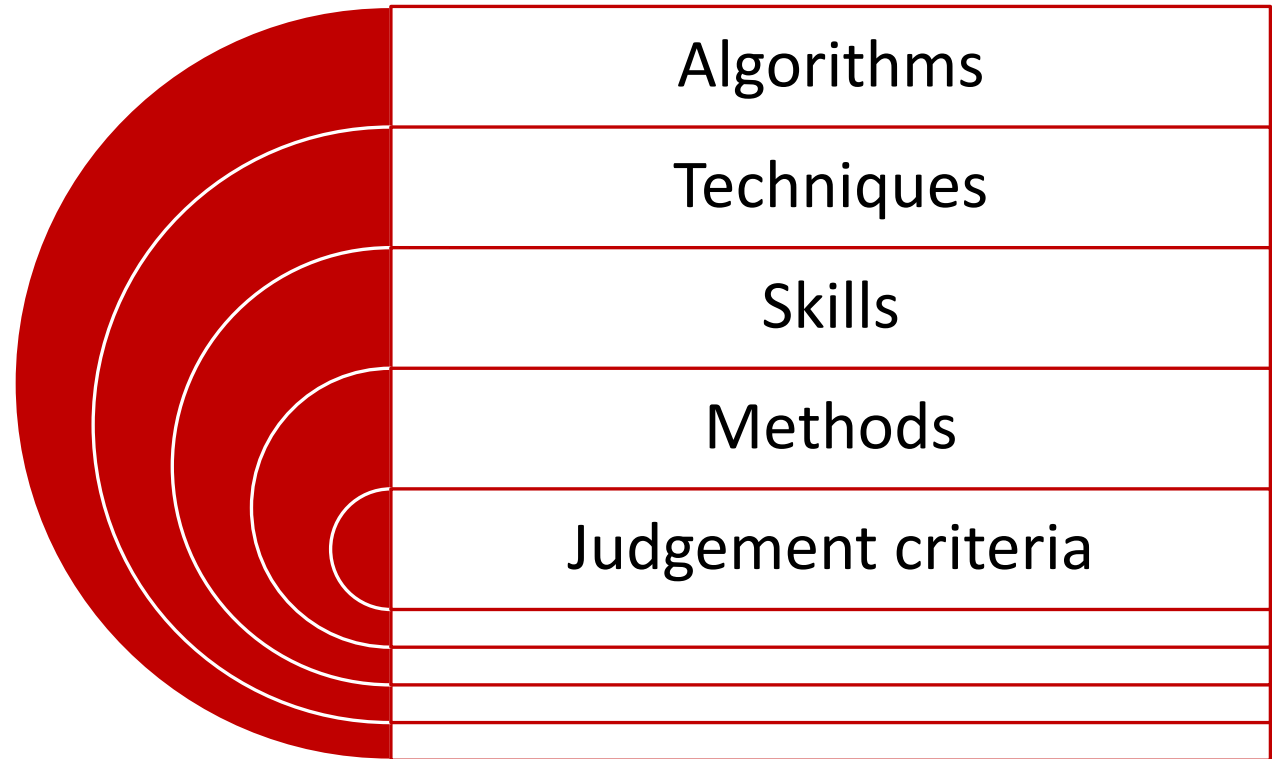
Conceptual

At the conceptual level, the students focus on concepts and ideas.





Procedural



Metacognitive

- Self-knowledge
- Learning Strategies
- Knowledge of Cognitive-related Tasks



Practical Illustration



- Factual
- Conceptual
- Procedural
- Metacognitive

Module Ten: Review Questions

1. What will make students familiar with their subject matter?

A. Conceptual knowledge

B. Metacognitive knowledge

C. Factual knowledge

D. All of the above

Module Ten: Review Questions

2. What is not an example of factual knowledge?

A. American Presidents

B. Anatomy

C. Works of a composer

D. Theory of gravity

Module Ten: Review Questions

3. What do students see at the conceptual level?

A. Communication

B. Interrelationships

C. Elements

D. Structures

Module Ten: Review Questions

4. What is **not** an example of factual knowledge?

A. Anatomy

B. Time periods

C. Government models

D. Theory of gravity

Module Ten: Review Questions

5. What is not something that students would engage in with procedural knowledge?

A. Create art

B. Literary criticism

C. Focus on concepts

D. Analysis

Module Ten: Review Questions

6. What do students develop?

A. Inquiry methods

B. Techniques

C. Algorithms

D. All of the above

Module Ten: Review Questions

7. What knowledge was added in the second cognitive domain?

A. Conceptual

B. Factual

C. Metacognitive

D. None

Module Ten: Review Questions

8. What is an example of using metacognitive knowledge?

A. Organizers

B. Mnemonic devices

C. A and B

D. None of the above

Module Ten: Review Questions

9. Which of the following is a recognized subset of the conceptual stage?

A. Knowledge

B. Action

C. Generalization

D. Unknown

Module Ten: Review Questions

10. Which is not a recognized subset of the conceptual level?

A. Models

B. Metacognitive knowledge

C. Principles

D. Classification



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I never teach my pupils; I only attempt to provide the conditions in which they can learn.

Albert Einstein

MODULE ELEVEN

Training

Training in the cognitive domain requires careful planning and implementation.



Examples

Memory model-Move students through the sensory stage

Concept model-focus on teaching concepts and using tools such as concept mapping

Problem Solving

- Identify the problem
- Discover possible solutions
- Look at solution alternatives
- Evaluate and choose





Qualitative Assessments

Observation

Focus groups

Interviews

Create Plans

- Cognitive level
- Objective
- Strategy



Practical Illustration



- Examples
- Problem Solving
- Qualitative Assessments
- Create Plans

Module Eleven: Review Questions

1. What is the end goal of the memory model?

A. Sensory stage

B. Short-term memory

C. Long-term memory

D. None of the above

Module Eleven: Review Questions

2. What do concept models use?

A. Nothing

B. Lecture

C. Sensory stage

D. Concept mapping

Module Eleven: Review Questions

3. When is problem solving effective?

A. Research project

B. Lecture

C. Experiment

D. A and C

Module Eleven: Review Questions

4. How many stages are there?

A. 4

B. 3

C. 5

D. 2

Module Eleven: Review Questions

5. What are qualitative assessments?

A. Formal

B. Inductive

C. Deductive

D. None of the above

Module Eleven: Review Questions

6. What must be developed?

A. Modeling

B. Practice

C. A and B

D. Evaluation criteria

Module Eleven: Review Questions

7. What should be established to guide the matrix?

A. Goal

B. Responsibility

C. Objective

D. None of the above

Module Eleven: Review Questions

8. What is included in lesson plans?

A. Domain

B. Actions

C. Keywords

D. All of the above

Module Eleven: Review Questions

9. Which of the following is an example of a method of qualitative assessment that can be implemented in the classroom?

A. Observation

B. Documentation

C. Focus groups

D. All of the above

Module Eleven: Review Questions

10. There is only one way to create a lesson plan matrix.

A. True

B. False

Wrapping Up

Although this workshop is coming to a close, we hope that your journey to understanding Adult Learning: Mental Skills is just beginning.



Words From the Wise

*Education is not preparation
for life; education is life
itself.*

- John Dewey

*Develop a passion for
learning. If you do, you will
never cease to grow.*

- Anthony J D'Angelo

*Intellectual growth should
commence at birth and
cease only at death.*

- Albert Einstein