

LEARNING PROCESS

DR.BRINDA VENKATRAMAN
TNMC,MUMBAI



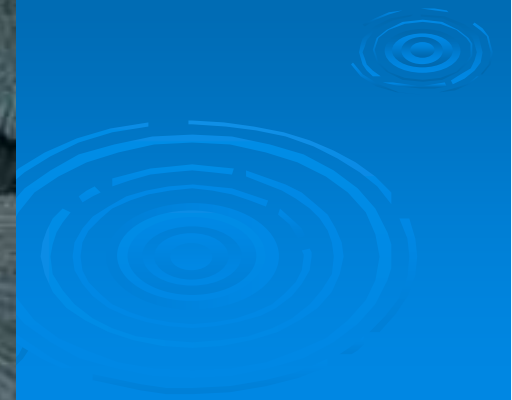
OBJECTIVES

- To define learning
- To know the basic assumptions of learning
- To describe the nature of human memory
- To describe the processes of storing and retrieving information

- To discuss the evolution of learning & levels of learning
- To list the principles of learning and to appreciate basic principles of theories of learning
- To know the types of learning
- To recognize the domains of learning

DEFINITION

Learning is an active and continuous process that results in a relatively permanent change in the behavior of the learner.



Learning is the act of acquiring new, or modifying and reinforcing, existing knowledge, behaviors, skills, values, or preferences.

may involve synthesizing different types of information.



➤ Human learning may occur as part of

a. education

b. personal development

c. schooling

d. training


The types of learning activities you develop for your course should be based on the particular learning outcomes that you would like to achieve.

Learning activities need to support students in the achievement of course learning outcomes.




- When choosing learning activities it is useful to reflect on the learning process and what we actually do when we learn something.

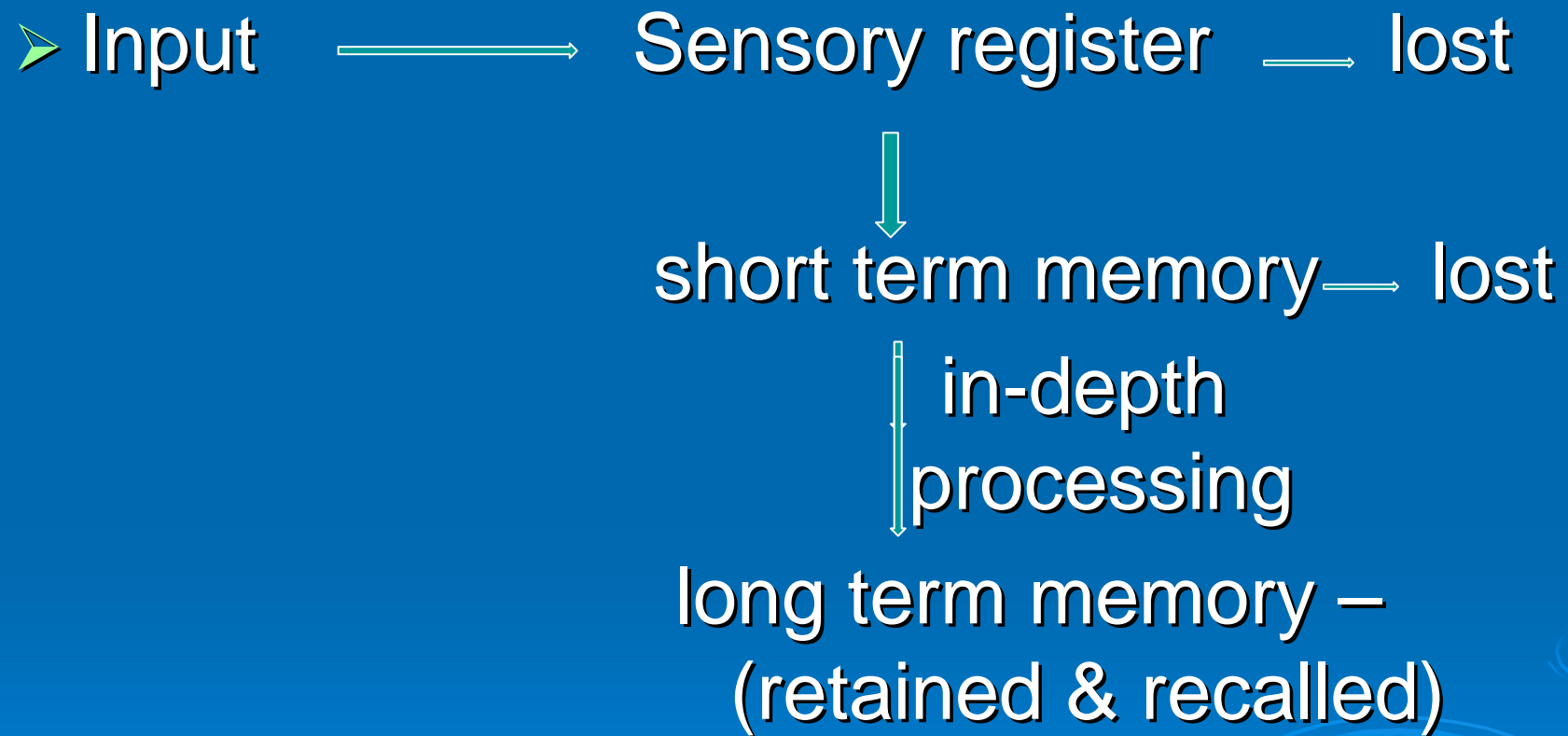
BASIC ASSUMPTIONS ABOUT LEARNING

- People learn new information more easily when they can relate it to something they already know.
 - People are selective about what they process and learn
 - Meaning is constructed by the learner
 - Active involvement in learning
- 

PROCESSES IMPORTANT IN LEARNING

- 1.Memory
 - 2.Storage
 - 3.Encoding
 - 4.Retrieval
- 

COMPONENTS OF HUMAN MEMORY SYSTEM



TRANSFER FROM SHORT TERM TO LONG TERM MEMORY

- Automatic conversion – if associated with strong emotions or great interest
- Voluntary fixing – with conscious effort, i.e. repeating each information, word by word

ENCODING OF INFORMATION

➤ mentally processed

ATTENTION plays a major role in this process.

Relevant information presented in an exciting manner by using a variety of instructional methods that are lively & enthusiastic receives better attention of students

RETRIEVING INFORMATION

- Spontaneous recall
- Recall by effort
- Recall triggered by one or more associations – more the associations, better will be the retention & recall

CHARACTERISTICS OF LONG-TERM MEMORY

- indefinitely long duration
- unlimited capacity
- interconnectedness



GROUP ACTIVITY

Factors that facilitate &
factors that hinder the learning
process


EVOLUTION OF LEARNING

- 2 ways in which an animal gains knowledge:

LEARNING: This is when an animal gathers information about its surrounding environment and then proceeds to use this information.

THROUGH INNATE KNOWLEDGE : This knowledge is genetically inherited. The animal automatically knows it without any prior experience.

LEVELS OF LEARNING (GAGNE)

- Signal learning
 - Stimulus-response learning
 - Motor chaining
 - Verbal chaining
 - Discrimination learning
- 

- Concept learning
- Rule learning
- Problem solving



Stage of learning


- Be introduced to it

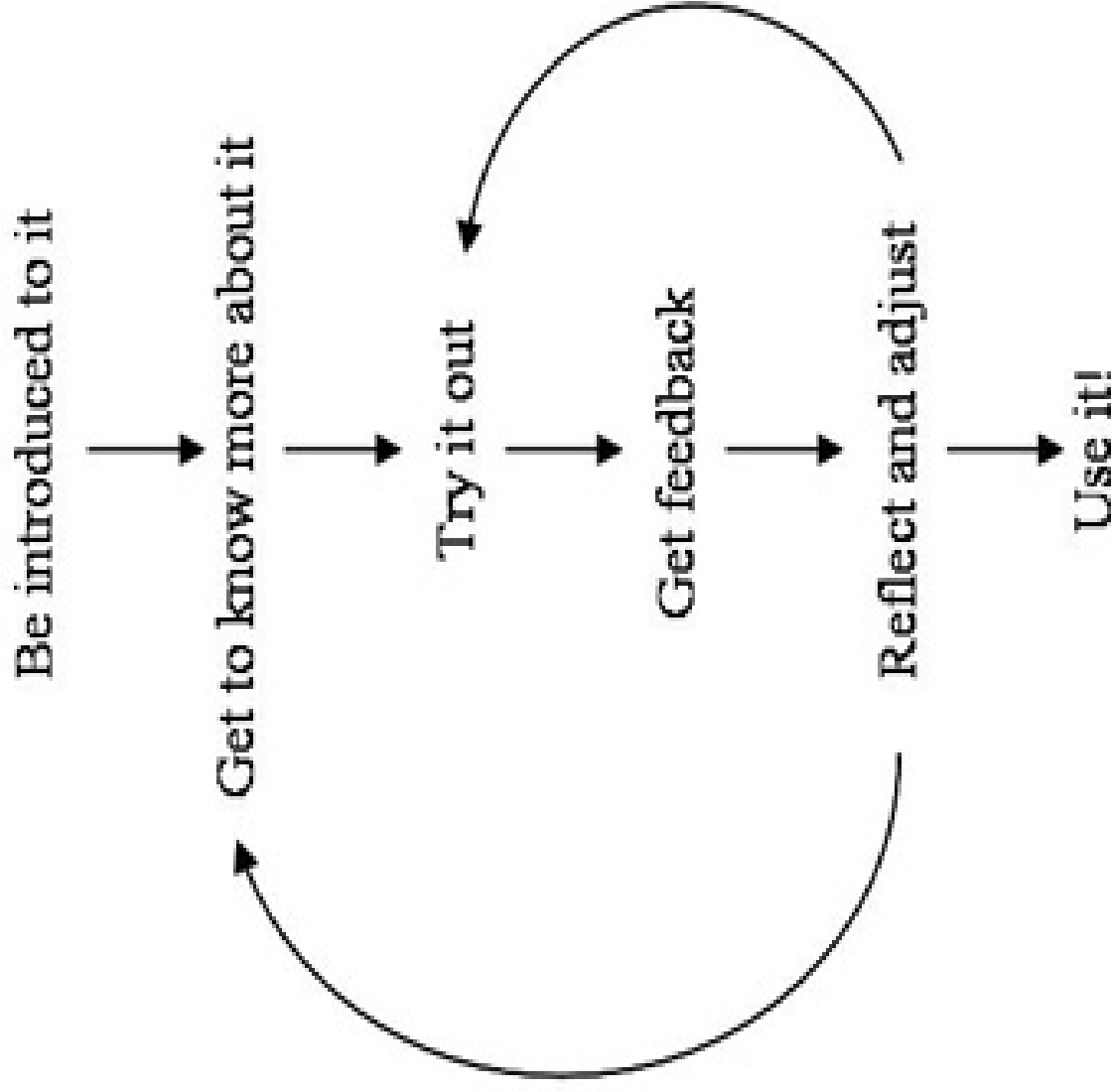
- Get to know more about it

Examples of related learning activities

- Overviews, preliminary reading, listening to discussion, presentation, websites, media or video clip

- Lectures, further reading, group discussion, demonstrations, asking questions, relating to earlier learning experience, interactive websites, audiovisual material, media, research projects

- Try it out
 - Practical projects, discussion of ideas with peers and teachers, design tasks, structured experiences, role play, skills laboratories, writing
 - Get feedback
 - Informal and formal feedback with criteria from self, from peers, from teachers, from colleagues, from family and friends
 - Reflect, adjust and try again
 - Through contemplation, writing, reflective journals, discussion
- 



(Hughes, C., Toohy, S., and Hatherley, S., 1992)

The Learning Process

Perceiving

- Input (often called cues)
- Learner perceives or develops and idea of what has to be done

Feedback

- External or internal
- Coach important here
- Asked to practice further, ∴cycle starts again.

Deciding

- Processing in the brain
- How do we put the info into a response

Acting

- Output
- Move or movement

Types of learning

1.1 Non-associative learning

1.1.1 Habituation

1.1.2 Sensitization

1.2 Associative learning

1.2.1 Operant conditioning

1.2.2 Classical conditioning

1.3 Play

1.4 Enculturation

1.5 Episodic learning

1.6 Multimedia learning

1.7 E-learning and augmented learning

1.8 Rote learning

1.9 Meaningful learning

1.10 Informal learning

1.11 Formal learning

1.12 Nonformal learning

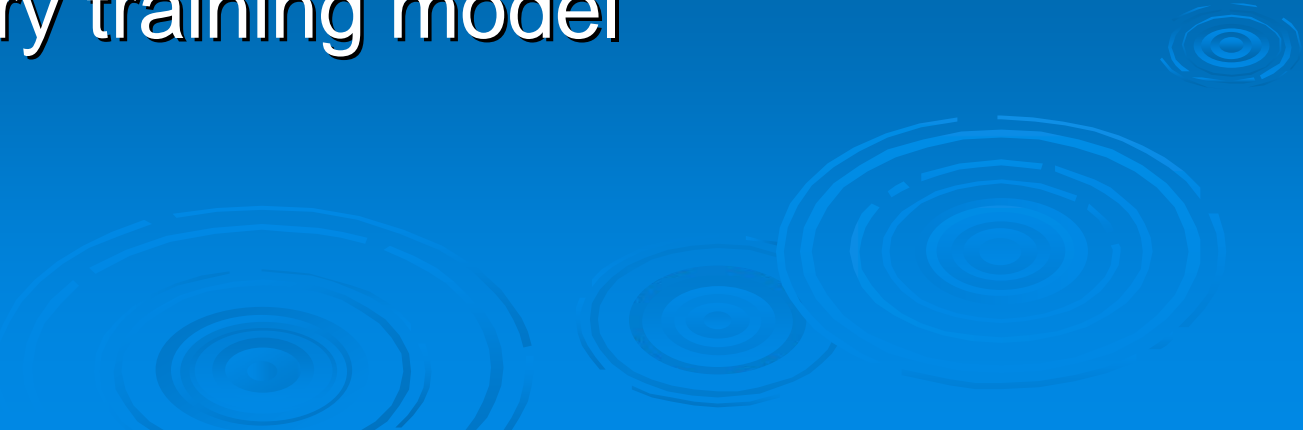
1.13 Nonformal learning and combined approaches

1.14 Tangential learning

1.15 Dialogic learning



THEORIES OF LEARNING

1. Conditioning theory
 2. Theory of connectionism (Thorndike)
 3. Field theory
 4. Learning models
 - a) Ausubel`s advance organizer model
 - b) Inquiry training model
- 

PRINCIPLES OF LEARNING

- Goal setting
- Relevance of learning experience
- Motivation
- Personal styles of learning
- Active involvement of learners



PRINCIPLES OF LEARNING- CONTD.

- Meaning orientation
- Application of knowledge
- Realistic learning
- Facilitative instructional sequence
- feedback



Laws of Learning

- Doing
- Effect
- Exercise
- Primacy



Methods of Instruction

Telling

- 70% recall 3 hrs
- 10% recall 3 days

Showing

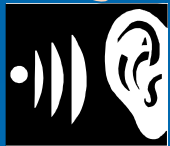
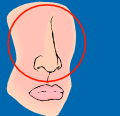
- 72% recall 3 hrs
- 20% recall 3 days

Show & Tell

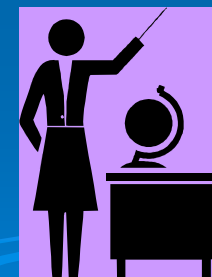
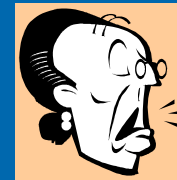
- 85% recall 3 hrs
- 65% recall 3 days



How we Learn-Auditory, Visual, Kinesthetic



We learn:	We Remember:
<ul style="list-style-type: none">• 1% through taste	<ul style="list-style-type: none">• 10% of what we read
<ul style="list-style-type: none">• 1.5% through touch	<ul style="list-style-type: none">• 20% of what we hear
<ul style="list-style-type: none">• 3.5% through smell	<ul style="list-style-type: none">• 30% of what we see
<ul style="list-style-type: none">• 11% through hearing	<ul style="list-style-type: none">• 50% of what we see and hear
<ul style="list-style-type: none">• 83% through sight	<ul style="list-style-type: none">• 80% of what we say
	<ul style="list-style-type: none">• 90% of what we say as we act

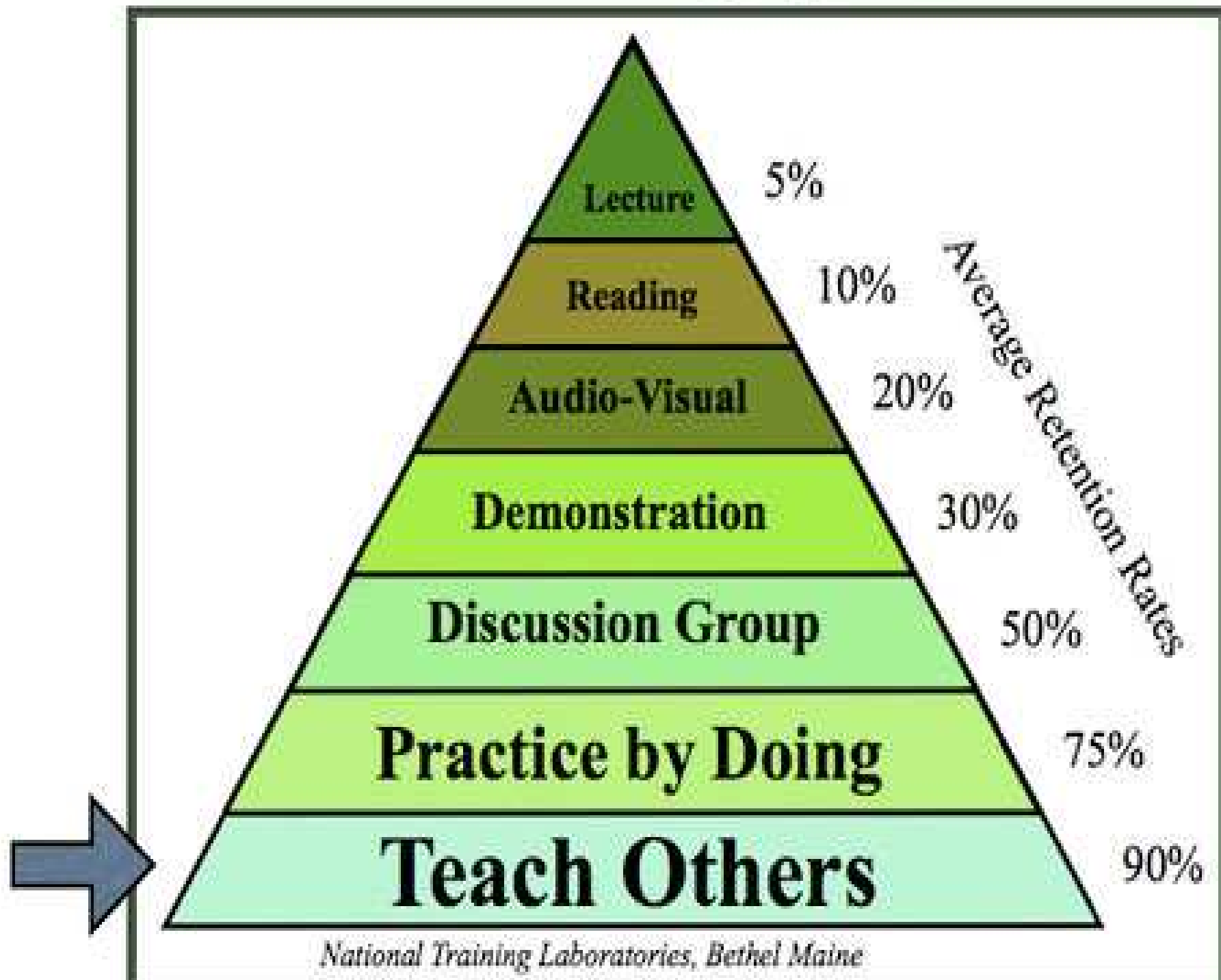


I hear & I forget

I see & I remember

I do & I understand





DOMAINS OF LEARNING (BENJAMINE BLOOM)

- Cognitive – To recall, calculate, discuss, analyze, problem solve, etc.
- Psychomotor – To dance, swim, ski, dive, drive a car, ride a bike, etc.
- Affective – To like something or someone, love, appreciate, fear, hate, worship, etc.

TRENDS THAT DEFINE THE FUTURE OF LEARNING

- COLLABORATIVE
- TECHNOLOGY POWERED
- BLENDED LEARNING



Take Home Messages

- Humans have the greatest ability to learn
- Learning is an active & a continuous process
- It is the outcome of one's interactive experience with the environment
- Various theories of learning are not mutually exclusive but are complementary to each other.

- There are many types of learning.
- The principles of learning can be applied in learning activities to enhance learning.
- Components of learning include
 - cognition (what to learn)
 - affect (why learn)
 - meta cognition (how to learn)

REFERENCES

- Brown, Peter C.; [Roediger, Henry L.](#); McDaniel, Mark A. (2014). *Make It Stick: The Science of Successful Learning*. Cambridge, MA: [Belknap Press](#). [ISBN 978-0-674-72901-8](#).
- Holt, John (1983). *How Children Learn*. UK: Penguin Books. [ISBN 0-14-022570-6](#).
- Mayer, R.E. (2001). *Multimedia learning*. New York: Cambridge University Press. [ISBN 0-521-78749-1](#).
- Paivio, A. (1971). *Imagery and verbal processes*. New York: Holt, Rinehart, and Winston. [ISBN 978-0-03-085173-5](#).
- Vosniadou, Stella. *How Children Learn*. UK: UNESCO.

- DunlapLehtila_umn_0130E_10349.pdf. at http://conservancy.umn.edu/bitstream/51978/1/DunlapLehtila_umn_0130E_10349.pdf
- Mery, Frederic; Kawecki, Tadeusz J. 0003-3472, <http://dx.doi.org/10.1016/j.anbehav.2003.12.005>
- Odling-Smee, L. and Braithwaite, V. A. (2003), The role of learning in fish orientation. *Fish and Fisheries*, 4: 235–246. doi: 10.1046/j.1467-2979.2003.00127.x

A 3D rendered character, resembling a stylized human figure with a large head and small body, is holding a rectangular sign. The sign is white with a thin gold border and features the text "THANK YOU..." in a bold, green, sans-serif font. The character is positioned on the right side of the image, with its arms extended to hold the sign. The background is a plain, light beige color.

THANK YOU...