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**IB AFRICA, EUROPE & MIDDLE EAST
REGIONAL CONFERENCE 2013**

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Designing Learning Experiences

By: Nevine El Souefi

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Who am I? *Nevine El-Soueﬁ*

- I am an **MYP** Consultant, workshop leader and a team member for authorizing schools for the MYP.

- I have taught Diploma English A & B and MYP English A & B and Humanities. I took different **roles** with IB schools in PYP, MYP and DP. I hold a masters degree in TEFL from the American University in Cairo.

- I am certiﬁes as a concept-based trainer by **Lynn Erickson**.

- Currently, I am working as an educational consultant and a trainer; and teach at the American University in Cairo – Graduate School of Education – Diploma Programme.

- I am Egyptian. I currently live in Egypt and work in Egypt.

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Compare !!!!

How much learning is happening?

So when does learning happen?

It happens when

Students are fully involved in the learning process.

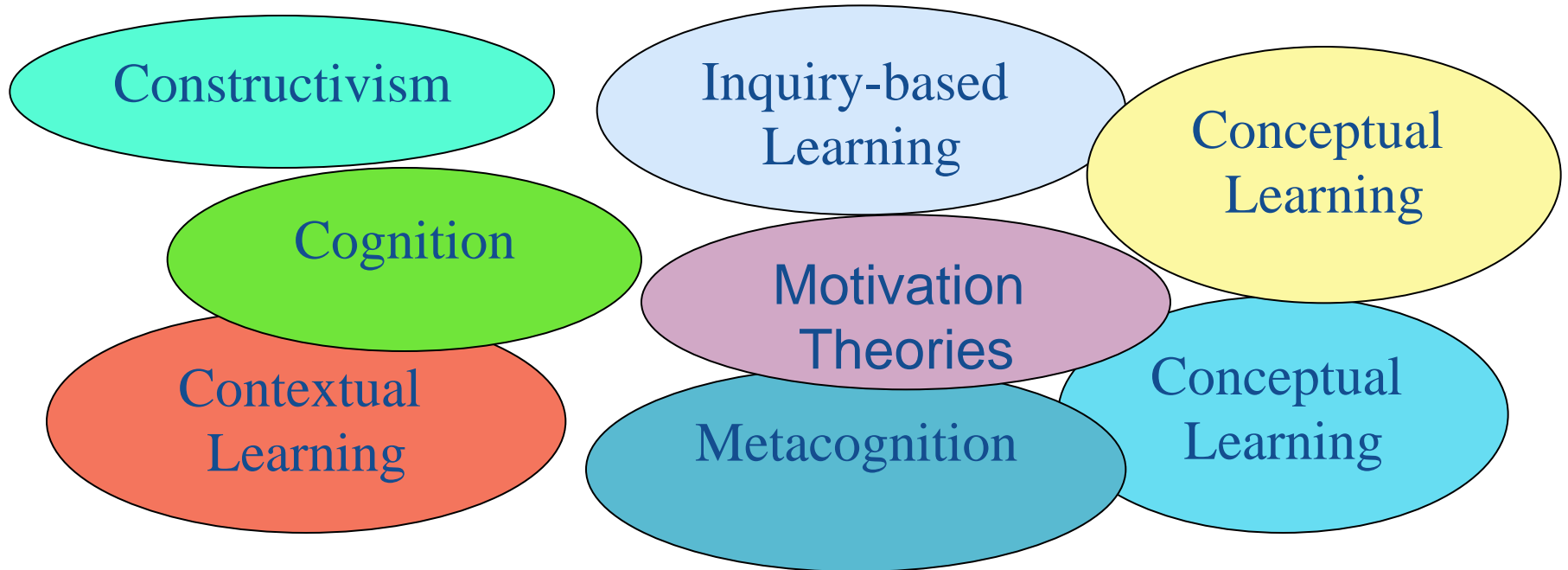They learn when they are ……..

Hearts-on….. Heads-on …. Hands-on

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The Academic Model?

While the old academic model addressed primarily the **intellectual** *(mind)* aspect of **learning**, the prevailing *(new)* model suggested that we learn with our **mind, heart and body**. This more **holistic** view underscores *(shows)* the importance of considering all of the learner's issues.

Eric Jensen, Completing the Puzzle

Education today ………

Constructivism

Inquiry-based Learning

Conceptual Learning

Cognition

Motivation Theories

Contextual Learning

Metacognition

Conceptual Learning
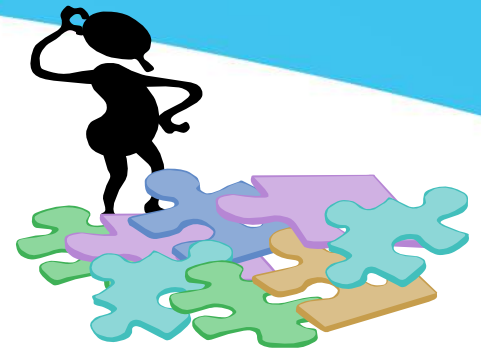
The last decade has witnessed **significant advancements** in education. This is evident in research papers and books suggesting **new approaches** in best practices and presenting **innovative methods in handling teaching and learning.**

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And where are teachers?

"Teachers are viewed as important **agents of change** in the reform effort currently under way in education and thus are **expected to play a key role** in changing schools and classrooms.

Particularly, however, teachers are also viewed as major **obstacles to change** because of there adherence to outmoded forms of instruction that emphasize factual and procedural knowledge at the expense of deeper levels of understanding."

Richard S. Prawat (1992)

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Can they become agents of change?

Although these approaches carry within them **promises** for reforming and **advancing** education to serve students; yet teachers are left with the **challenge** of implementation in class.

Teachers have to repeatedly find creative designs to plan everyday activities for countless lessons.

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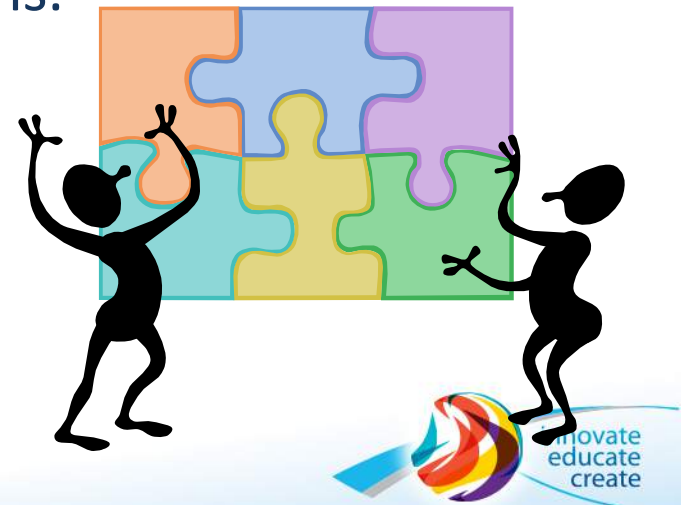
Easier said than done ……

- This is what goes in their minds when they listen to research advancements in education.

- They need tools to help them. They need day to day solutions and techniques.

What are the Teaching Strategies that would create effective learning experiences?

Hearts-on….. Heads-on …. Hands-on

Stages of the Learning Process

Teaching →→ Learning

Attention	Attainment	Activation

Hearts-on…….…….. Heads-on………. Hands-on

Engage **Tune-in** **Involve** **Motivate**	**Process** **(in-put)** **Explore** **Find out** **Elaborate** **conclude**	**Activate** **(out-put)** **Practice** **Examine** **Create** **Take action**

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Definitions:

- **Teaching Strategies:**

  They are overatching general categories of teaching ideas a that contains other minor techniques.

- **Teaching Techniques**

  They are more specific techniques under the general strategy of teaching.
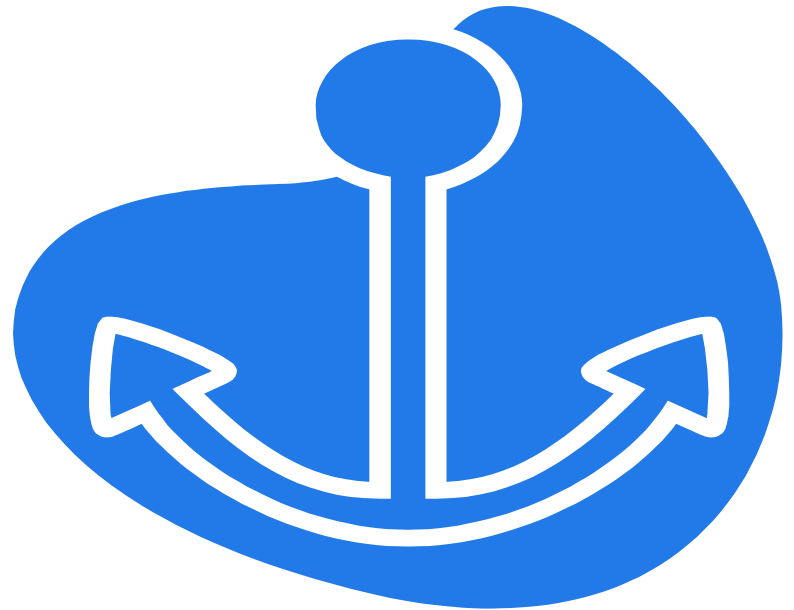
- **Performances/activities:**

  They are the teaching procedure adopted in class that puts the technique in real classroom application.

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Research on Teaching Strategies

Teaching Strategies

- Teacher Directed
- Active Participation of student/s
- Appealing to senses
- Appealing to Emotions
- Experiential
- Reflective
- Interactive

The Teaching Strategies

Teacher Directed

- Presentation skills
- Demonstrations
- Explicit Teaching
- Giving Feedback

Student/s Active Participation

- Investigations/ exploration activities
- Discovery activities (jigsow,match,compare)
- Problem-solving

Appealing to Emotions

- Dramatic experiences
- Reinforcing effort and providing recognition
- Stories

Appealing to Senses

- Visual representation
- Films/videos
- Auditory stimuli
- Art work
- Body games

Experiential

- Trips
- Experimenting
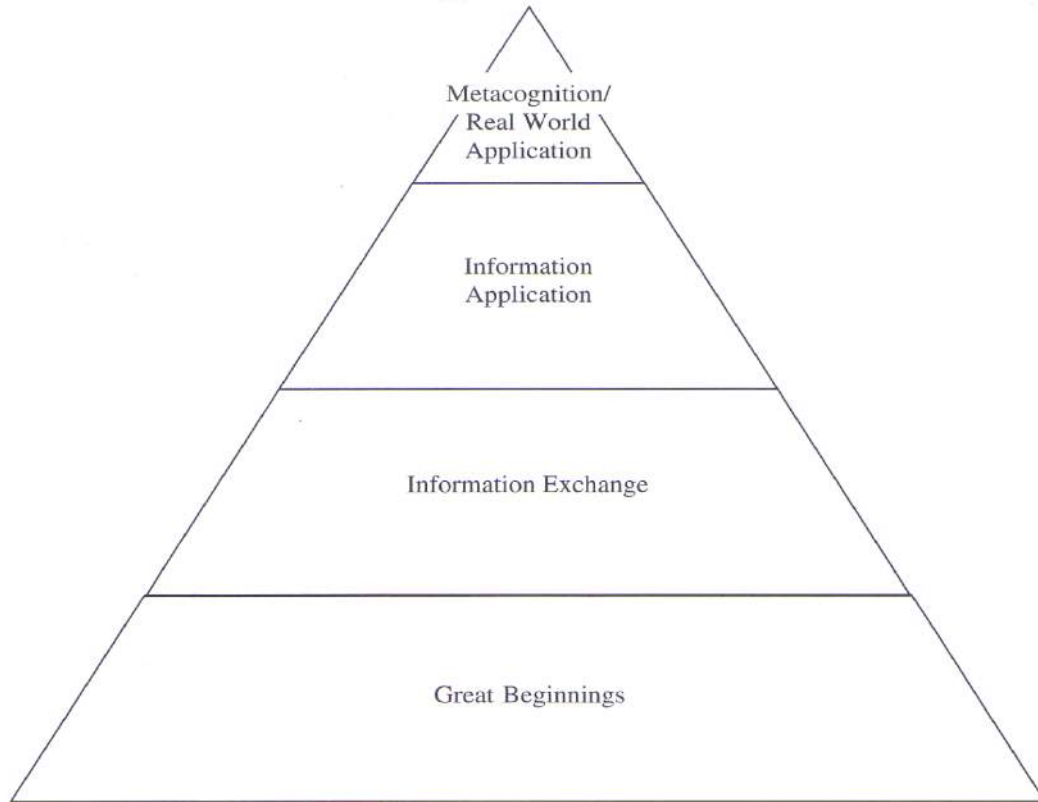- Authentic material
- Real life simulations

Reflective

- Revisiting goals
- Reflecting on a specific event.
- Writing journals

Interactive

- Collaborative & cooperative learning
- Questioning Techniques
- Discussions

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Neuroscience:

Metacognition/
Real World
Application

Information
Application

Information Exchange

Great Beginnings

Teachers need a plan of teaching that follows the way the brain learns and remembers:

Cited in:
Donna Tileston (2004)
Students Motivation

Stages of the Learning Process

Each chunk of learning-Lesson

Attention	Attainment	Activation

Hearts-on……….….. Heads-on………. Hands-on

Specific teaching trchniques to bring them on ……..

Engage Tune-in Involve Motivate	Process (in-put) Explore Find out Elaborate conclude	Activate (out-put) Practice Examine Create Take action

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A closer look …………..

Activation

Attainment

Attention

Flowing Learning experiences

Performance/Activity

Performance/Activity

Performance/Activity

Performance/Activity

Performance/Activity

Performance/Activity

Performance/Activity

Performance/Activity

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Attention

Great Beginnings

Let's explore this situation

As the language classroom fills with students for the beginning of The lesson, the teacher, Mrs.Mariam, stands before the students to begin a new lesson.

Some students are still arranging their desks, some are looking for their books, some are staring out of the window, and some are talking.

*Within a matter of seconds, each student's **self system** will decide whether to engage in learning -the new task- or to continue what they are doing.*

Adapted from, What Every Teacher Should Know
Donna Walker Tileston (2004)

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Using the neural system:

Donna Tileston (2004)
Students Motivation
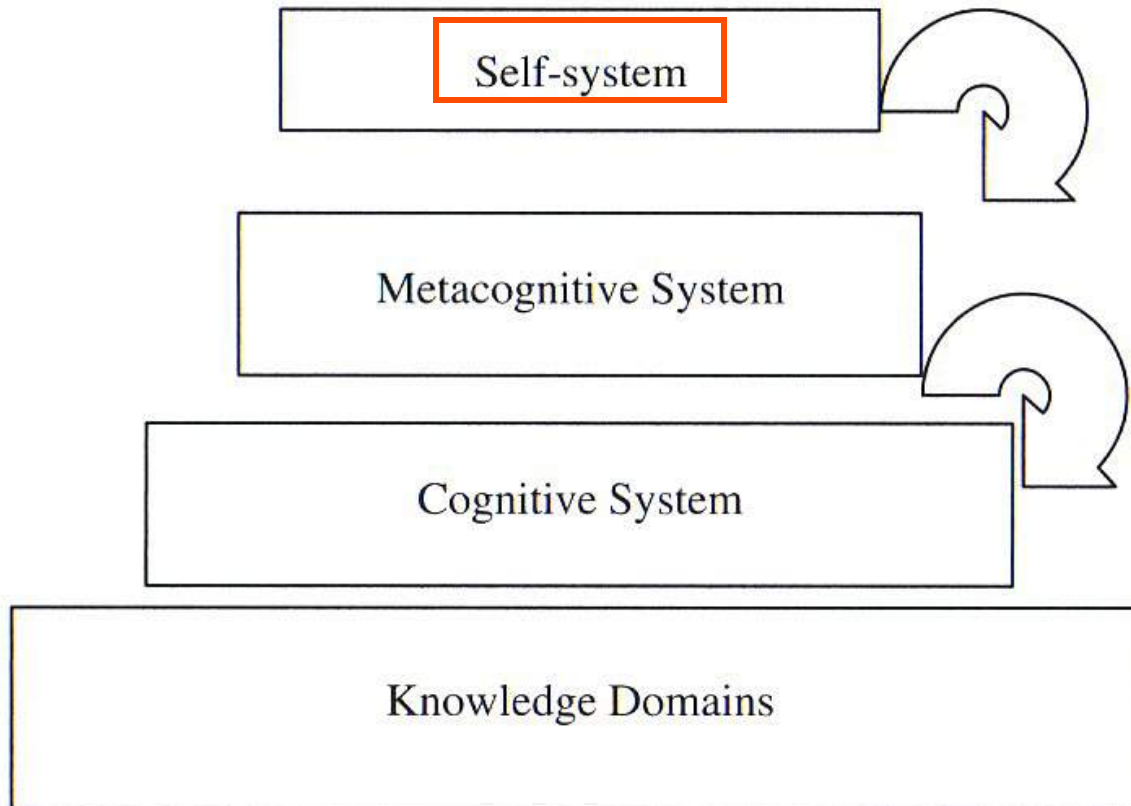
The door to the mind:

- The Self System:

Information
From the
Senses

99%

Working memory
15 seconds

98% Discarded

Donna Tileston (2004)
Students Motivation
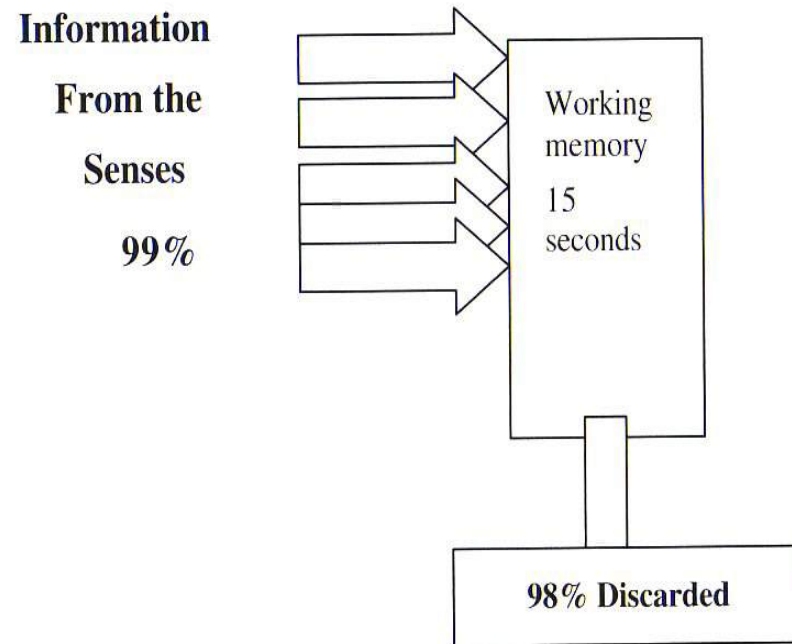
Motivating the self system: "self system"

The self system is composed of attitudes, emotions and beliefs.

According to Marzano, Pickering, and Pollock, 2001;

"If the task is judged **important,** if the possibility **of success** is high, and a **positive effect** is generated or associated with the task, the individual will be motivated to engage in the new task.
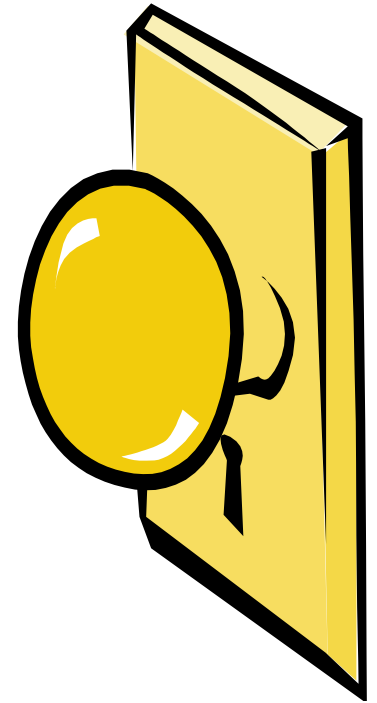
That means that to be motivated a set of beliefs must be in place:

1. The student must believe that the new learning is important (to him).
2. They must believe that they have the resources to be successful.
3. They need to have a positive feeling about the class itself..

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The self system at work:

Components of the self system:

1. Importance/relevance.
2. Self-efficacy.
3. Emotions.

The self system at work:

Self-System

Low Motivation → Based on (1 or more)
- Relevance
- Self-Efficacy
- Emotion

Motivation to Pay Attention → See Relevance

Believe I can do it

Feel good about the learning

Donna Tileston (2004) Students Motivation

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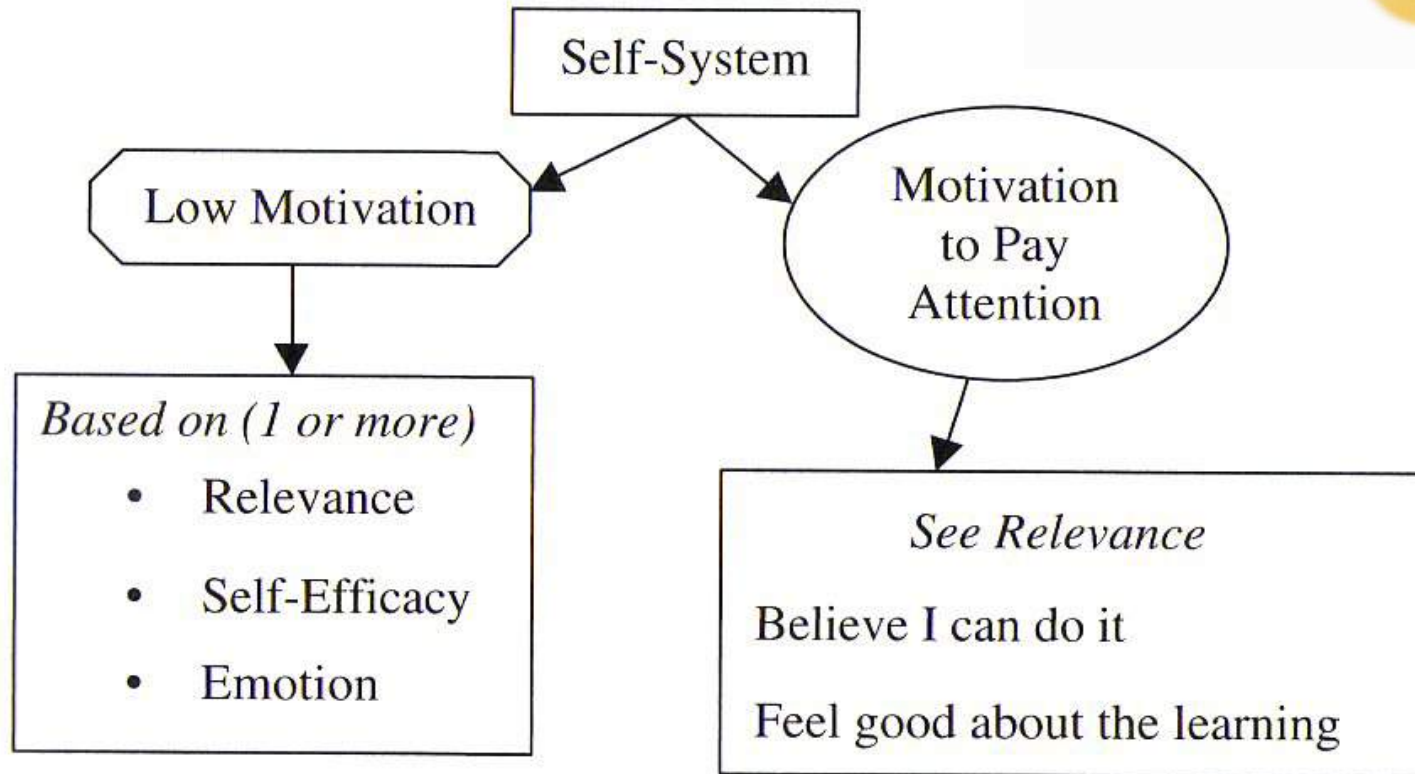
1. Importance/relevance:

What an individual considers as important is probably a function of the extent to which it is perceived as instrumental in **satisfying a basic need** or **achieving a personal goal.**

Once I start my lesson the mind asks the question:

Is the incoming information important to me?

The answer of this question is governed by two aspects.

Importance/Relevance

1. Past knowledge

2. Wants & Needs

Schemata and building patterns:
- **from life experiences**
- **from past learning**

Maslow and levels of needs:
- **personal goals (*self esteem*)**
- **challenge (*self actualization*)**

C.D. Reinhard's Scholastic Schemata

Self-actualization: achieving one's full potential, including creative activities — Self-fulfillment needs

Esteem needs: prestige and feeling of accomplishment

Belongingness and love needs: intimate relationships, friends — Psychological needs

Safety needs: security, safety

Physiological needs: food, water, warmth, rest — Basic needs

2.Self-efficacy:

It is the belief that one can (have the tools to) do something because of past success.

Once I start my lesson the mind asks the question:

Have I had success in the past with that type of learning?

"Success Breeds Success"
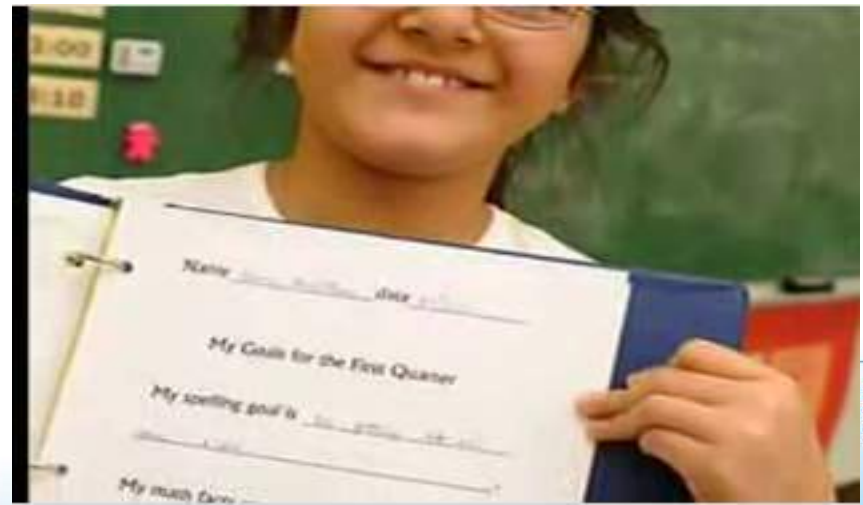
Consistently **providing** the necessary prerequisite skills and necessary **resources for success** prior to an assignment.
It includes not only ability, but power and the necessary resources to be successful.

Build opportunities for success

Link success to something they can control

Convince the mind that it knows the learning

Scaffolding

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3. Emotions: *Marzano (1998)*

"Emotions is thought to be the strongest force in the brain" *(Tileston, 2004)*

*"When the learner's emotions are engaged, **the brain** codes the content by triggering **the release of chemical**s that single out and mark the experience **as important and meaningful**. Emotions activate many areas I the body and the brain, amygdala, hippocampus and often the stomach." (Tileston, 2004)*

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3. Emotions: *(cont.)*

Tapping into the neural system:

1. *Stimulate the quest of <u>novelty.</u>*
2. *Trigger the hunt for <u>pleasure.</u>*
3. *Activate the desire to <u>avoid harm.</u>*

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3. Emotions: *(cont.)*

a) Novelty: *suspense & curiosity*

- Anticipation

- Hope

- Fun

- Surprise

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3. Emotions: *(cont.)*

b) Pleasure:

Physical climate

Stand at the door of your classroom.
What do you see? Hear? Smell? What about your room appeal to students

as they enter?

Emotional climate

- *Acceptance by teacher*
- *Acceptance by peers*
- *A sense of order*
- *Clarity of tasks*
- *Resources for success*
- *Emotional intelligence*

3. Emotions: *(cont.)*

c) Positive stress:

Stress is the body's general response to **an intense physical, emotional or mental demand** placed on it by oneself or others.

Threats that students face:

Bodily harm, ideas attacked, emotional threats (losing face), bias.

Positive stress not negative stress

Let's go back to Ms. Mariam

She put a pair of snickers on the desk and turned around to write the date. All the students in the class came closer to see what is that.

She told them to sit in their places and raised the pair a shoes up and asked; "Who do you think is standing in those pair of shoes? A boy or a girl?"

Students started choosing the gender, a name, age, features head down, character, ...etc., while Ms. Mariam is prompting, inviting students to answer with a smile, giving choices and writing words on the board in columns.

In less than five minutes the board was full of vocabulary words. She then labeled the columns.

This was a beginning of a lesson in descriptive writing.

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Where did she tap on the self system?

Self System

Importance Relevance /
- Past knowledge
  - Past learning
  - Past experiences
- Wants & Needs
  - Personal Goals (self esteem/ belonging/ challenge)

Self-efficacy
- Scaffolding
  - Build opportunities for success
  - Link success to something they can control
  - Convince the mind that it knows the learning

Emotions
- Novelty
  - Anticipation
  - Hope
  - Fun
  - Surprise
- Pleasure
  - Physical climate
    - Teacher's movement
    - Seatting arrangements
    - Class displays
  - Emotional climate:
    - Acceptance by teacher
    - Acceptance by peers
    - A sense of order
    - Clarity of tasks
    - Resources for success
- Avoiding harm
  - Positive stress not negative stress

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Tapping on the Self System to create motivation: Example

Using Teaching Strategies to tap on the Self System

Teaching Strategy	Teaching Techniques	Specific Example
Appealing to senses	Visual representations	• Unmask a picture and elicit using guiding question to introduce your topic. • Graphic organizers (Mind maps, Continuums, Patterns) to link what they know to new material. • Creating mental images to create situations.
	Media	• Films – Ads - videos
	Auditory stimuli	• Songs
	Body games	• Treasure Hunt

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Attainment

Information input

From Inquiry to Conceptual Learning

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Attainment

Teacher's Centered

Ping Pong Teaching

Student Centered

Inquiry

80-100% Teacher

80% Teacher

80% student

80-100% student
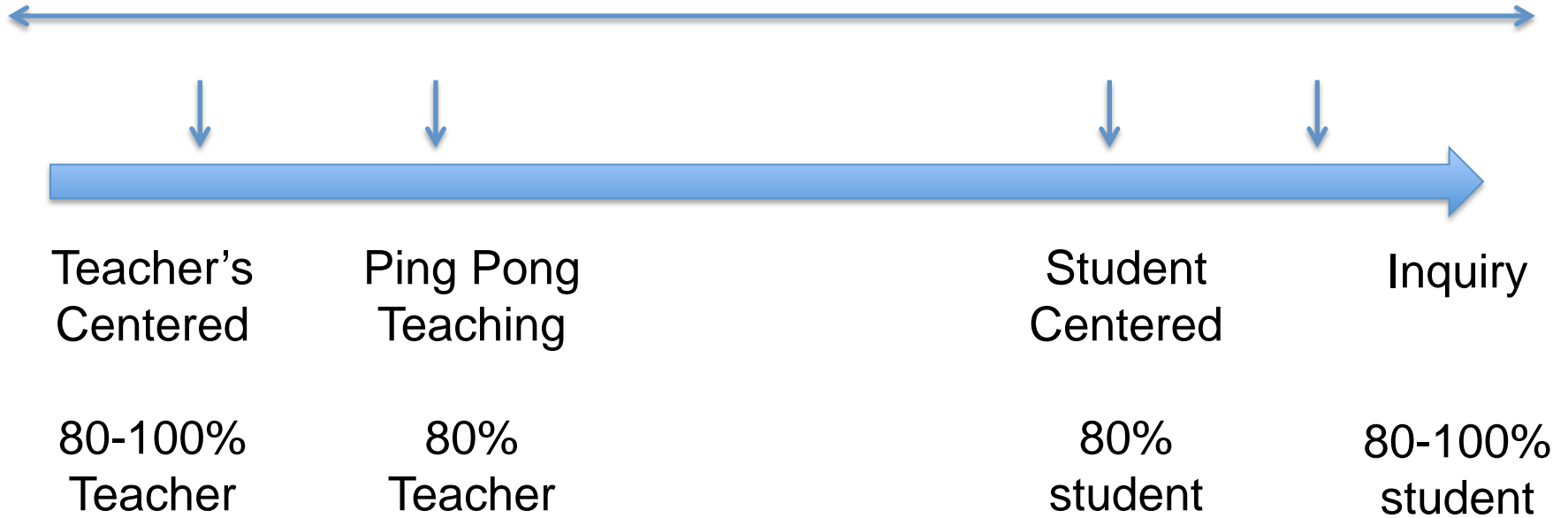
Better cognitive processing = longer/more meaningful attainment

Learning Pyramid
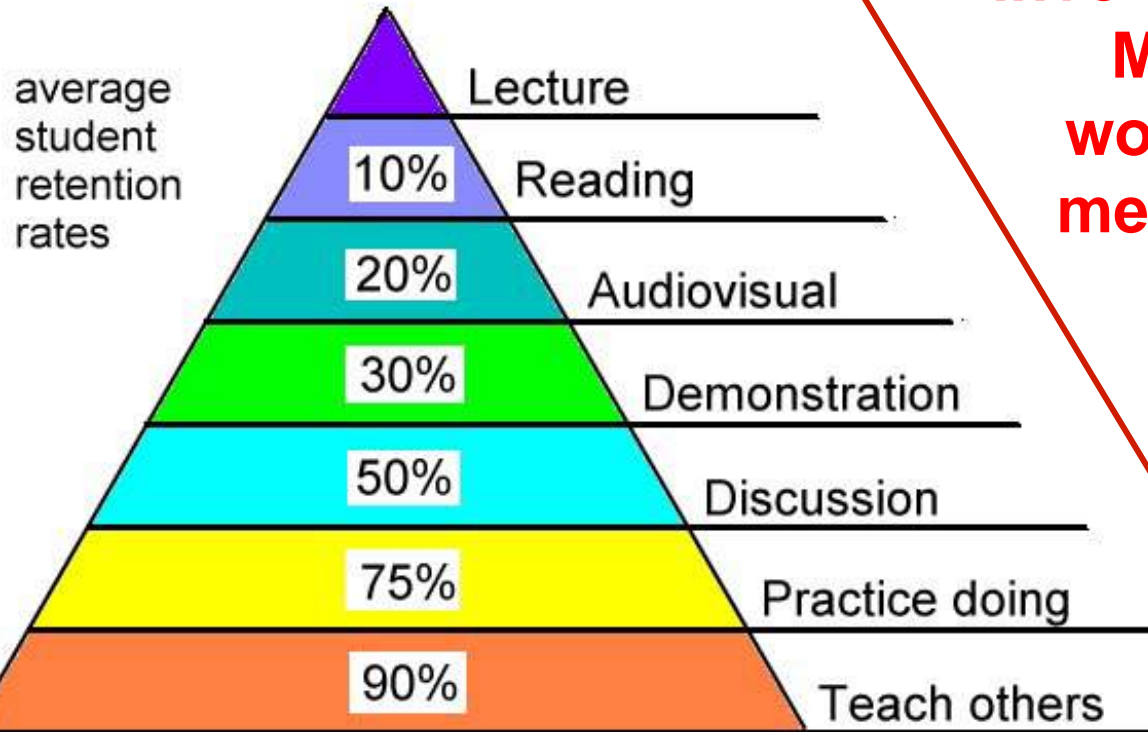
average student retention rates

	Lecture
10%	Reading
20%	Audiovisual
30%	Demonstration
50%	Discussion
75%	Practice doing
90%	Teach others

Source: National Training Laboratories, Bethel, Maine

More student involvement. More working memory.

Attainment

Teacher's
Centered

Ping Pong
Teaching

Student
Centered

Inquiry

80-100%
Teacher

80%
Teacher

80%
student

80-100%
student

Better cognitive processing = longer/more meaningful attainment

Get rid

Pick up

Catch dirt

Wind pipe

Drop off

Humidify air

How does the respiratory system work?

Get rid

Pick up

Catch dirt

Wind pipe

Drop off

Humidify air

How does the respiratory system work?

The Respiratory system begins up top with the nose. The nose is the body's filtering system. The nose filters dirt and other particles that should not get inside the body.

Those nose hairs catch it. When we breath in, the nose is also a humidification system so that the lungs don't dry out. The mouth and the wind pipe come next. The wind pipe is the trachea. Air goes down the trachea into the lungs.

Next the lungs do all of their work. This is where all the air exchange takes place. The air goes into the lungs this is where the gas exchange takes place. The lung tissue is full of blood vessels.

The oxygen gets dropped off by the lungs into the blood vessels while at the same time picking up the carbon dioxide. You exhale to get rid of the carbon dioxide and inhale to get the oxygen from the air into the body.

The muscle that helps the lungs breath is called the diaphragm. To summarize: The respiratory system works by getting the good air in and the bad air out.

Catch dirt

Humidify air

Wind pipe

Drop off

Pick up

Get rid

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Choose the correct answer

1. What is the respiratory system?
   - The body's breathing system
   - The body's system of ...
   - The body's food-processing system
   - The body's blood-transporting system
2. Air can enter the body and travel to the lungs ...
   - through the mouth and the nose
   - through the oesophagus and gullet
   - through the windpipe and the pores
   - through the nose and the nervous system
3. What is the purpose of the little hairs inside the nose?
   - To fight disease.
   - They serve no purpose.
   - To keep dust out of the lungs.
   - To tickle the nose and cause sneezes.
4. What is another name for the windpipe?
   - Lungs
   - Larynx
   - Trachea
   - Oesophagus
5. What happens to the windpipe, or trachea, before it reac...
   - It branches in two directions.

Label the following diagram:
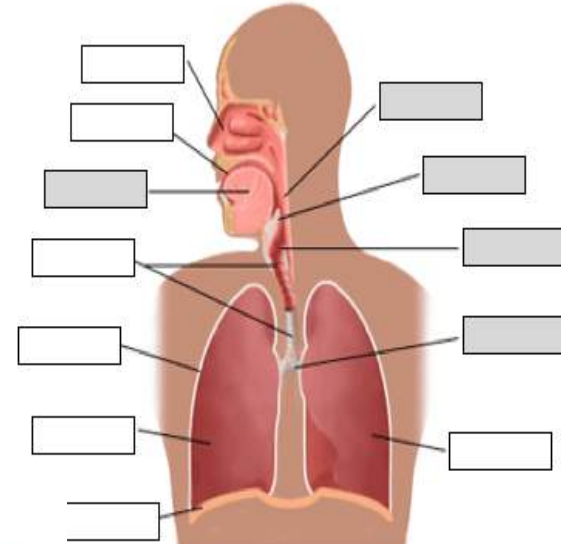
The respiratory system of vertebrates consists of the following bodily organs:

nose   throat   larynx   trachea   bronchus   lung

Match the organs to their definition:

Organs	Definition
	refers to the top of a corolla tube, where the tube joins the lobes.
	membranous tube with cartilaginous rings that conveys inhaled air from the larynx to the bronchi.
	The prominent part of the face or anterior extremity of the head containing the nostrils and olfactory cavities; the olfactory organ
	A cartilaginous structure at the top of the trachea; contains elastic vocal cords that are the source of the vocal tone in speech.
	An organ for aerial respiration;
	Any of the larger air passages of the lungs,

First round:
Answer
Second round:
Correct
Third round:
Correct
Fourth round:
Check your mistakes

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Building meaning (conceptual level):

Technique: Leading questions to the generalization:

Where & why do we have filters in our nose?

....

....

....

What happens in the lungs & how it happens?

....

....

....

How do you thing the respiratory system can be affected?

....

....

....

After discussing the above with your group complete the following statement:

We understand that

....

....

....

....

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Levels of Attainment:

- Finding out the order
    - → information exchange

  First surface learning for encountering information
- Answering rotating worksheets and correcting
    - → going into more details

  Structuring/organising/connecting information
- Opened questions and extracting understanding
    - → building meaning

  Reaching the conceptual level ready to transfer

In a History Class:

after learning the facts, the teacher asked students to complete the following statement:

Martin Luther King speech "I Have A Dream" was to the Civil Rights Movement in the USA like

…………… was to …………… in ……………

Creating analogies: One of the building meaning techniques

is the process of identifying relationships between pairs of concepts in other

words, identifying relationships between relationships.

Marzano (1992)

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The Teaching Strategies

Teacher Directed

- Presentation skills
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Student/s Active Participation

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Appealing to Emotions

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Appealing to Senses

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- Films/videos
- Auditory stimuli
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- Body games

Experiential

- Trips
- Experimenting
- Authentic material
- Real life simulations

Reflective

- Revisiting goals
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- Writing journals

Interactive

- Collaborative & cooperative learning
- Questioning Techniques
- Discussions

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Using the Teaching Strategies to move from Inquiry to Conceptual learning:

Using teaching Strategies to move from inquiry to conceptual learning

Teaching Strategies	Techniques	Examples for information exchange & going into details	Examples for reaching understandings
Teacher Directed	Taking feedback	• Taking feedback is taken to redirect the learning and correct mistakes.	• Through giving feedback learning is taken a step ahead students *find connections* or *patterns to come up with conclusions or generalizations.* (Inductive teaching)
Active Participation	Discovery Activities	• Jigsaw • Match • Choose • Organize • Puzzles • Discovering connections • Discovering similarities and difference • Categorizing and classifying • Comparing and contrasting	• Creating metaphors • Creating analogies • Discovering connections • Discovering similarities and difference • Categorizing and classifying • Comparing and contrasting
	Free Exploration	• Investigations. • Concluding.	• Come up with the generalization. (inductive teaching)

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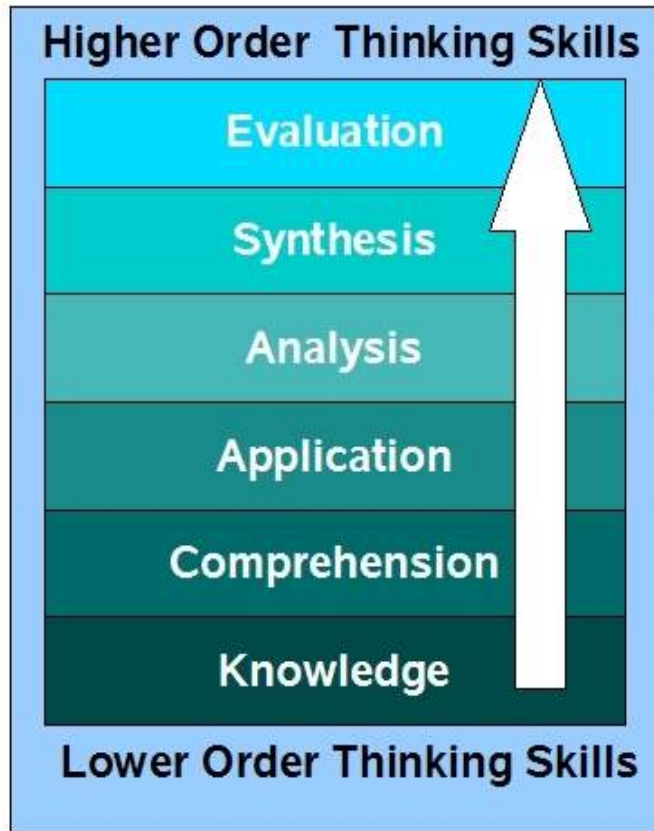| Tune-in Involve Motivate	Explore Find out Elaborate conclude	Practice Examine Create Take action

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Activation

Information output

From Conceptual Learning to Contextual Learning
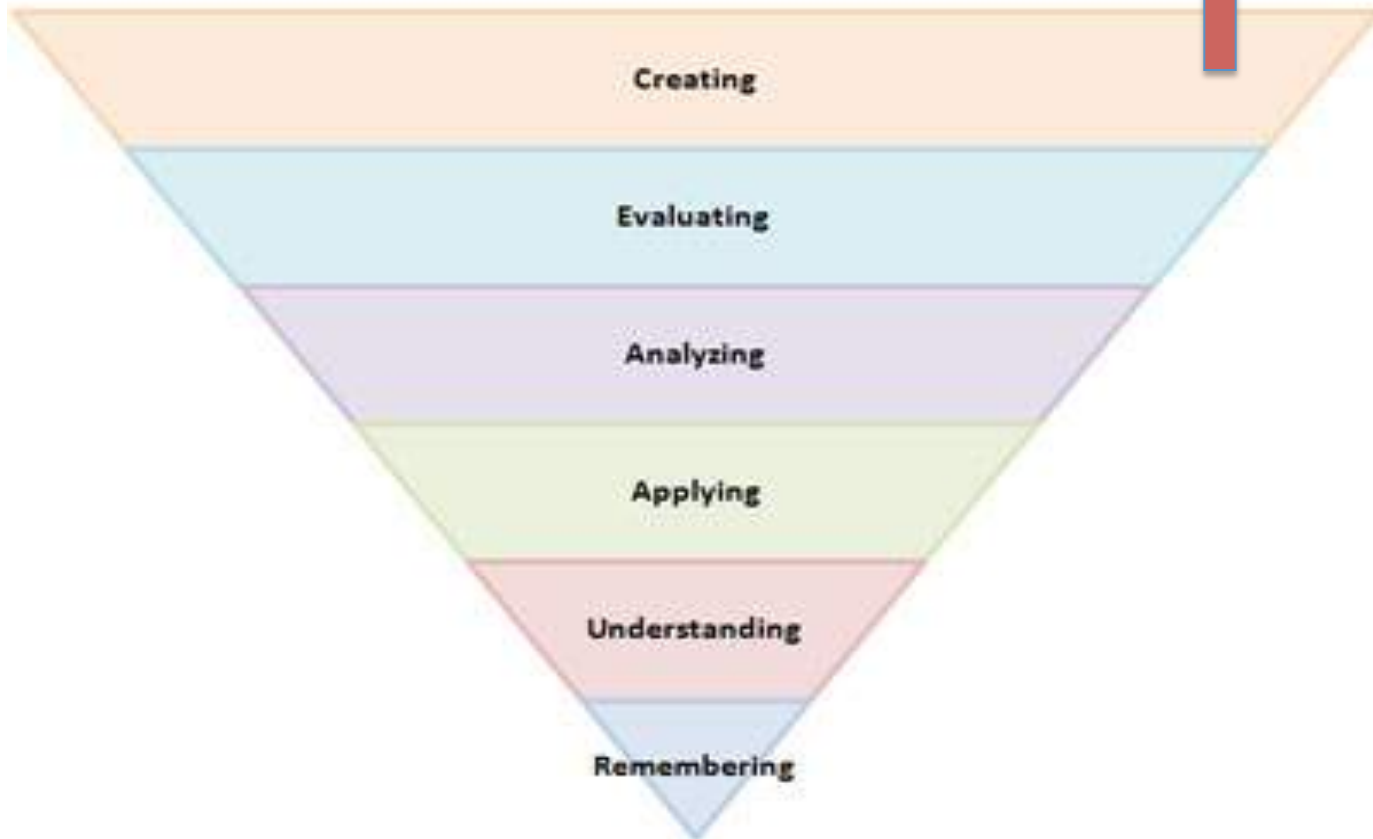
Bloom's Taxonomy

- "Old" Blooms

- Revised Bloom's

Higher Order Thinking Skills

| Evaluation |
| Synthesis |
| Analysis |
| Application |
| Comprehension |
| Knowledge |

Lower Order Thinking Skills

Higher Order Thinking Skills

| Creating |
| Evaluating |
| Analysing |
| Applying |
| Understanding |
| Remembering |

Lower Order Thinking Skills
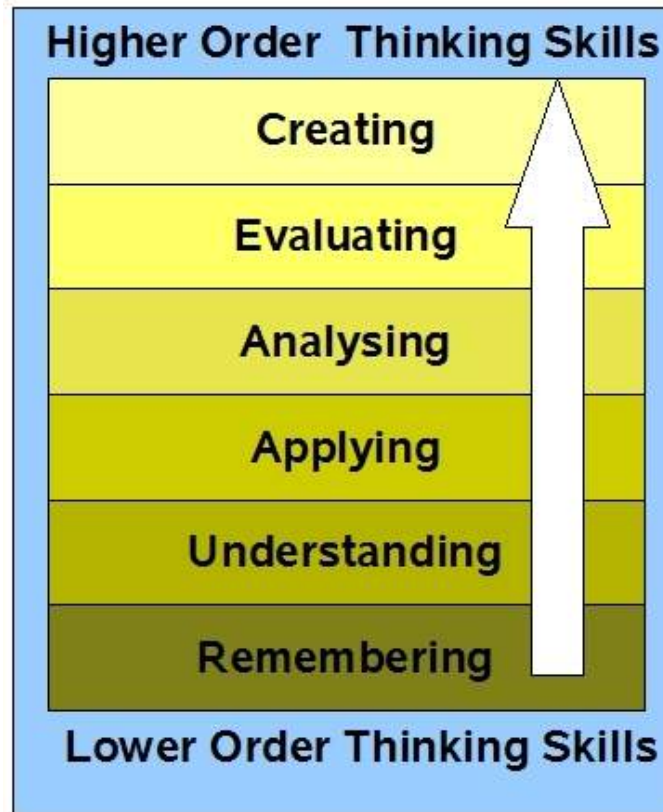
Activating information in different levels of the Taxonomy

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Contexts

MYP	PYP
Identities and relationships	**Who we are**
Orientation in space and time	**Where we are in place and time**
Personal and Cultural expression	**How we express ourselves**
Scientific and technical innovation	**How the world works**
Globalization and sustainability	**How we organize ourselves**
Fairness and development	**Sharing the planet**

Activation:

- **Information application:**
  - Practice the content.
  - Testing generalizations/understandings in different situations.
- **Real life application:**
  - Creating.
  - Taking action in a real life context the at would show all type of knowledge (procedural, declarative, metacognitive, conceptual) activated in a real life context.

Contextual Learning

Activation: Examples

- **Information application:**

  A game of ladder and snakes called;

  'What happens if ...' With ladders of positive health consequences and snakes with disastrous health consequences. The winner is the one who reaches the end of the game, which is a healthy person.

- **Real life application:**

  Designing a brochure for there peers in other classes of 'How to take care of your Respiratory System'

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Using the Teaching Strategies to move from Conceptual learning to contextual learning:

Teaching Strategies for Activation of Information

Teaching Strategy	Teaching Techniques	Specific Example
Experiential	Real life production	Building models – Designing brochures – writing letters
	Field trips	students go to the super market in the school neighborhood to buy a list of things.
	Simulations	Role playing - Make belief play Bring their seeds to the seed to be interviewed by the rest of the class.
	Authentic material	Realia - Real Games (snakes & Ladders)

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Education today ……….

Conceptual Learning

Inquiry-based Learning

Conceptual Learning

Cognition

Motivation Theories

Contextual Learning

Metacognition

Conceptual Learning

Teachers are viewed as important **agents of change** in the reform effort currently under way in education and thus are **expected to play a key role** in changing schools and classrooms.

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Contact Information:

- Nevine El Souefi

  e.mail: nevine_e@aucegypt.edu

  Tel: +201001006998