

Teaching Pedagogy, Course Assessment and Class Preparation



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Graduate School of Human Sciences
Assumption University of Thailand
28 September 2023

Good Morning
Ladies and Gentlemen!



FIRST

Y

O

U

**Please feel free to
interrupt me at
any time if you
have a question.**

**The Most
Beautiful Thing
Questions
&
Answers**







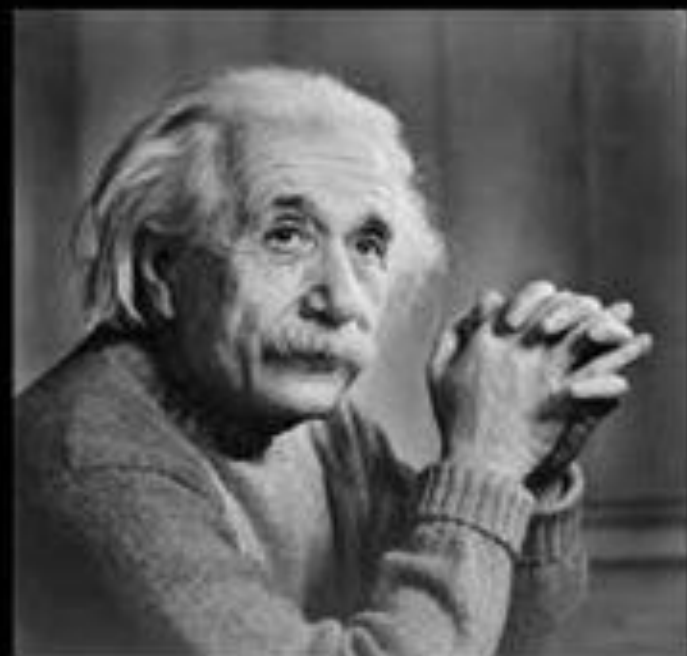






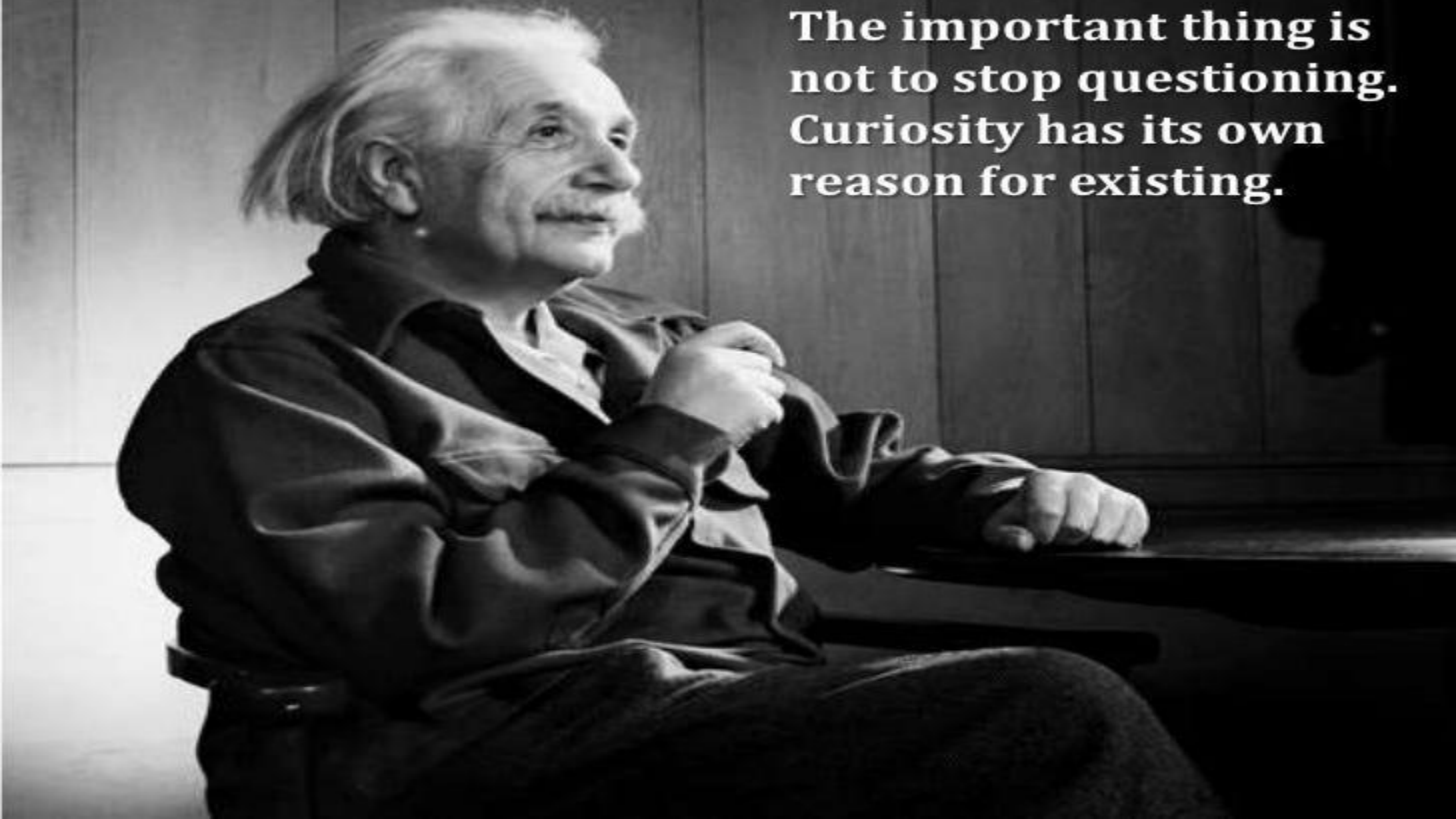


IMPORTANCE OF **QUESTIONING**



“ If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask, for once I know the proper question, I could solve the problem in less than five minutes.”

~ *Albert Einstein (1879-1955):
Theoretical physicist and philosopher*

A black and white photograph of Albert Einstein. He is seated in a chair, leaning forward slightly with his hands clasped in his lap. He is looking off-camera to the right with a thoughtful expression. The background consists of vertical wooden panels. The lighting is dramatic, with strong highlights on his face and hands, and deep shadows elsewhere.

**The important thing is
not to stop questioning.
Curiosity has its own
reason for existing.**

Question
everything





BEGET



SO DON'T BE SHY



**QUESTIONS ARE
ALWAYS APPROPRIATE**

**SO, WHAT DO WE WANT
IN OUR CLASSES?**

What we want

Students who are **motivated** to learn throughout the entire course.

Students who are **motivated** and pay attention to the entire course.

Students who **accept feedback** on their work and use it to learn.

Students who **understand and engage** with the course material.

What happens

They only learn/revise right before exams.

They try to find out what will be on the exam and focus on that.

They don't.

They just memorize facts rather than develop conceptual understanding.

This Morning's Aims (Outcomes)

To support you in considering your course teaching and assessment practices and to provide some practical strategies for incorporating a variety of pedagogical approaches and assessment methods into your teaching and learning strategies that are aligned with **BOTH program and course goals.**



This Morning's Intended Learning Objectives

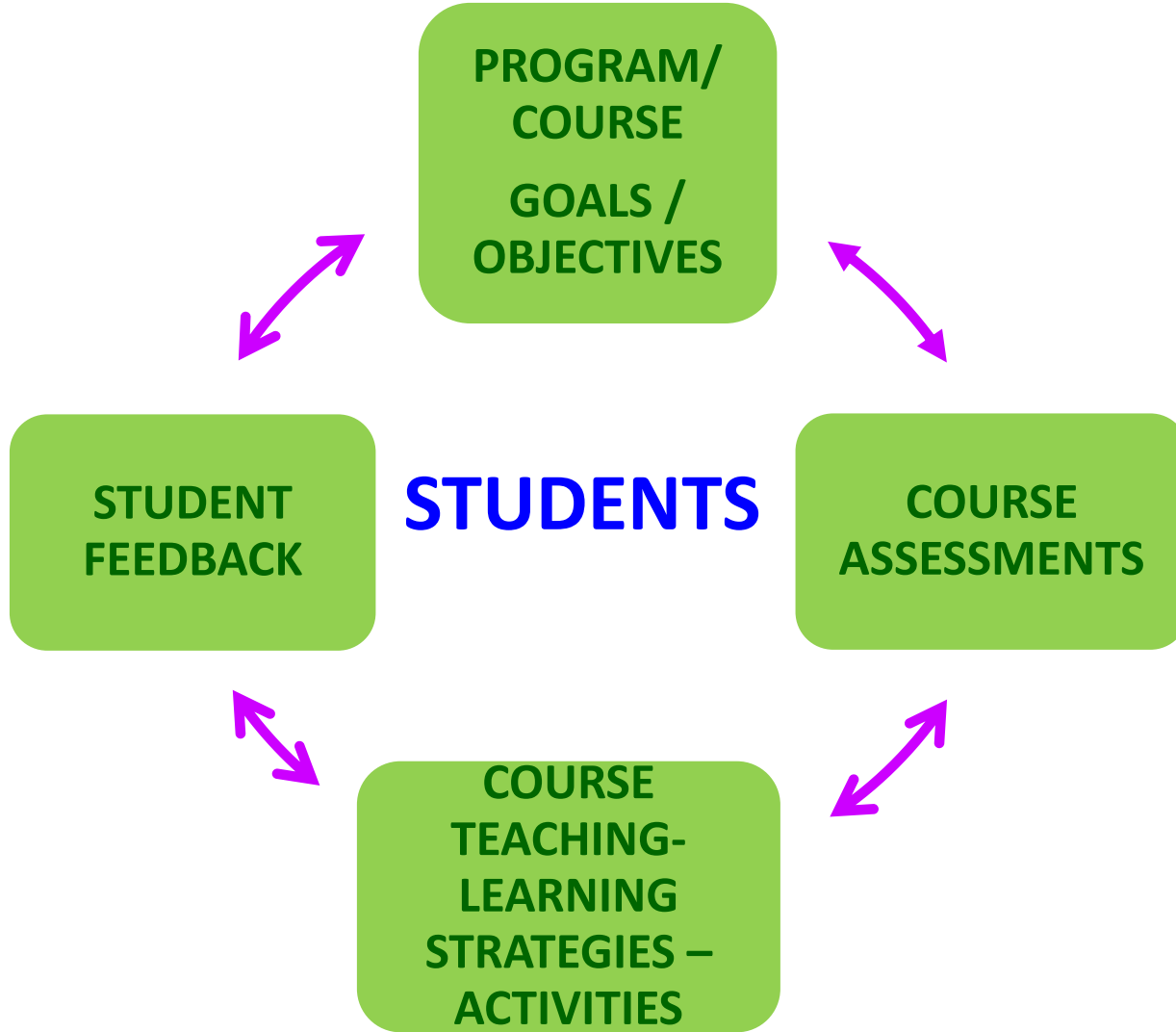
- You will become familiar with a variety of pedagogical approaches you can adapt for teaching necessary knowledge and skills within your specific disciplines.
- You will become familiar with effective, specific assessment methods you can adapt for your own subject context.
- You will become familiar with basic principles underlying integrated program course level assessment design and development.
- You will reflect and, as appropriate, rethink you own teaching and assessment approaches.

TWO CONCEPTUAL FRAMEWORKS OF THIS MORNING'S SESSION

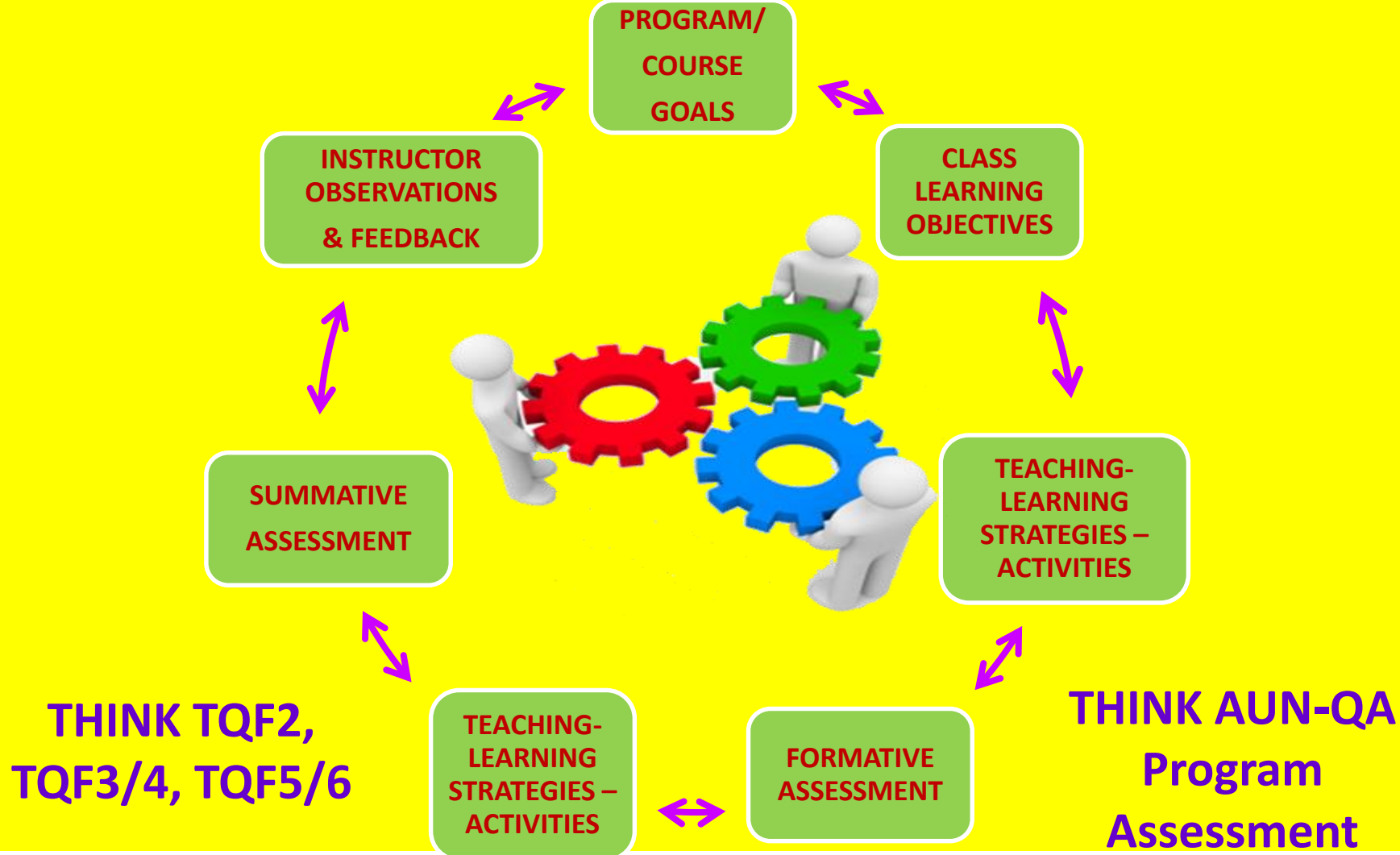




**FIRST, THE
SMALL PICTURE**



**SECOND,
THE BIG PICTURE**



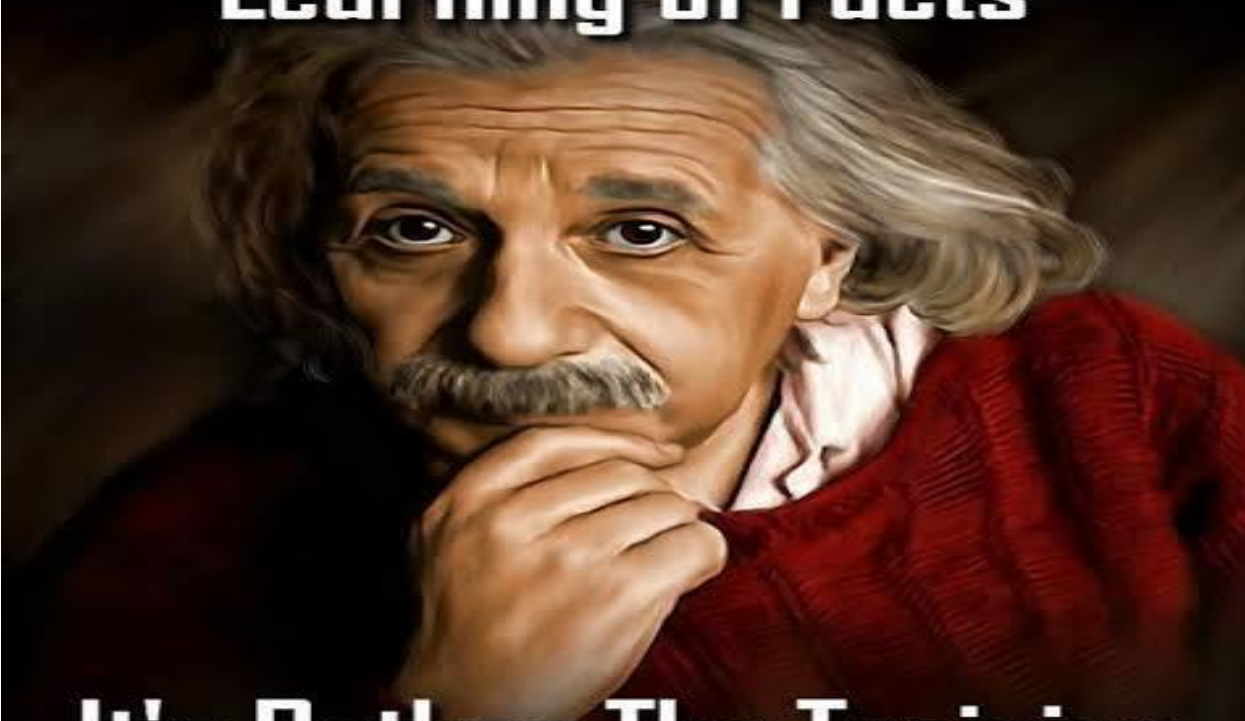
**NOW, A FUNDAMENTAL
QUESTION**

WHAT IS EDUCATION?

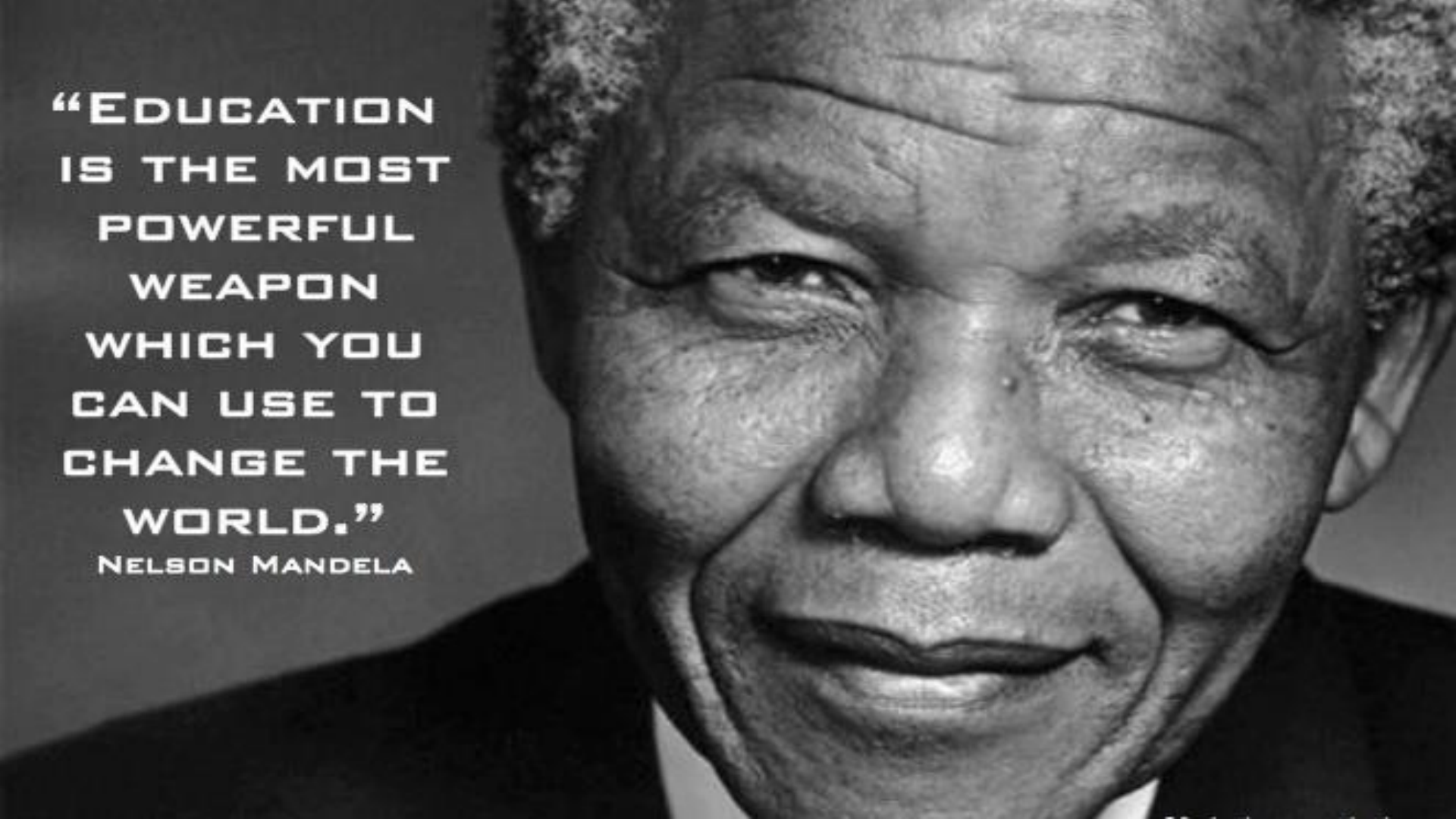


**IS IT THE LEARNING
OF FACTS?**

**Education is Not The
Learning of Facts**

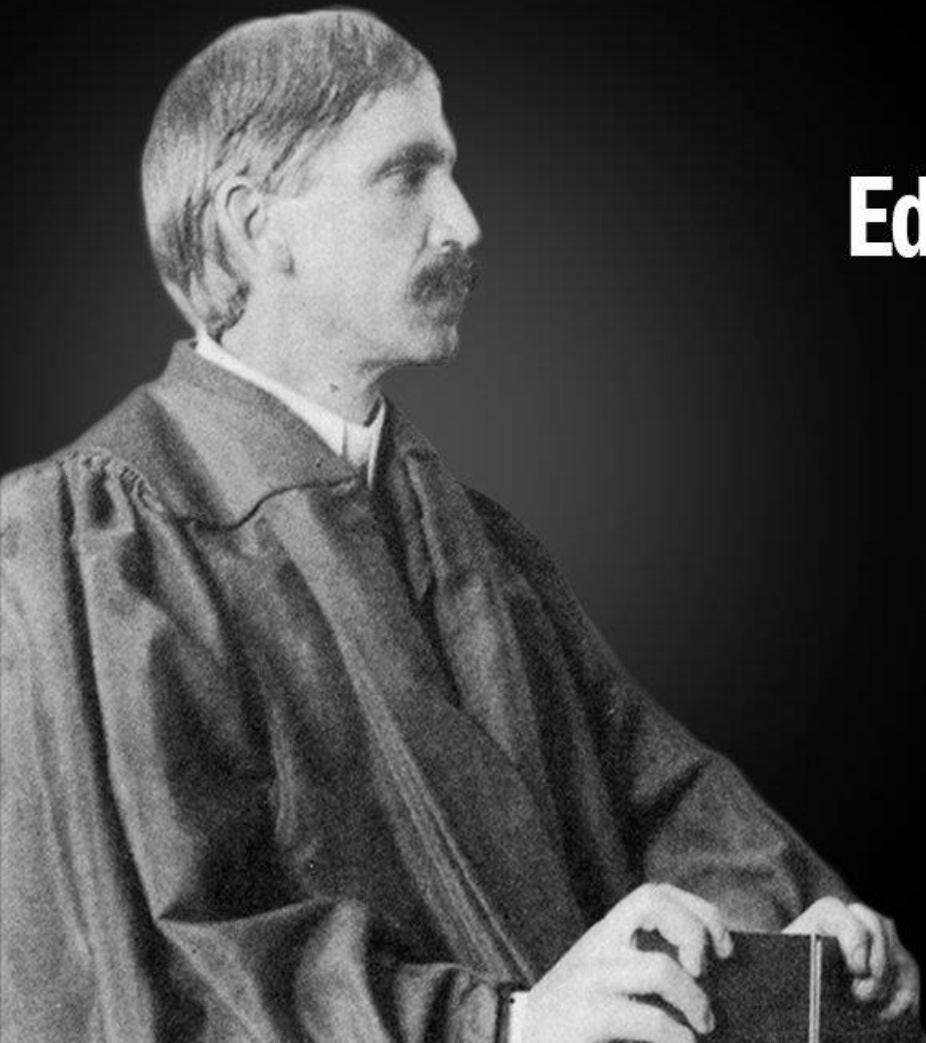


**It's Rather The Training
of The Mind To Think**

A black and white close-up portrait of Nelson Mandela, showing his face from the nose up. He has a slight smile and his eyes are looking slightly to the right. The lighting is soft, highlighting the texture of his skin and the wrinkles on his forehead.

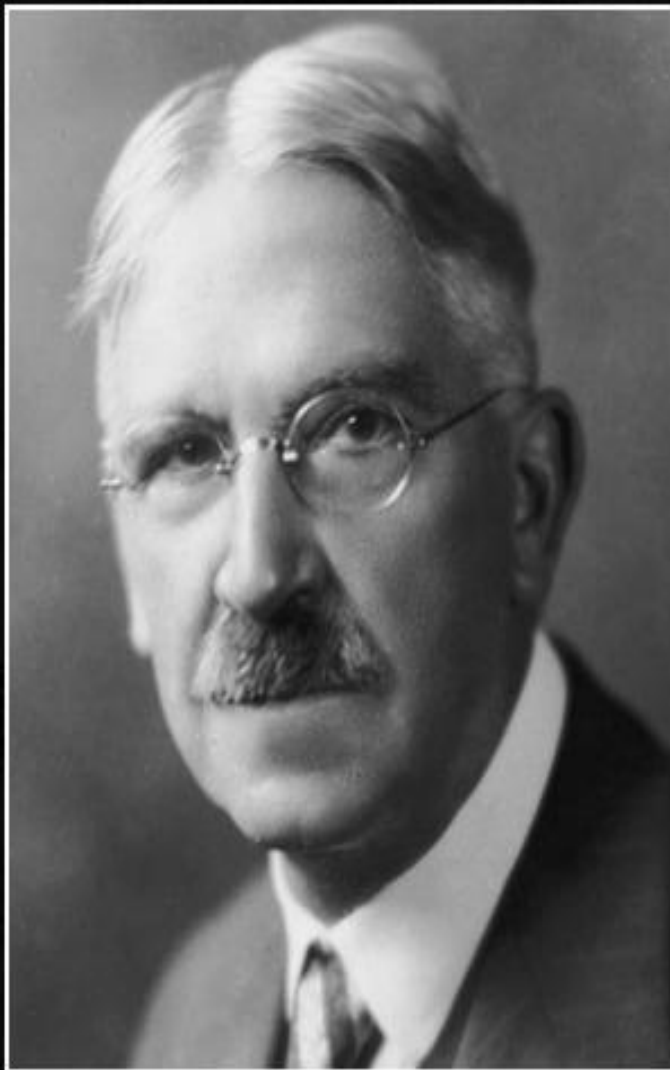
**“EDUCATION
IS THE MOST
POWERFUL
WEAPON
WHICH YOU
CAN USE TO
CHANGE THE
WORLD.”**

NELSON MANDELA



Education is not an affair of
'telling' and being told,
but an **active and**
constructive process.

— *John Dewey*



The aim of education is to enable individuals to continue their education — or that the object and reward of learning is continued capacity for growth.

— *John Dewey* —

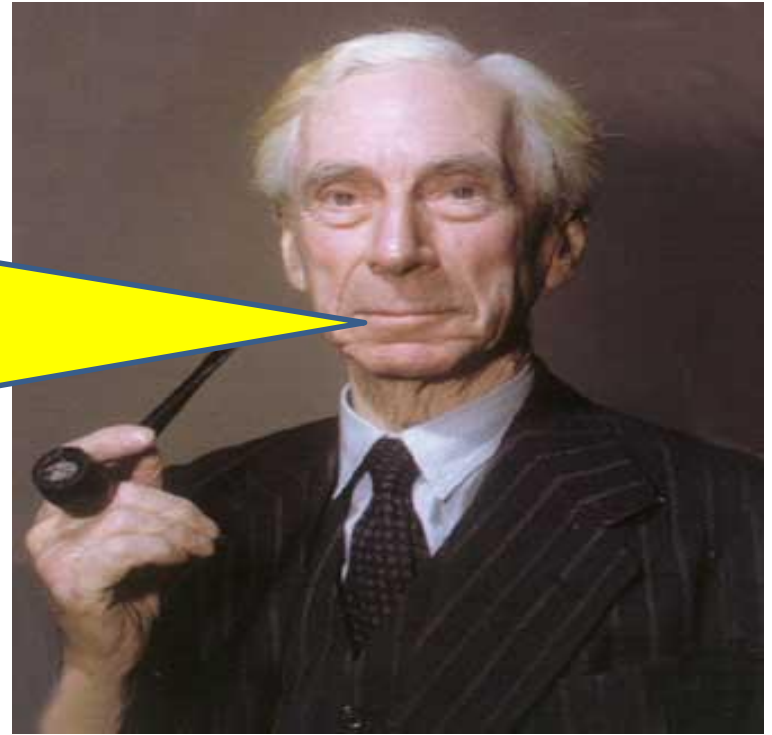
AZ QUOTES



**Education
is freedom.**

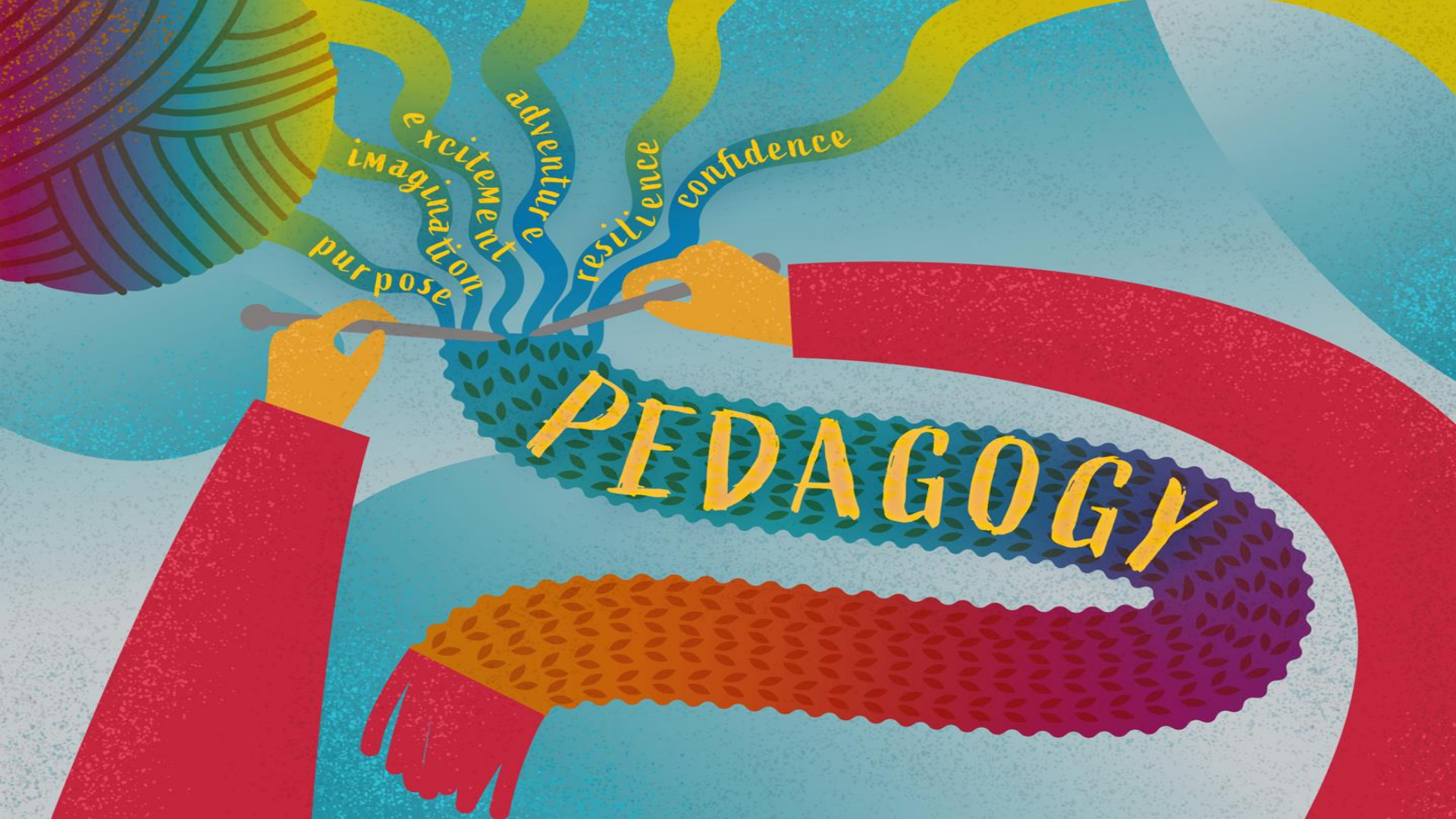
Paulo Freire

*More important than
the curriculum is the
question of
the methods of teaching
and the spirit in which
the teaching is given.*



Bertrand Russell (1872-1970) - British philosopher, logician, mathematician, historian, writer, social critic, political activist and Nobel laureate.

THE PEDOGOGIES



excitement
adventure
imagination
purpose
resilience
confidence

PEDAGOGY



Pedagogical Science: what is it?

**THINKING
ACTIVITY**



**3 FUNDAMENTAL QUESTIONS THAT
EVERY INSTRUCTOR, LECTURER,
PROFESSOR, PROGRAM DIRECTOR & DEAN
MUST BE ABLE TO ANSWER**

THREE FUNDAMENTAL QUESTIONS

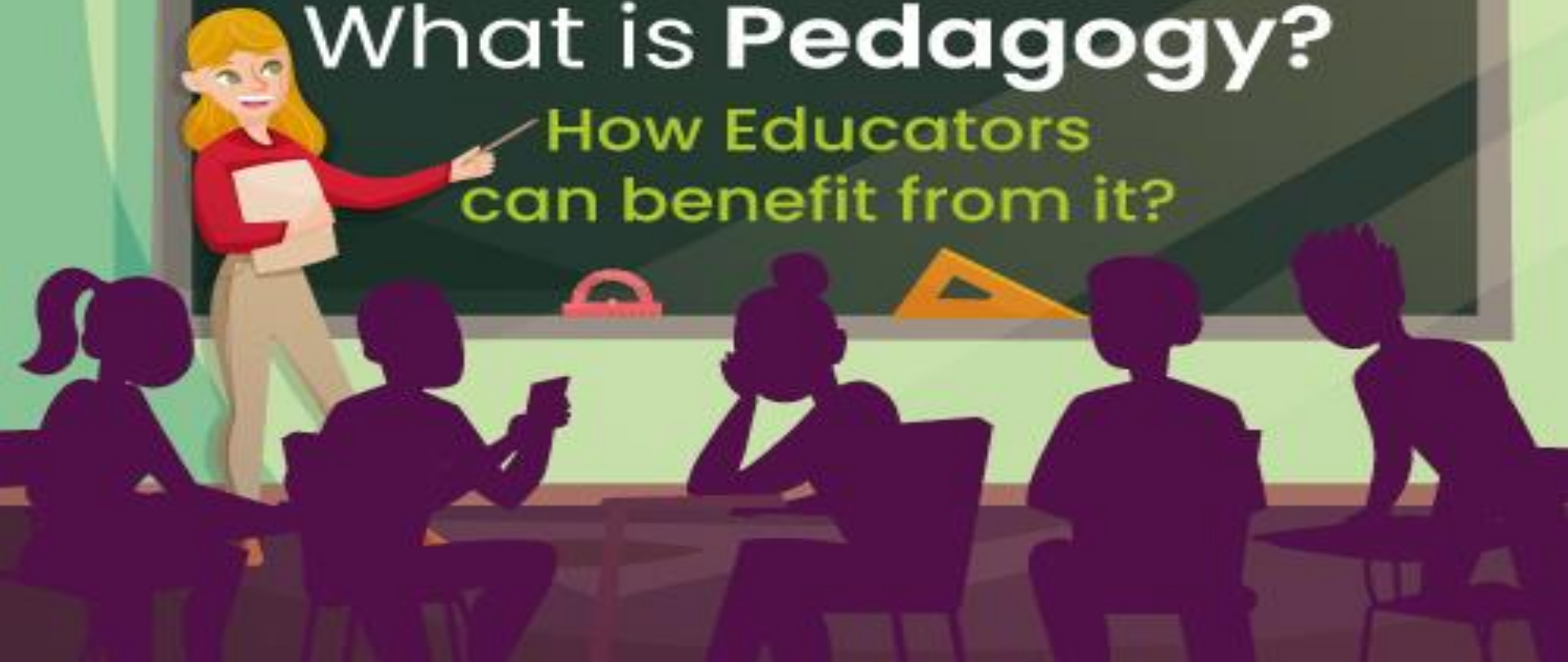
1. What is learning?
2. How do our students learn?
3. How do we know if our students are learning?

THE LEARNING/PEDAGOGY/ASSESSMENT QUESTIONS



What is Pedagogy?

How Educators
can benefit from it?



**LET'S SEE WHAT
PROFESSOR BIRD
HAS TO SAY?**

what's the
opposite of
pedagogy?

STUDENT BIRD



ignorance, destruction, harm,
hurt, neglect, worsening,
confusion



**PROFESSOR
BIRD**

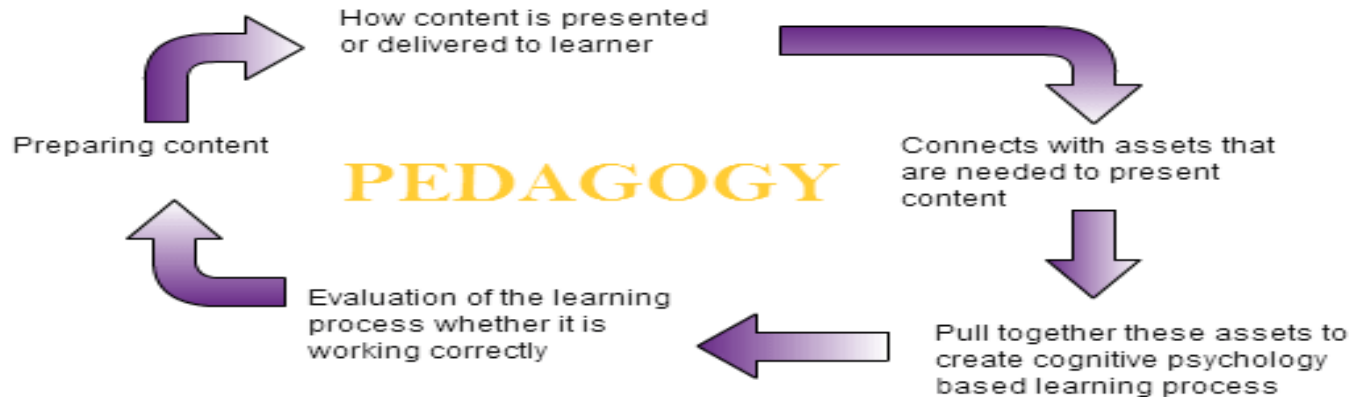
what's the
opposite of
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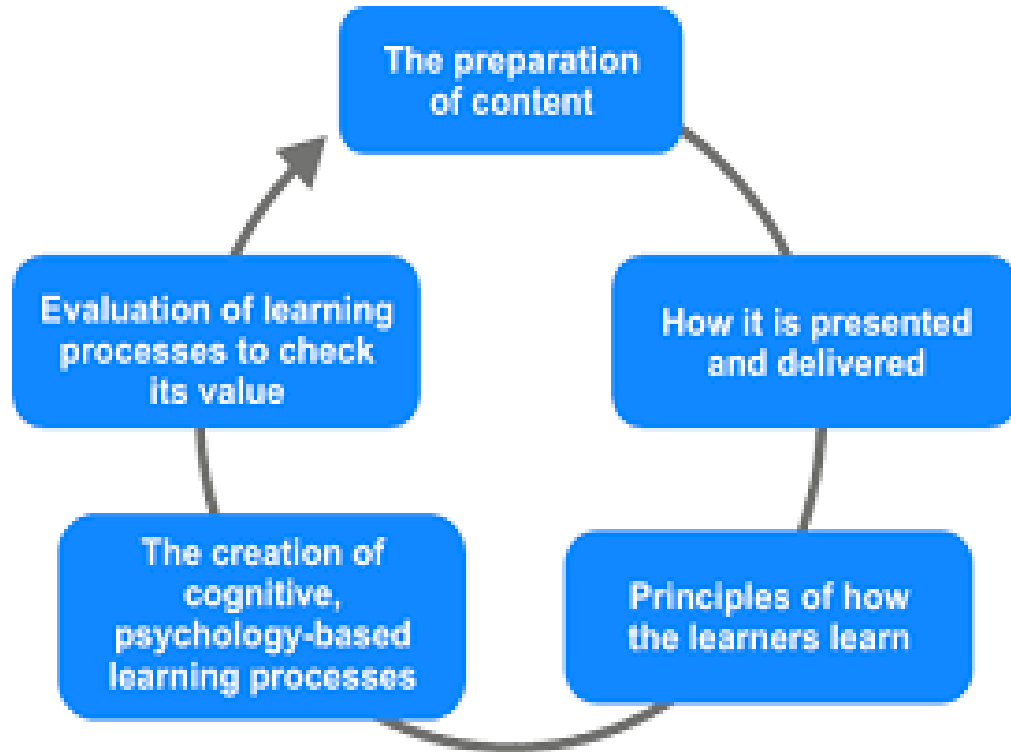


ignorance, destruction, harm,
hurt, neglect, worsening,
confusion

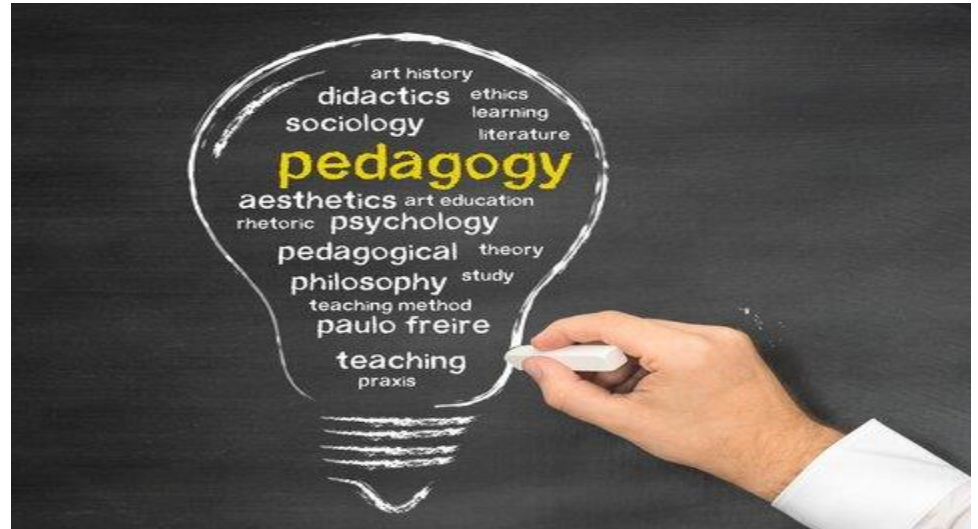


Pedagogy is a **theoretical** and **practical** subject concerning **teaching** and **training** processes, which should be studied systematically in its constituent parts, taking into consideration its dynamic and interrelated nature, as well as bearing in mind the multitude of factors that influence it.





The term *pedagogical sciences* indicates the group of disciplines that together make up pedagogy, an overarching term for the study of education, which due to its complexity has been divided up into various specialist areas.



SIMPLY STATED, PEDAGOGY IS

**. . . the method and practice
of teaching . . .**

**WHAT IS THE
IMPORTANCE
OF PEDAGOGY?**



Importance of Pedagogy in teaching:

- *Improved Quality of learning*
- *Students more receptive during learning sessions*
- *Improved student participation*
- *Knowledge imparted effectively across a spectrum of learners*
- *Development of higher cognitive skills in students.*

**WHAT IS PEDAGOGICAL
KNOWLEDGE THAT ALL
TEACHERS, INSTRUCTORS,
TRAINERS MUST HAVE?**

**CONTENT
KNOWLEDGE**

Knowledge of the content or subject matter to be taught (e.g. pragmatics, vocabulary, morphology, syntax,

**PEDAGOGICAL
CONTENT
KNOWLEDGE**

Knowledge about how to organise and represent content for a variety of learners

**GENERAL
PEDAGOGICAL
KNOWLEDGE**

Knowledge of general pedagogical aspects e.g. classroom management

How you can ensure a learner-centered foundation to your classes.



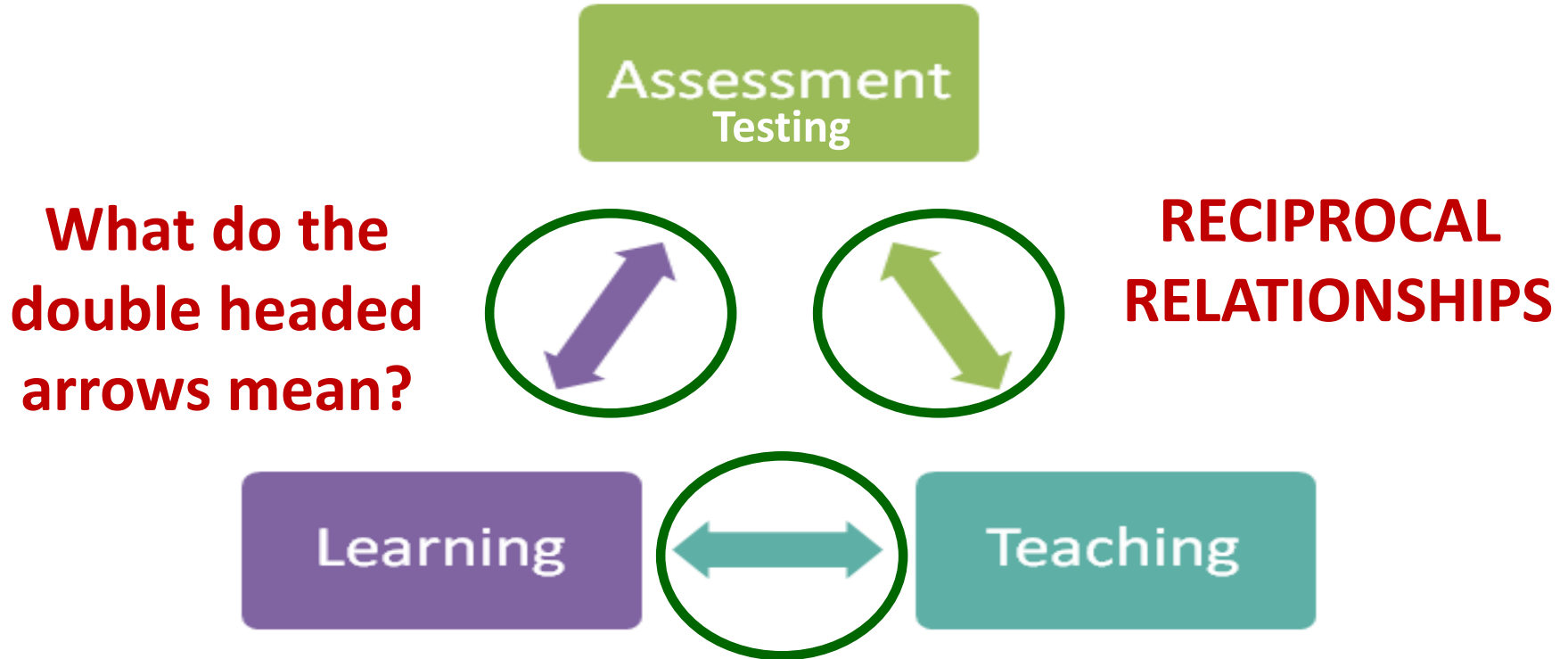
**BY USING EFFECTIVE STUDENT-
CENTERED TEACHING/LEARNING
PEDAGOGIES**

**SOME PEDAGOGICAL
APPROACHES THAT YOU MAY
FIND USEFUL IN YOUR STUDENT-
CENTERED TEACHING.**

- 1. Use instructional alignment to ensure that **what you teach**, **how you teach**, and **how you assess your students** are congruent
- 2. Use course **backward design**
- 3. Use **Bloom's taxonomies** in developing appropriate cognitive, affective & psychomotor specific student learning objectives
- 4. Use **differentiation of learning**
- 5 Use **Universal Design for Learning**
- 6. Use **inquiry-based Learning**
- 7. Use **problem-based learning /project-based learning**
- 8. Use **Gagne's Nine Events of Instruction**
- 9. Use **Bandura's Triadic Reciprocal Determinism teaching-learning model**



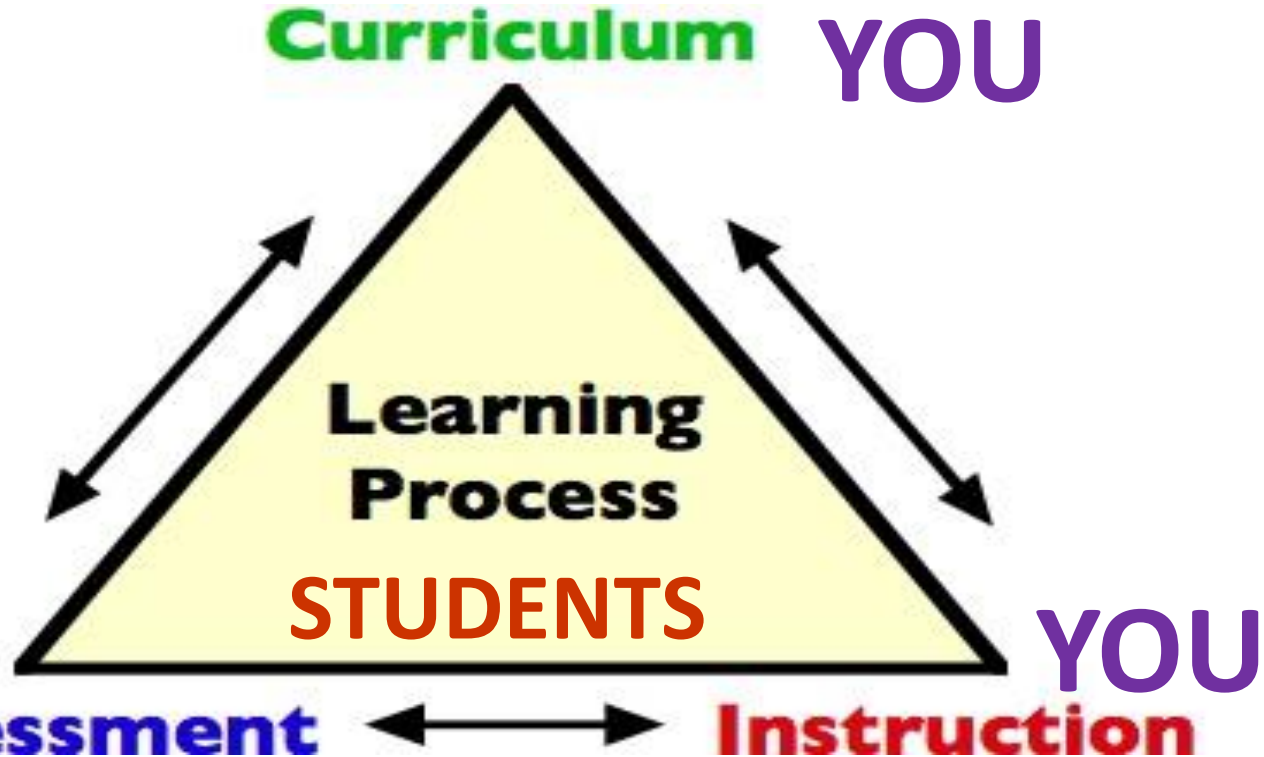
1. INSTRUCTIONAL ALIGNMENT



Instructional Congruency (Alignment)

60

Instructional alignment is the process of ensuring that **what you teach, how you teach, what you assess, how we assess** are aligned.



2. COURSE BACKWARD DESIGN

1. Identify
desired
results.

**SPECIFIC LEARNING
OBJECTIVES**

2. Determine
acceptable
evidence.

ASSESSMENT - TEST

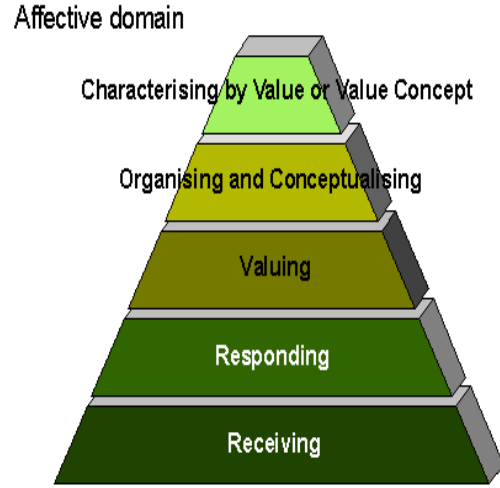
3. Plan learning
experiences
and instruction.

INSTRUCTION – TEACHING STRATEGIES

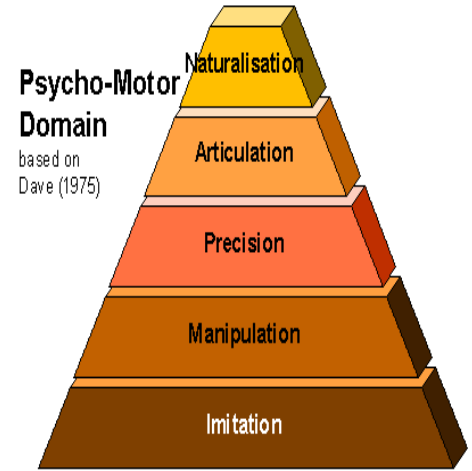
3. BLOOM'S TAXONOMIES OF LEARNING



Cognitive Domain
Thinking

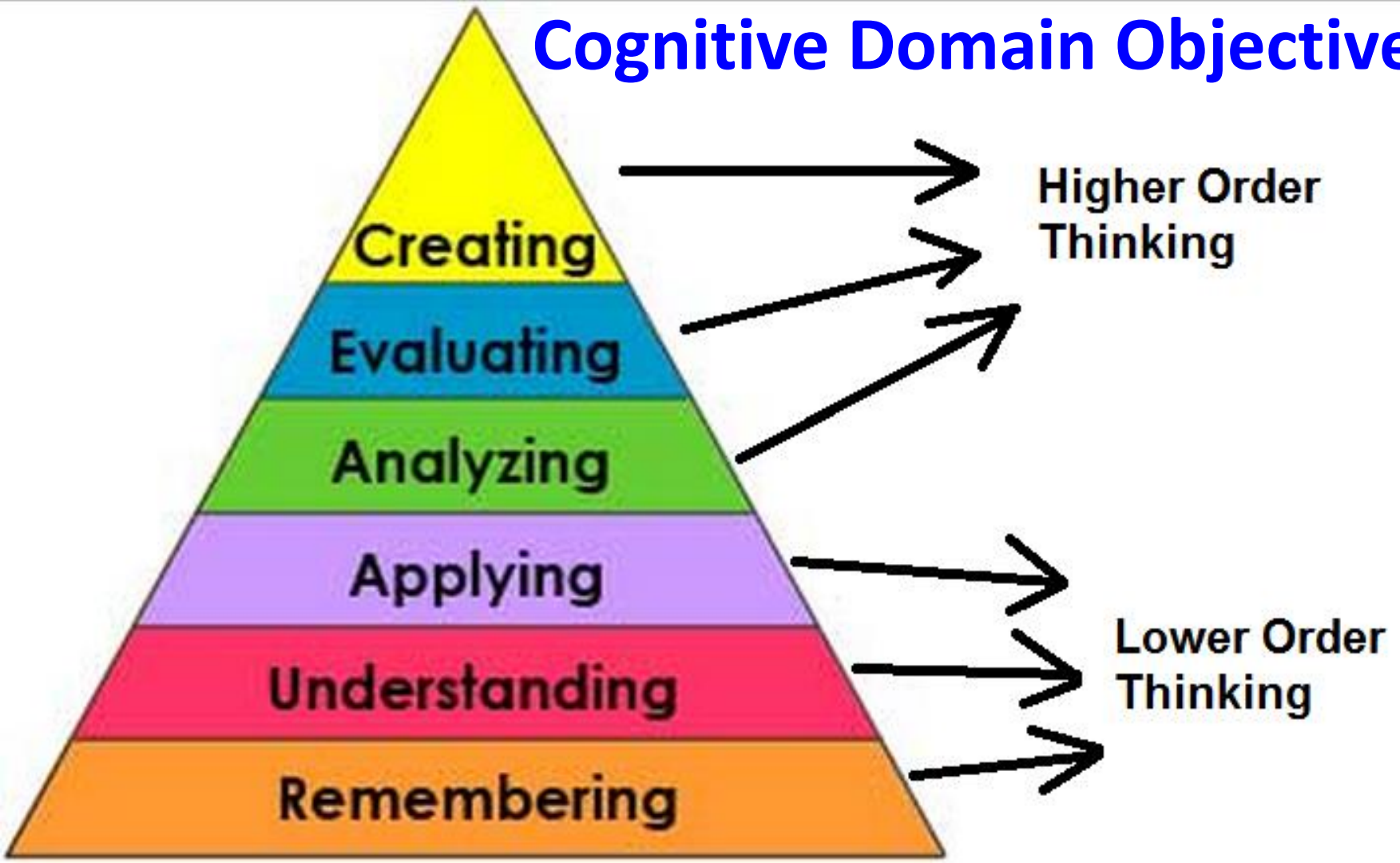


Affective Domain
Feeling, e.g. Motivation



Psycho-Motor Domain
Doing

Cognitive Domain Objectives



4. DIFFERENTIATING INSTRUCTION

- Differentiated Instruction (DI) is the planning and delivery of classroom instruction that considers the varied levels of **readiness**, **learning needs**, and **interests** of each learner in the class.



WE ARE ALL DIFFERENT!!!



WHY DIFFERENTIATED INSTRUCTION?

Classrooms are filled with students who:

have different needs



come from different educational backgrounds



have different attention spans and interests



have different language abilities

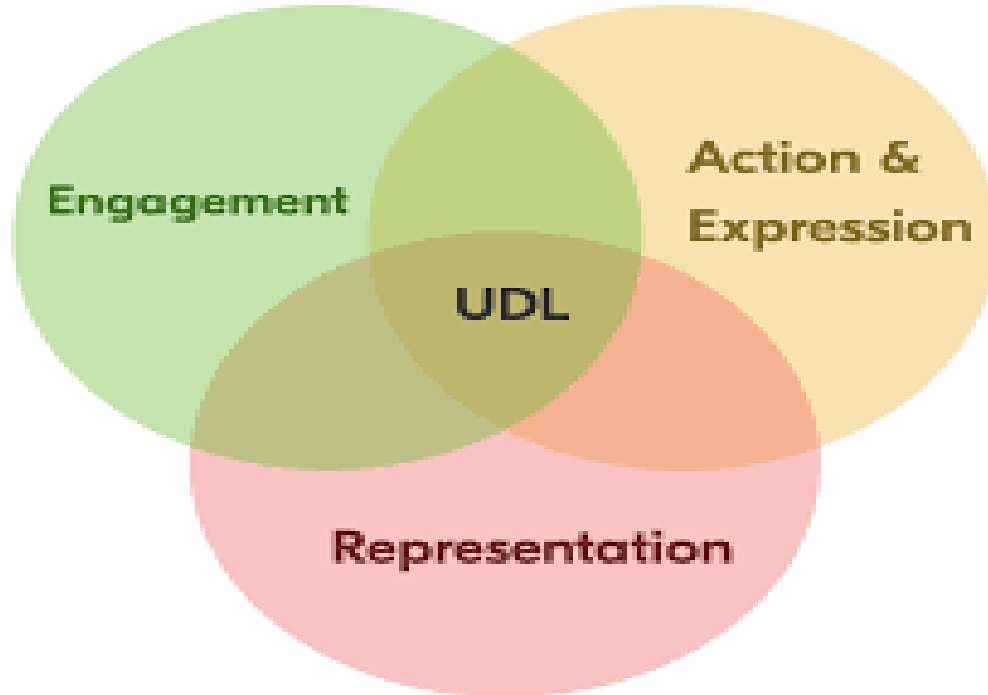


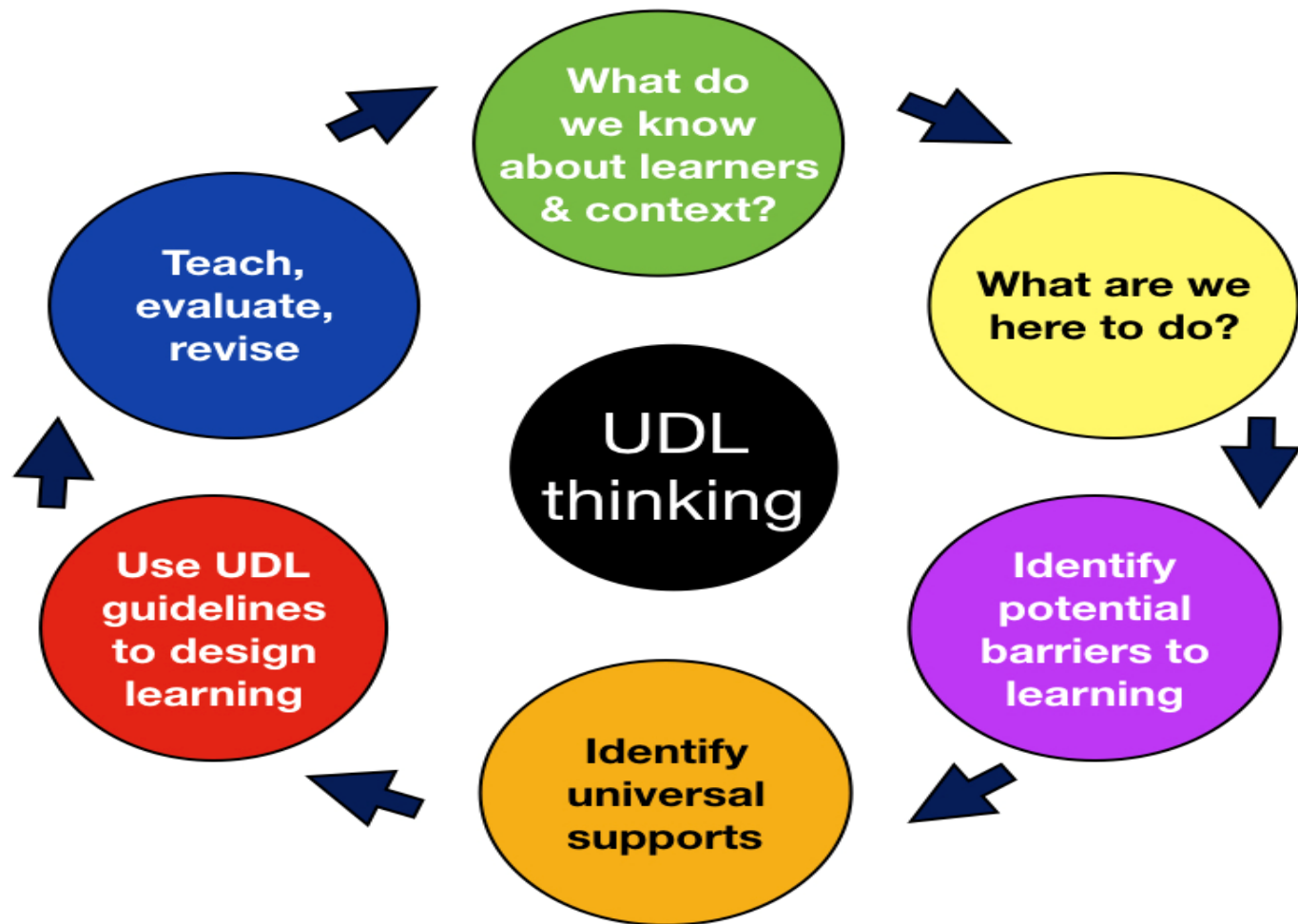
have different cultural backgrounds



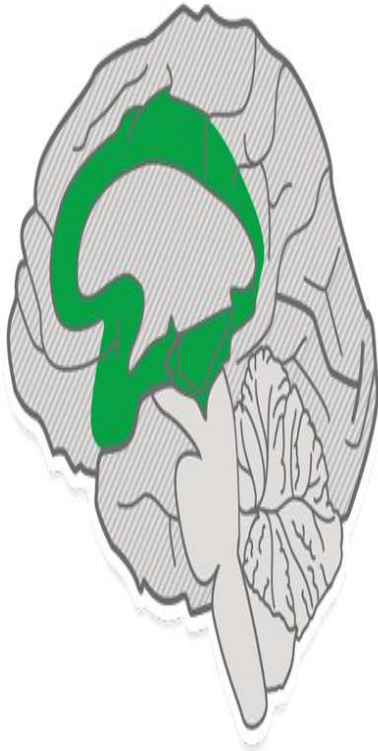
5. UNIVERSAL DESIGN FOR LEARNING

Universal Design for Learning

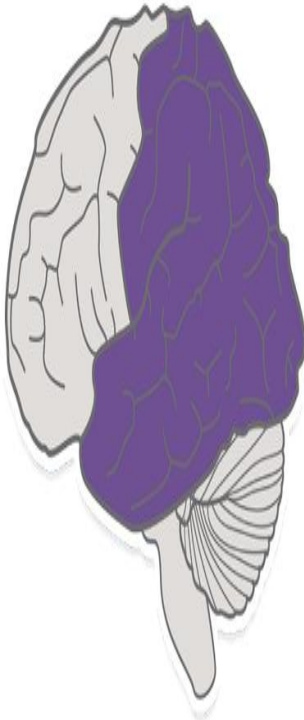




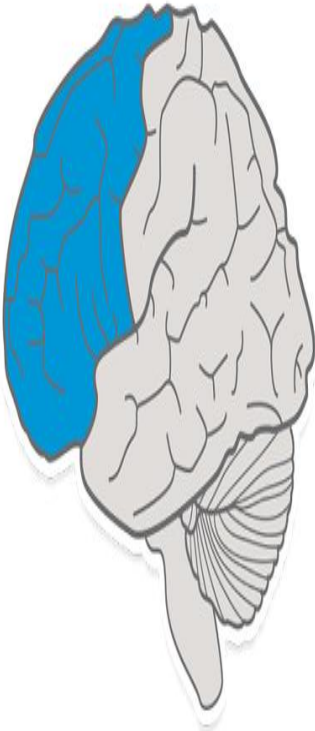
AFFECTIVE NETWORKS:
THE **WHY** OF LEARNING



RECOGNITION NETWORKS:
THE **WHAT** OF LEARNING



STRATEGIC NETWORKS:
THE **HOW** OF LEARNING



Provide multiple means of Engagement

Affective Networks
The "WHY" of Learning



Provide multiple means of Representation

Recognition Networks
The "WHAT" of Learning



Provide multiple means of Action & Expression

Strategic Networks
The "HOW" of Learning



Access

Provide options for Recruiting Interest

- Optimize individual choice and autonomy
- Optimize relevance, value, and authenticity
- Minimize threats and distractions

Provide options for Perception

- Offer ways of customizing the display of information
- Offer alternatives for auditory information
- Offer alternatives for visual information

Provide options for Physical Action

- Vary the methods for response and navigation
- Optimize access to tools and assistive technologies

Build

Provide options for Sustaining Effort & Persistence

- Heighten salience of goals and objectives
- Vary demands and resources to optimize challenge
- Foster collaboration and community
- Increase mastery-oriented feedback

Provide options for Language & Symbols

- Clarify vocabulary and symbols
- Clarify syntax and structure
- Support decoding of text, mathematical notation, and symbols
- Promote understanding across languages
- Illustrate through multiple media

Provide options for Expression & Communication

- Use multiple media for communication
- Use multiple tools for construction and composition
- Build fluencies with graduated levels of support for practice and performance

Internalize

Provide options for Self Regulation

- Promote expectations and beliefs that optimize motivation
- Facilitate personal coping skills and strategies
- Develop self-assessment and reflection

Provide options for Comprehension

- Activate or supply background knowledge
- Highlight patterns, critical features, big ideas, and relationships
- Guide information processing and visualization
- Maximize transfer and generalization

Provide options for Executive Functions

- Guide appropriate goal-setting
- Support planning and strategy development
- Facilitate managing information and resources
- Enhance capacity for monitoring progress

Goal

Expert learners who are...

Purposeful & Motivated

Resourceful & Knowledgeable

Strategic & Goal-Directed

UNIVERSAL DESIGN FOR LEARNING

Universal Design for Learning (UDL) is an educational framework that promotes inclusive and equitable learning environments for all students.

OVERVIEW

The principles of UDL emphasize three key areas: multiple means of representation, allowing students to access information in various formats; multiple means of action and expression, enabling students to demonstrate their learning through diverse means; and multiple means of engagement, fostering student motivation and active participation in the learning process.

EXAMPLES

- **Multimodality:** In a UDL classroom, students are provided with multiple options for accessing information, such as through visual aids, audio recordings, etc.
- **Differentiation:** UDL encourages students to demonstrate their learning using diverse means, such as creating presentations, writing essays, creating multimedia projects, etc.

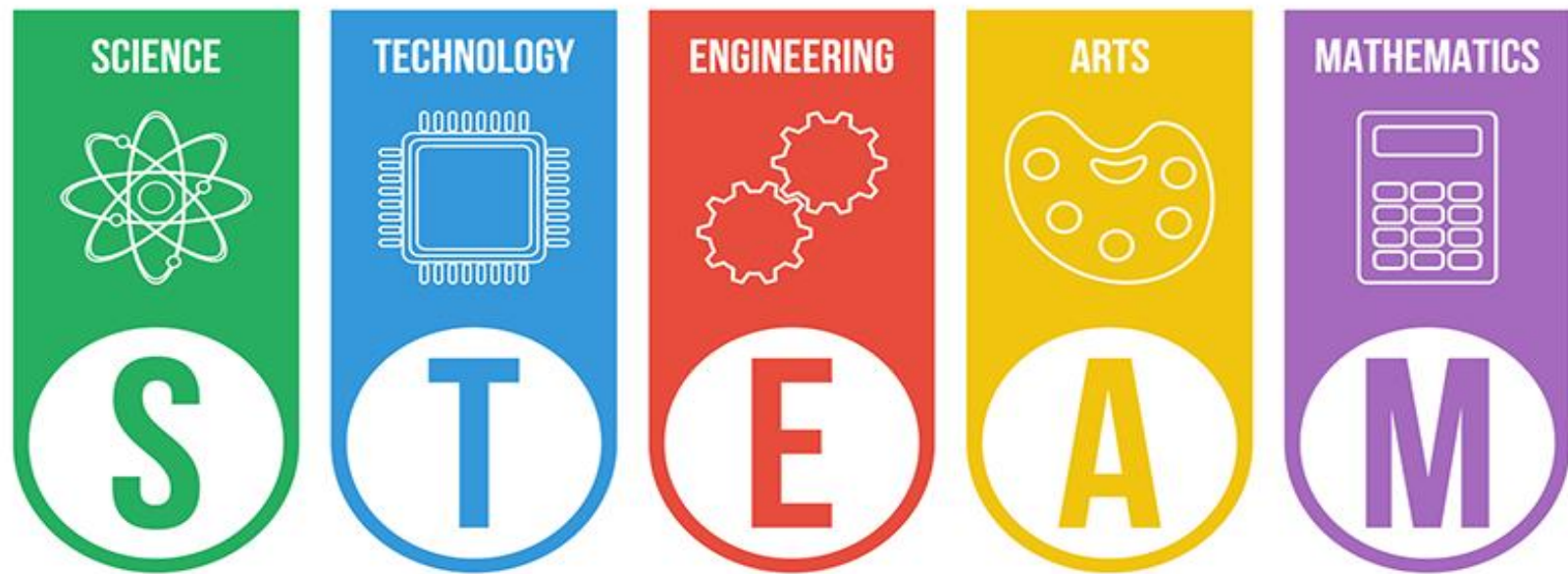
STEM



Science • Technology • Engineering • Math

STEM to STEAM to STREAM





EDUCATION

S

SCIENCE



T

TECHNOLOGY



R

READING



E

ENGINEERING



A

ARTS



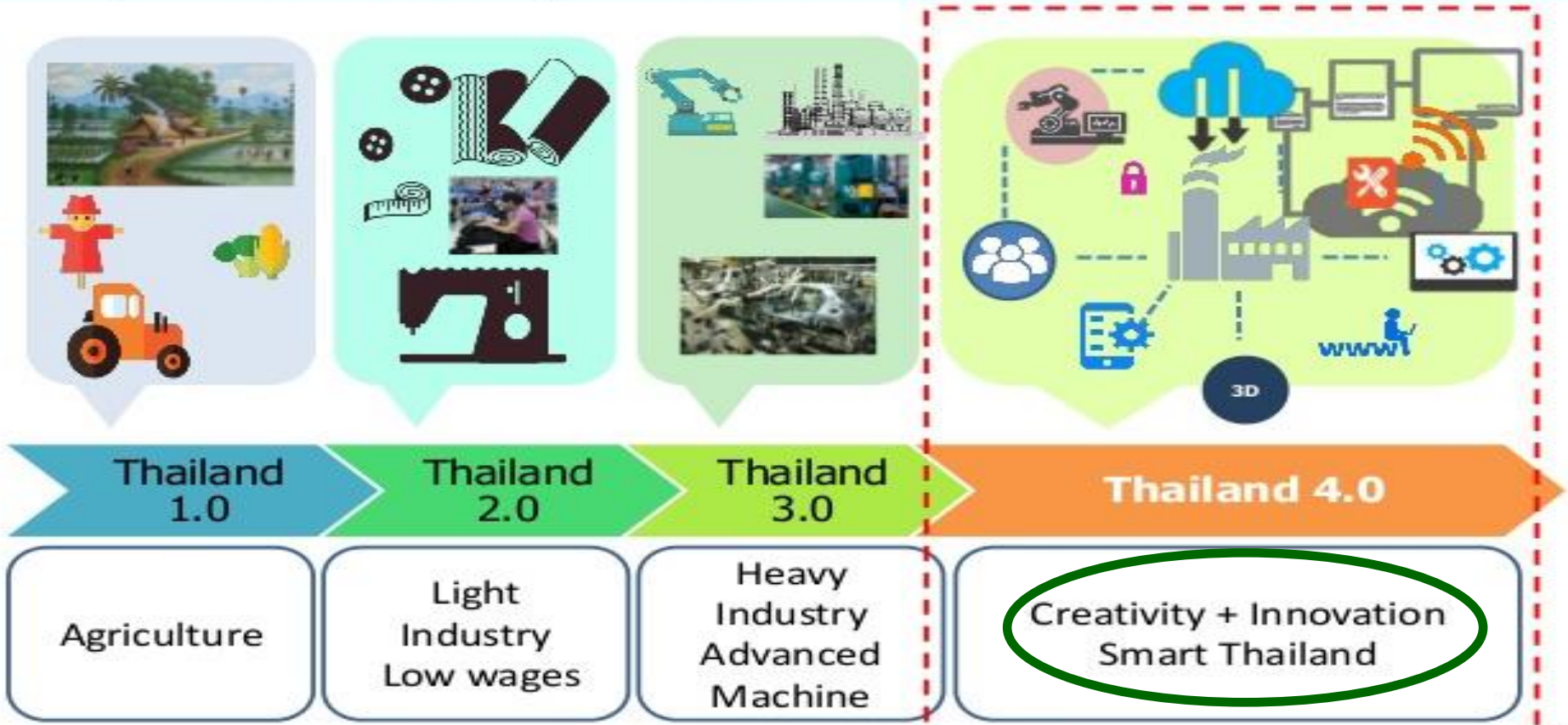
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MATHEMATICS

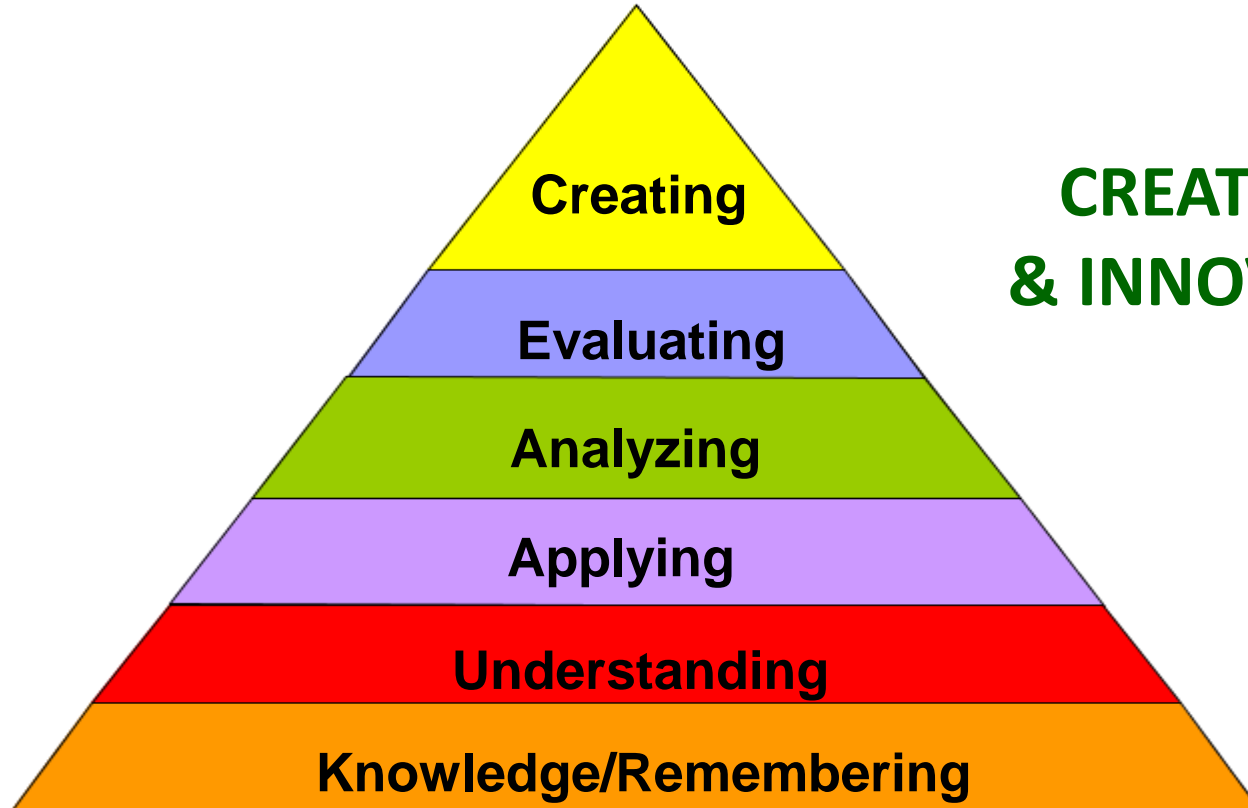


Thailand 4.0

(Smart Industry + Smart City + Smart People)



Bloom's Taxonomy of the Cognitive Domain

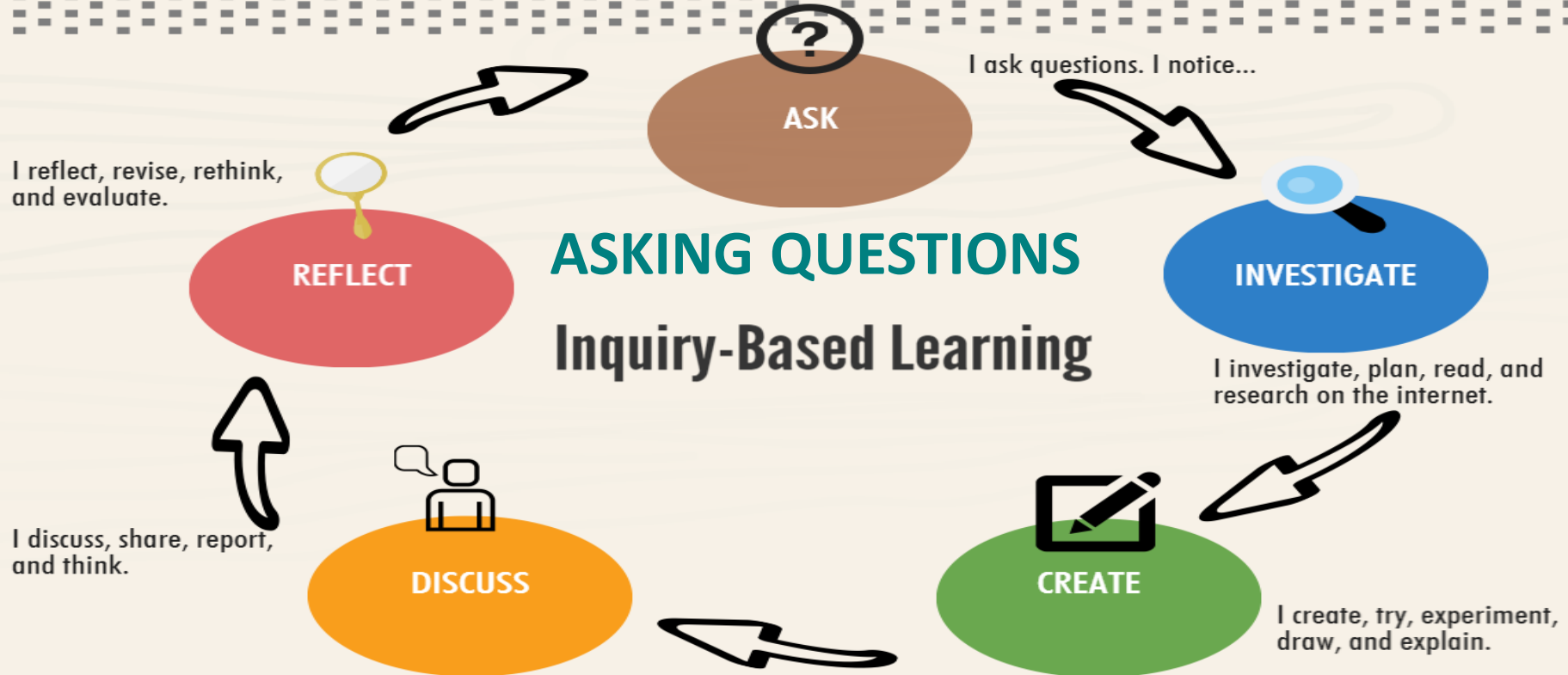


**CREATIVITY
& INNOVATION**

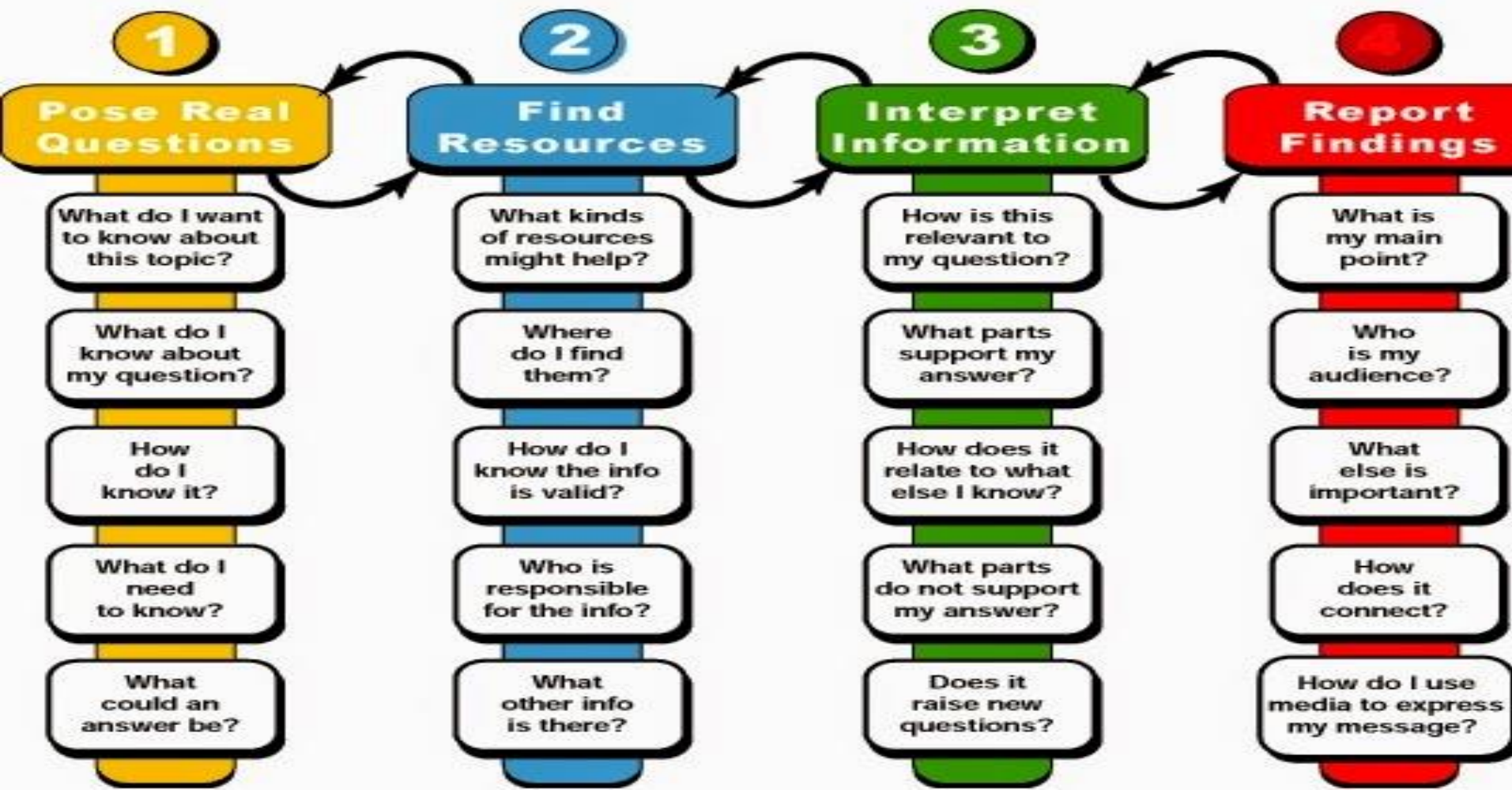


Inquiry- Based Learning

6. INQUIRY-BASED LEARNING

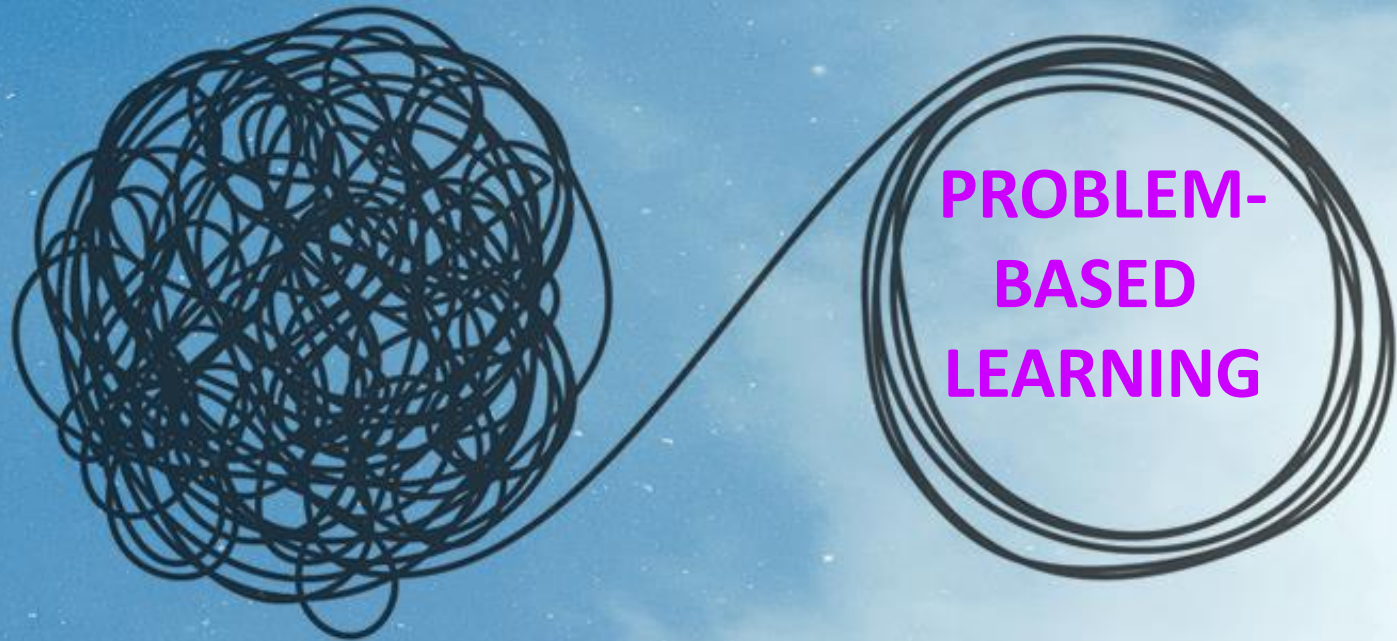


The Inquiry Process

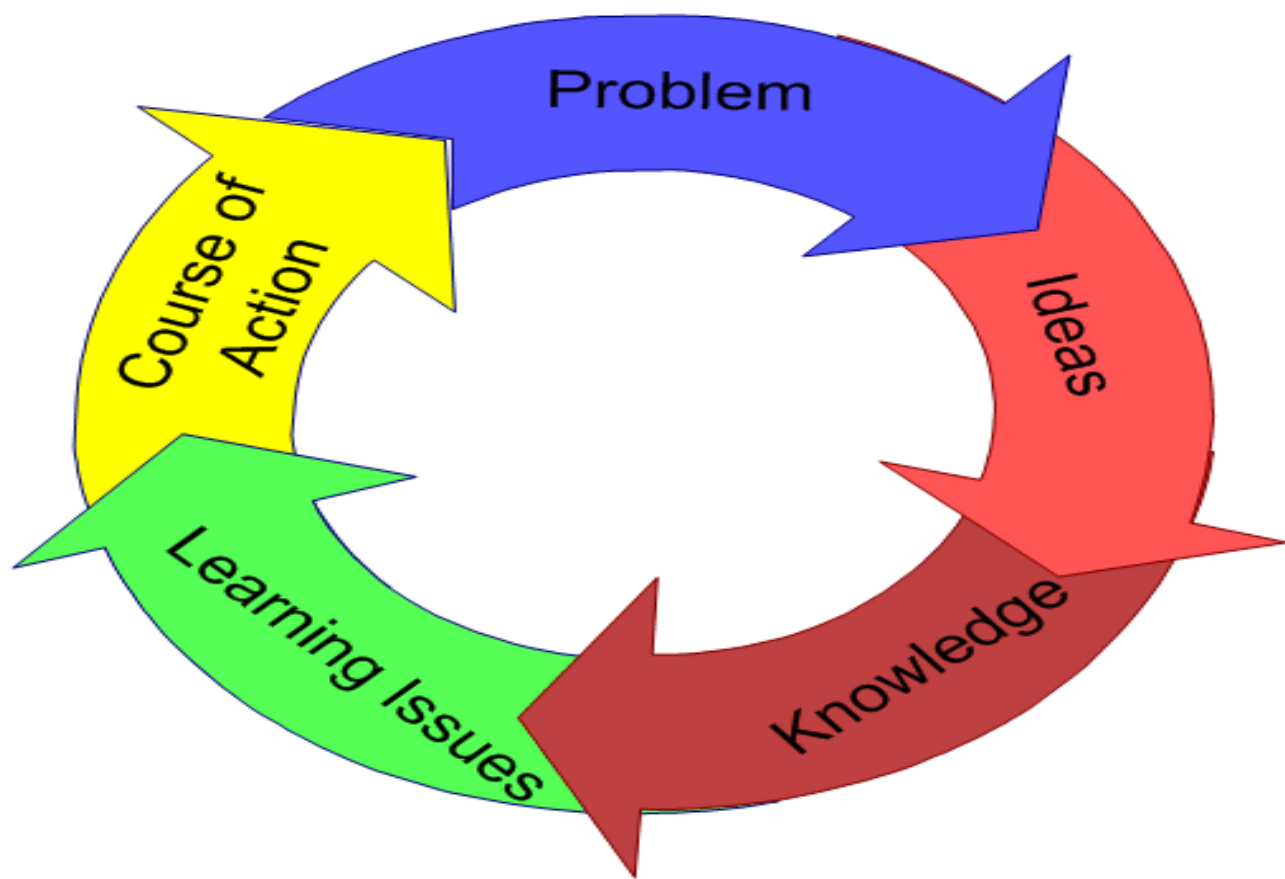


7. PROBLEM-BASED LEARNING/PROJECT-BASED LEARNING

81



Problem-Based Learning Process



TRADITIONAL LEARNING

Told what we
need to know



Memorize it



Problem assigned
to illustrate how
to use it

PROBLEM-BASED LEARNING

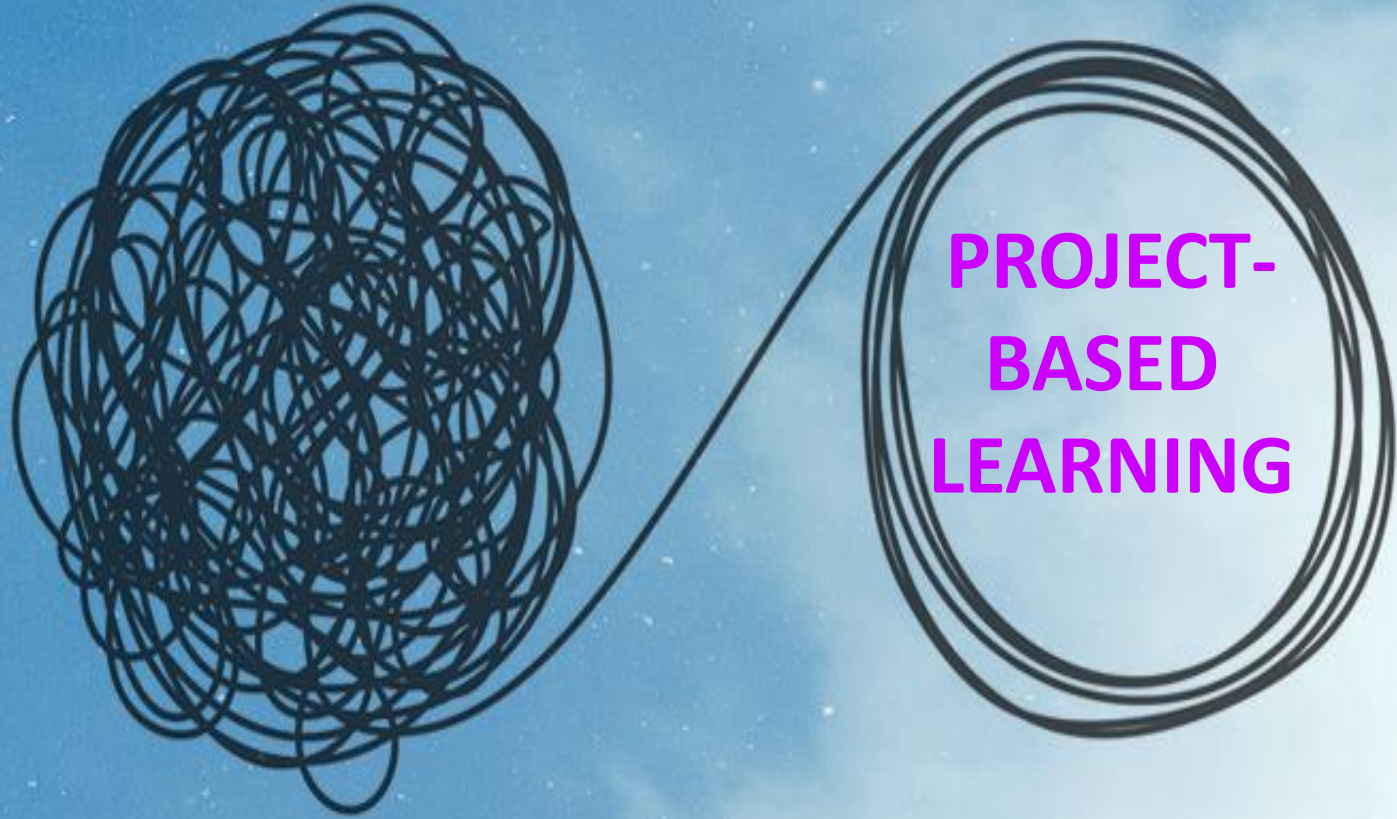
Problem Assigned



Identify what
we know



Learn & apply to
solve the problem



**PROJECT-
BASED
LEARNING**



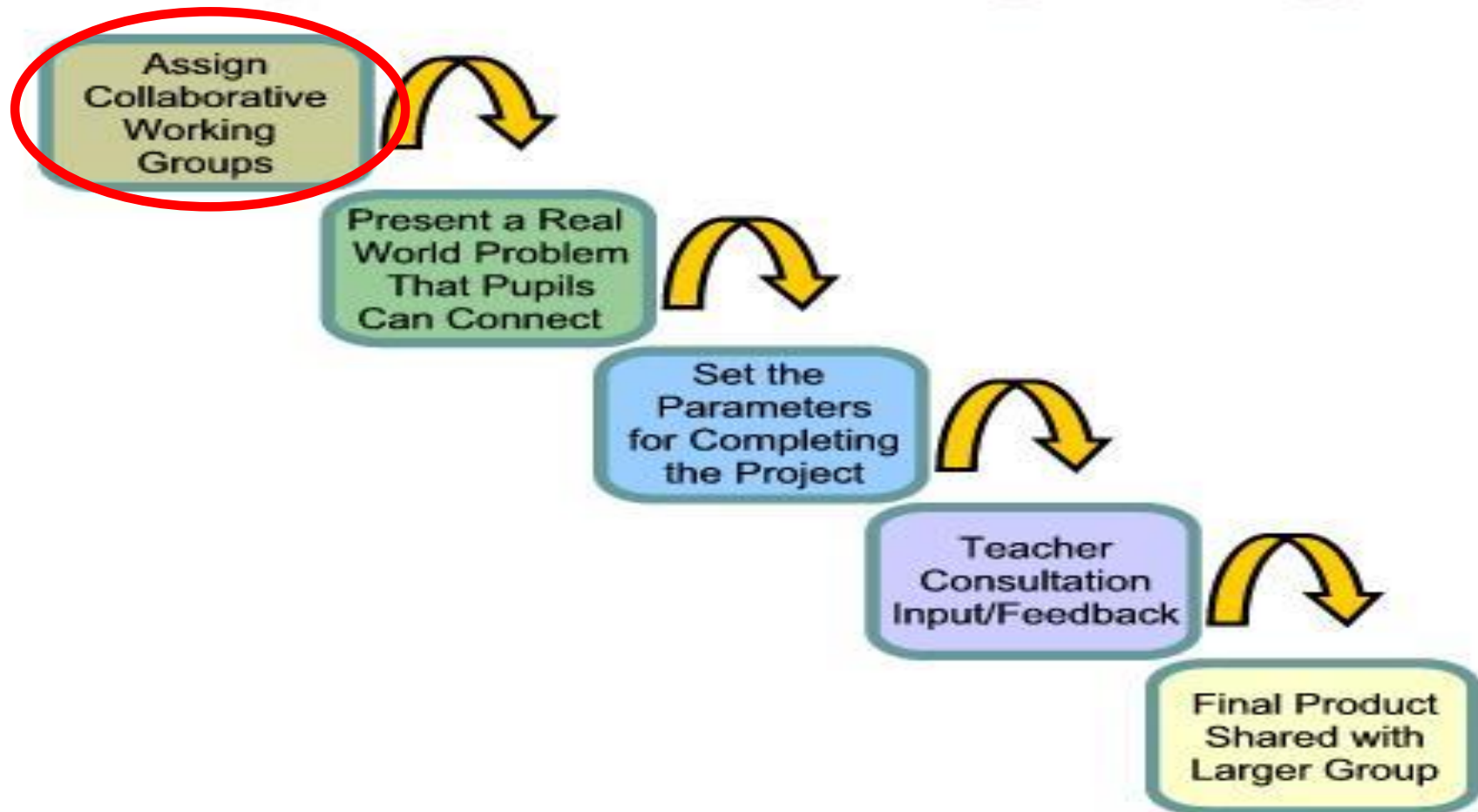
Project Based Learning (PBL)



Project-Based Learning: A Definition

A systematic teaching method that engages students in learning essential knowledge and life-enhancing skills through an extended, student-influenced inquiry process structured around complex, authentic questions and carefully designed products and tasks.

Project-based Teaching Strategy



COLLABORATIVE LEARNING

Share Ideas

Collaboration

Interaction

Discussion

Brainstorm

Community



**COLLABORATIVE VS.
COOPERATIVE
LEARNING**

COLLABORATIVE LEARNING VS. COOPERATIVE LEARNING

Collaborative

- Teacher is hands-off
- Students work together as a team to share ideas, solve problems and work towards common goals
- The focus is on the group outcome

Cooperative

- Teacher plays a more central role
- Students work together in small groups on an activity that is structured by the teacher
- Students are both individually accountable for their work, and assessed as a group

**DIFFERENCE BETWEEN PROBLEM-BASED
AND PROJECT-BASED LEARNING
COLLABARTIVE LEARNING**

Project-Based Learning

Often multi-subject

May be lengthy
(weeks or months)

Follows general, variously-named steps

Includes the creation of a product or performance

Often involves real world, fully authentic tasks and settings

Problem-Based Learning

More often single-subject

Tend to be shorter

Follows specific, traditionally prescribed steps

The "product" may simply be a proposed solution, expressed in writing or in an oral presentation

More often uses case studies or fictitious scenarios as "ill-structured problems"

PROBLEM-BASED LEARNING VS. PROJECT-BASED LEARNING

Project-
Based
Learning



Problem-
Based
Learning

- 1-4 week time-frame
- Students look at a variety of solutions, but focus on a few
- Involves authentic learning experiences
- Community collaborations
- Students participate in the solution
- Students make a real-world impact
- Skills: Collaboration, communication, self-direction

Both solve
real-world
Problems

Cross-Disciplinary

Heavy on skill-
building: Problem-
solving, critical
thinking, empathy,
creativity, and so
much more!

- 2-5 day time-frame
- Students look at a variety of solutions to include in their comprehensive plan
- The experience does not require community collaborators
- The solutions are theoretical, not applied by students
- Skills: Perspective-taking, teamwork, information literacy

8. Gagne's Nine Events of Instruction

1

- Intellectual Skills

2

- Cognitive Strategies

3

- Verbal Information

4

- Motor Skills

5

- Attitudes





Robert Gagne and the 9 Events of Instruction



1

GAIN
ATTENTION

2

INFORM
LEARNERS OF
THE
OBJECTIVES

3

STIMULATE
RECALL OF
PRIOR
LEARNING

4

PRESENT THE
STIMULUS

5

PROVIDE
LEARNING
GUIDANCE

6

ELICIT
PERFORMANCE

7

PROVIDE
FEEDBACK

8

ASSESS
PERFORMANCE

9

ENHANCE
RETENTION
AND
TRANSFER

9. Bandura's Triadic Reciprocal Determinism teaching-learning model

Triadic Reciprocal
Determinism

Behavior **STUDENTS**
Actions & Decisions

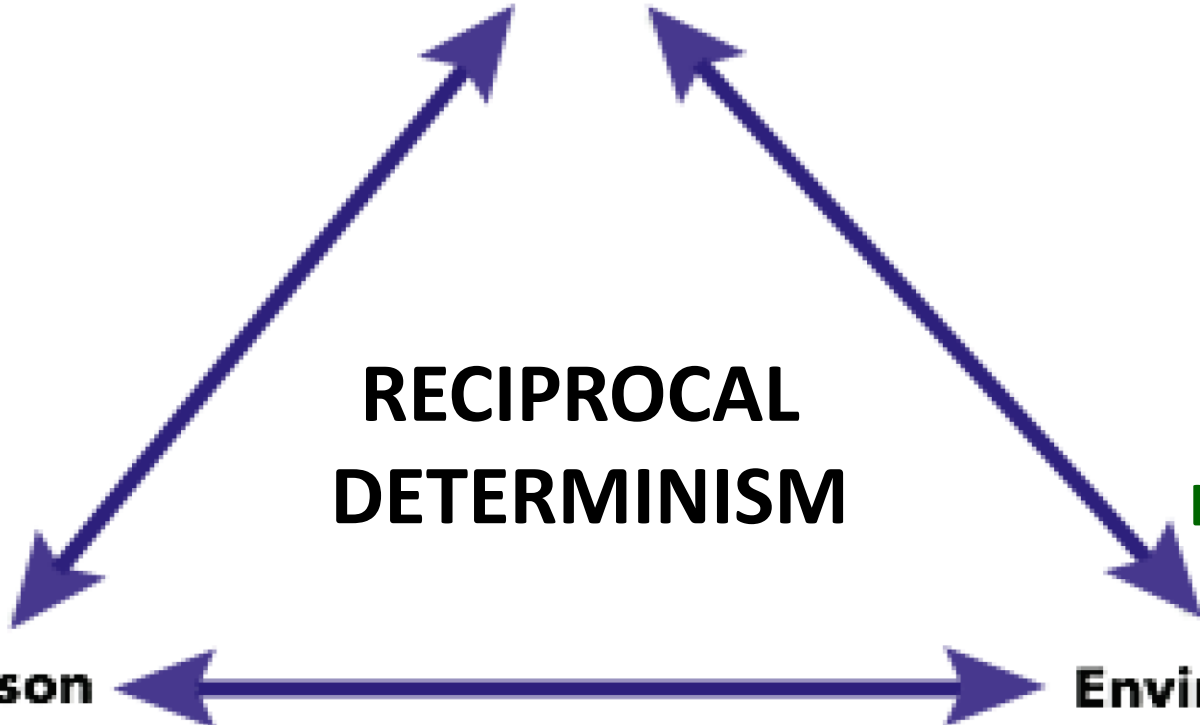
**RECIPROCAL
DETERMINISM**


**US –
LECTURERS**

STUDENTS

Person
Internal Competencies
Cognitive, Emotional & Physical

Environment
External
Spaces, Laws, Objects



A photograph of Albert Bandura, a psychologist, standing in a laboratory. He is wearing a blue suit and glasses, with his hand on his chin in a thoughtful pose. The background shows laboratory equipment, including a red horizontal pipe and a scale.

“People’s level of motivation, affective states, and actions are based more on what they *believe* than on what is objectively the case.”

Albert Bandura

Self-efficacy

“People’s beliefs about their abilities have a profound effect on those abilities. Ability is not a fixed property; there is a huge variability in how you perform. People who have a sense of self-efficacy bounce back from failures; they approach things in terms of how to handle them rather than worrying about what can go wrong.”

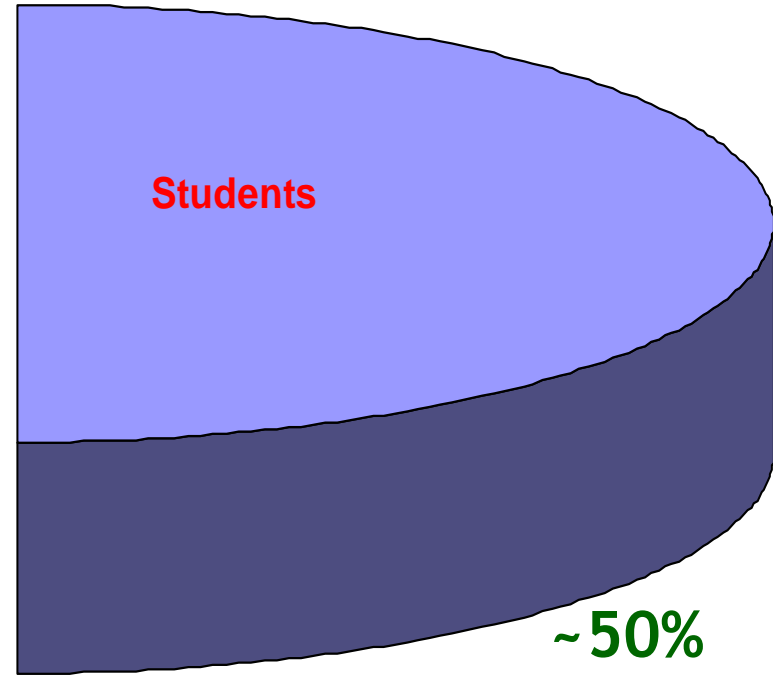
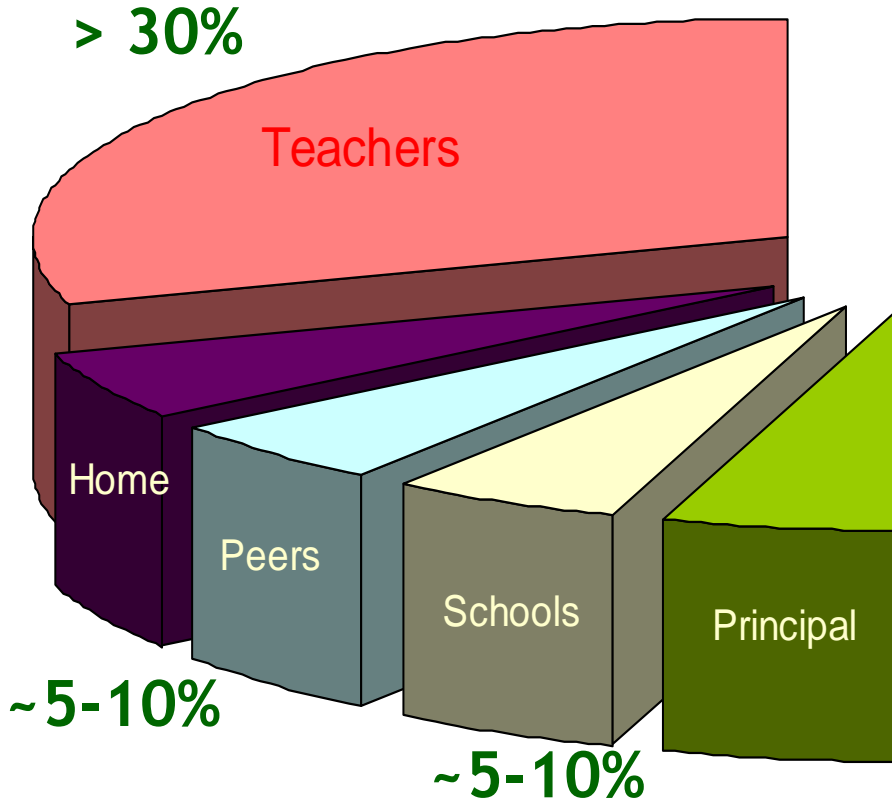
-Albert Bandura

**WHAT ARE THE MAJOR INFLUENCES ON
STUDENT ACHIEVEMENT?**

**HOW CAN WE EXPLAIN THE VARIANCE
IN STUDENT ACHIEVEMENT?**

Influences on Student Achievement: Explained Variance

(Findings from research)



Hattie (2003, 2005)

Teaching is the most important factor when looking at student achievement.



- Next Week - Oct. 1st
- CFBHOF Visit
- Arrive @ 9:45
- Read F.N.L. - Finish for Oct 8th

HTT



PROGRESS

GOAL



MEASURE



ANALYSIS

ASSESSMENT

EVALUATION

PLAN

RESEARCH

RESULT



WHAT IS ASSESSMENT IN EDUCATION?



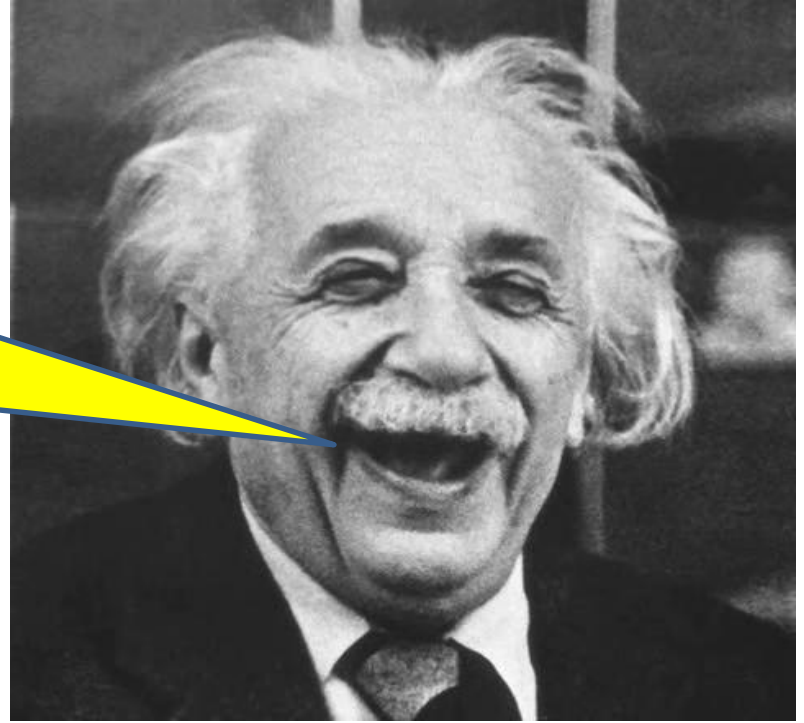
Assessment

...is the
engine
which drives
student learning

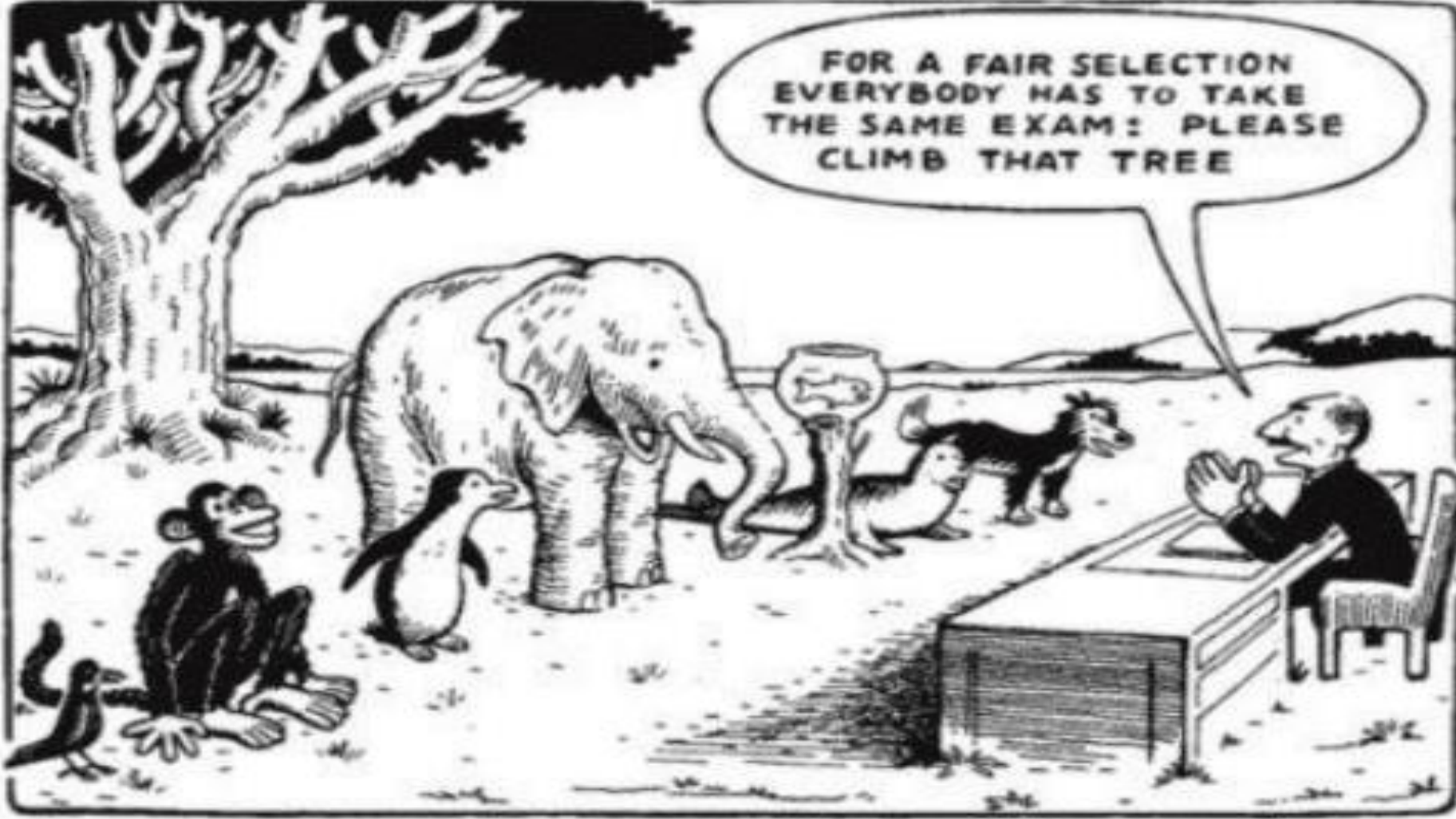
(John Cowan)

CONSIDER THIS . . .

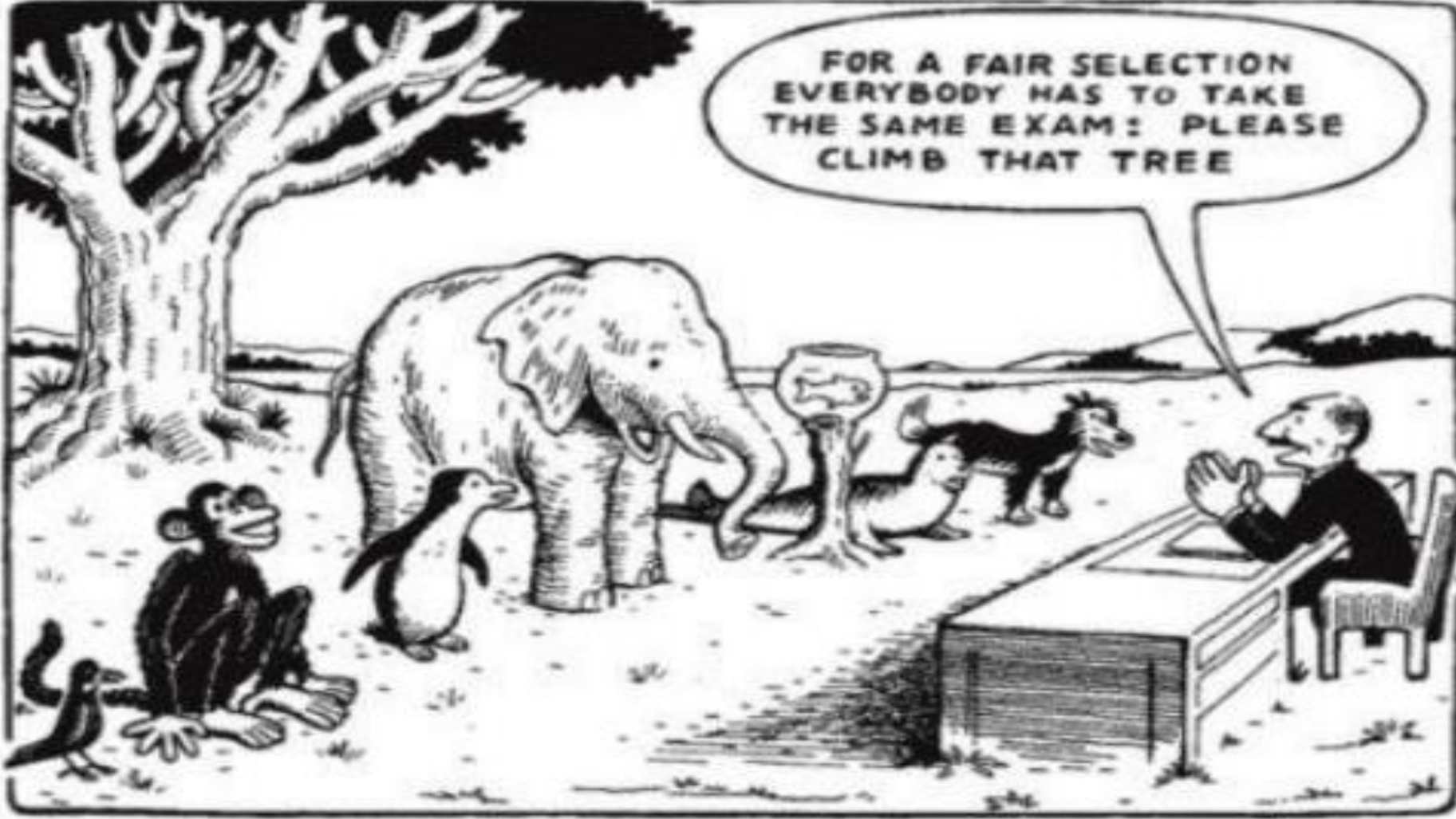
Everyone is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid.



Albert Einstein (1879-1955)
German-born theoretical physicist



FOR A FAIR SELECTION
EVERYBODY HAS TO TAKE
THE SAME EXAM: PLEASE
CLIMB THAT TREE



IS IT A VALID TEST?

NO – WHY NOT?

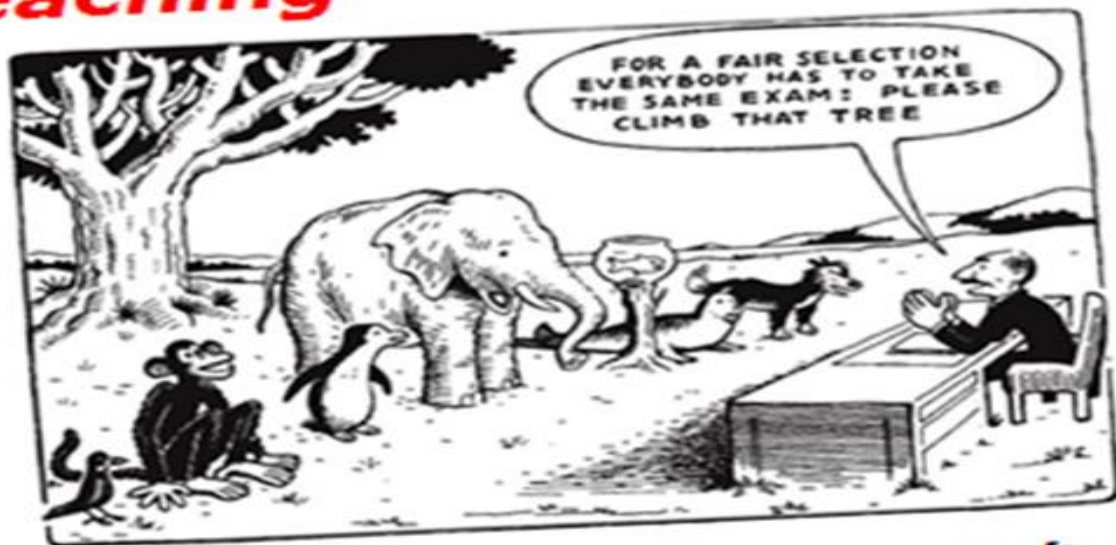
IS IT A RELIABLE TEST?

YES – WHY?

**SO ALWAYS CONSIDER THE
VALIDITY & RELIABILITY OF YOUR
STUDENT ASSESSMENTS**

**HERE'S THE POINT
TO REMEMBER**

Students can escape
bad teaching



...but they can't escape
bad assessment

(David Boud)

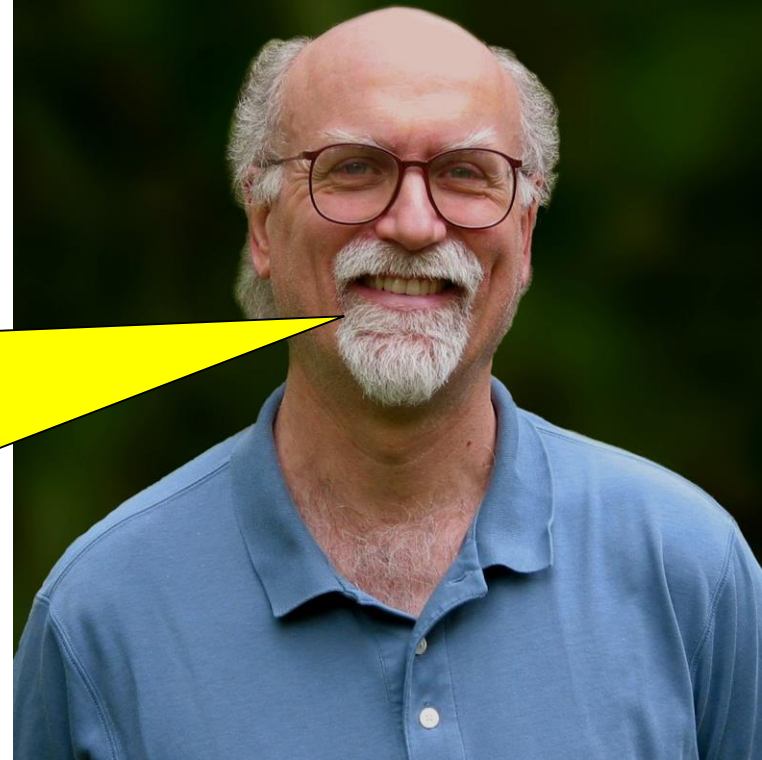
Thoughts on Assessment



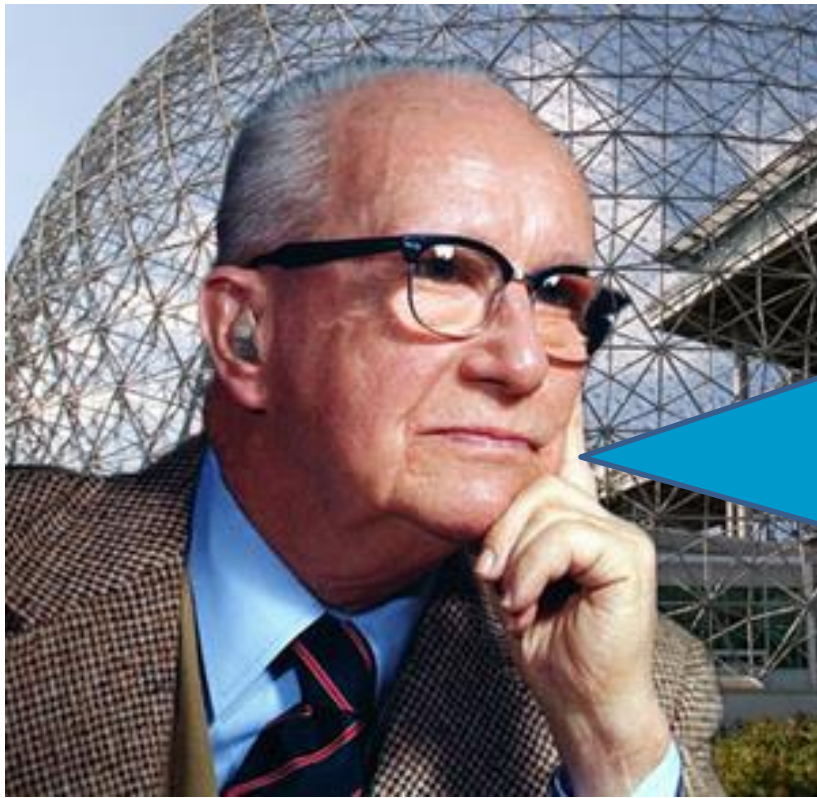
Let us not judge our students simply on what they know. That is the philosophy of the quiz program. Rather let them be judged on what they can generate from what they know — how well they can leap the barrier from learning to thinking.

Jerome Bruner (1915 – 2016)
American psychologist who made significant contributions to cognitive learning theory

“Assessment” is derived from the Latin ‘assidere’ to sit with or beside. It is something we do with and for students, not something we do to them.



**Grant Wiggins, President of
*Authentic Education***



**Buckminster Fuller - American architect,
systems theorist, author, designer, and
inventor.
1895-1983**

If I ran a school, I'd give the average grades to the ones who gave me all the right answers, for being good parrots.

I'd give the top grades to those who made a lot of mistakes and told me about them, and then told me what they learned from them.

*If you make a
mistake and do
not correct it, this
is called a
mistake.*



**Confucius (551-479 BC) - Chinese teacher,
editor, politician, and philosopher of the Spring
and Autumn period.**

SO



Mistakes

Are The

Stepping Stones

To Learning!



helping students turn

MISTAKES

into

OPPORTUNITIES

for learning





“Mistakes are always forgivable,
if one has the courage to admit
them.”

— Bruce Lee

**Next, importantly,
why do we have to
do assessment?**

What is assessment?

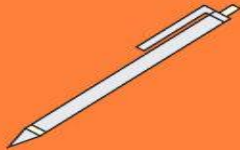
- Assessment is the systematic collection of information about student learning, using the time, knowledge, expertise, and resources available, in order to inform decisions at both **course & program** levels that affect student learning.



Why do we have to do it?

- We assess **teaching AND learning** to ensure that we are providing **high quality education**.
- Without documented evidence of assessment, how do we know how well our students are performing for every **course** or **program outcome**?
- How do we know if we are providing the assistance that is actually needed? Talk is not enough. We must have evidence of what really is occurring.

What's the Difference Between a Learning Objective & a Learning Outcome?



Learning Goals, Objectives, Outcomes

- **Learning Goal:**

- A general statement that describes that intended competency and desired knowledge, skills and abilities (KSAs) a student needs to successfully perform after a learning session.

- **Learning Objective:**

- A **specific** statement that describes exactly what a student is intended to know and be able to do after completing a learning session(s).

- **Learning Outcome:**

- An explicit statement that describes the learning that students will have achieved and can demonstrate at the **end of a class or sequence of classes.**

How do we assess teaching and learning?

- Assessment is easier than you think and you do it more often than you realize.



When do we assess teaching and learning?

- When we rephrase instruction and related directions because we realize the students did not understand what we said. (**teaching**)
- When we ask the students what they learned that day or what they had difficulty understanding. (**learning**)



When do we assess teaching and learning?

- When we cover a topic again and/or change how we present certain material because over 60% of the class failed an assignment, project, or test question. (**teaching** & **learning**)
- When we change an assignment, quiz, project, or exam to include questions or activities that will better measure the student's understanding of what they learned. (**teaching** & **learning**)



How do we assess teaching and learning?

- When we collect evidence of student learning,
 - assignments
 - quizzes
 - exams
 - projects
 - focus groups
 - surveys/questionnaires
 - activities



SO . . .

- “Assessment” refers to a variety of processes for gathering, analyzing, and using information about student learning to support instructional decision-making, with **the goal of improving student learning.**
- You already engage in assessment processes all the time, ranging from informal (“hmm, there are many confused faces right now- I should stop for questions”) to formal (“nearly half the class got this quiz question wrong - we will revisit this concept”).

So, assessment is . . .

- The ongoing process of
 - establishing clear, measurable expected **PROGRAM, COURSE & CLASS** level outcomes;
 - ensuring that students have sufficient opportunities to achieve those outcomes;
 - systematically gathering, analyzing and interpreting evidence to determine how well results match expectations;
 - using the resulting information to understand and improve **classes, courses & programs.**



BUT

**IS ASSESSMENT
REALLY IMPORTANT?**

**WHAT IS THE PRIMARY
GOAL OF
ASSESSMENT?**

**THE PRIMARY GOAL OF
ASSESSMENT ABOVE ALL
IS . . .**

**... TO SUPPORT THE
IMPROVEMENT OF BOTH
LEARNING & TEACHING
AT THE COURSE LEVEL.**



THE PURPOSE OF ASSESSMENT IS TO IMPROVE LEARNING. AND TEACHING



What is the purpose of instruction (teaching)?



And who does the learning?

THEY DO . . .



So . . . STUDENT-CENTERED MATTERS

AND . . .



*I teach,
therefore
I learn.*

TO
TEACH
IS TO
LEARN
TWICE
OVER

Teach.

Learn.

Collaborate.

Repeat.

NOW . . .

What about you?





AGREE

DISAGREE



Agree or disagree?

- **The teacher/instructor is the most important person in the classroom.**
- A teacher's/instructor's job is to teach.
- **Learning is a passive activity.**
- **I teach in the way that I was taught.**
- **I like teaching because I like telling people what to do.**
- **I don't like the idea of *learner autonomy*.**



Your answers to these questions are an indication of whether you are a learner-centered teacher.

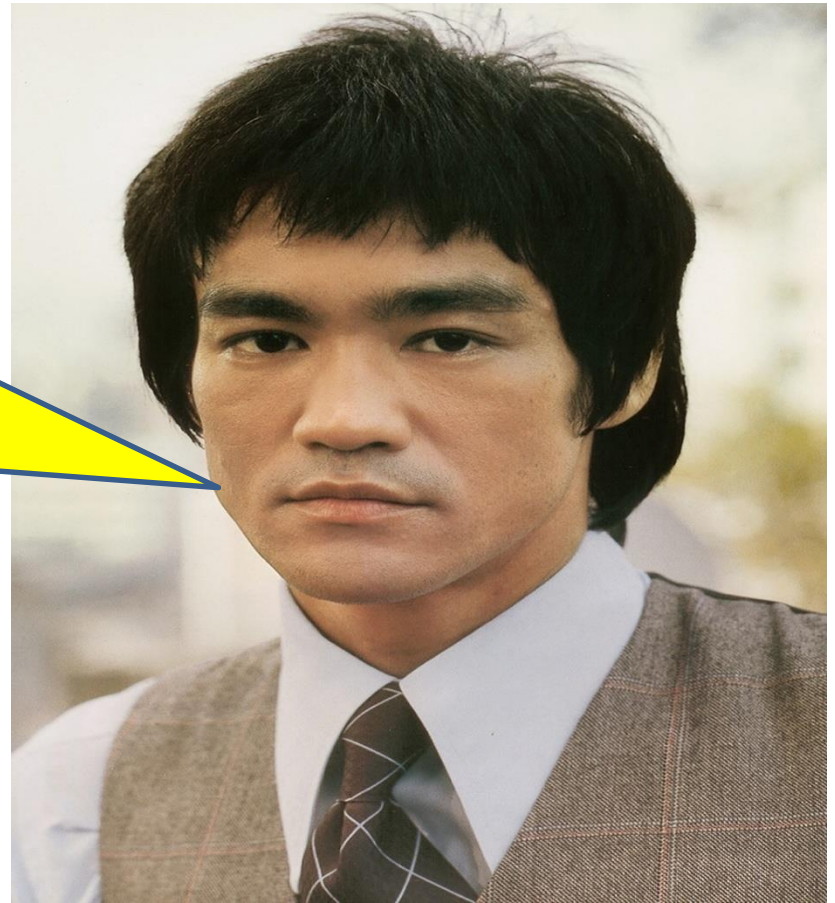
What do we mean by the Learner-centered Classroom?



**BUT WHAT DID BRUCE
LEE HAVE TO SAY ABOUT
THIS?**

A teacher is never a giver of truth; (s)he is a guide, a pointer to the truth that each student must find for him/herself.

**Bruce Lee - Hong Kong American martial artist, Hong Kong action film actor, martial arts instructor, philosopher, filmmaker, and the founder of Jeet Kune Do
1940-1973**



Student-Centred Learning

152

Teacher-centred:

Student-centred:



Low level of **student choice**

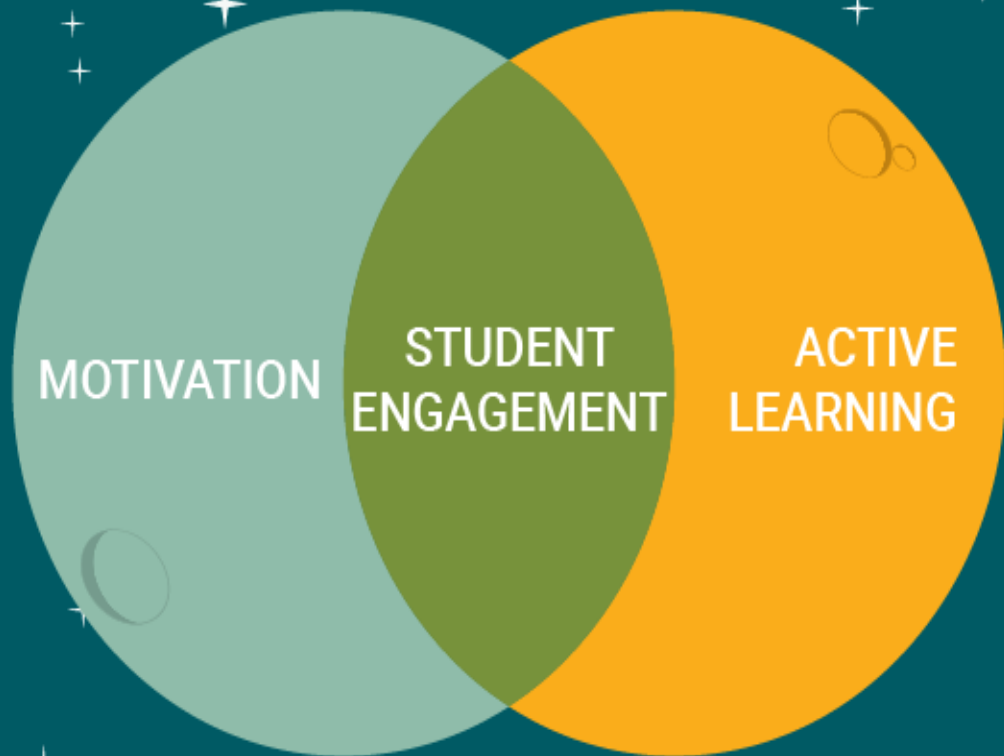
High level of **student choice**

Student passive

Student active

Decisions with teacher

Decisions with the student



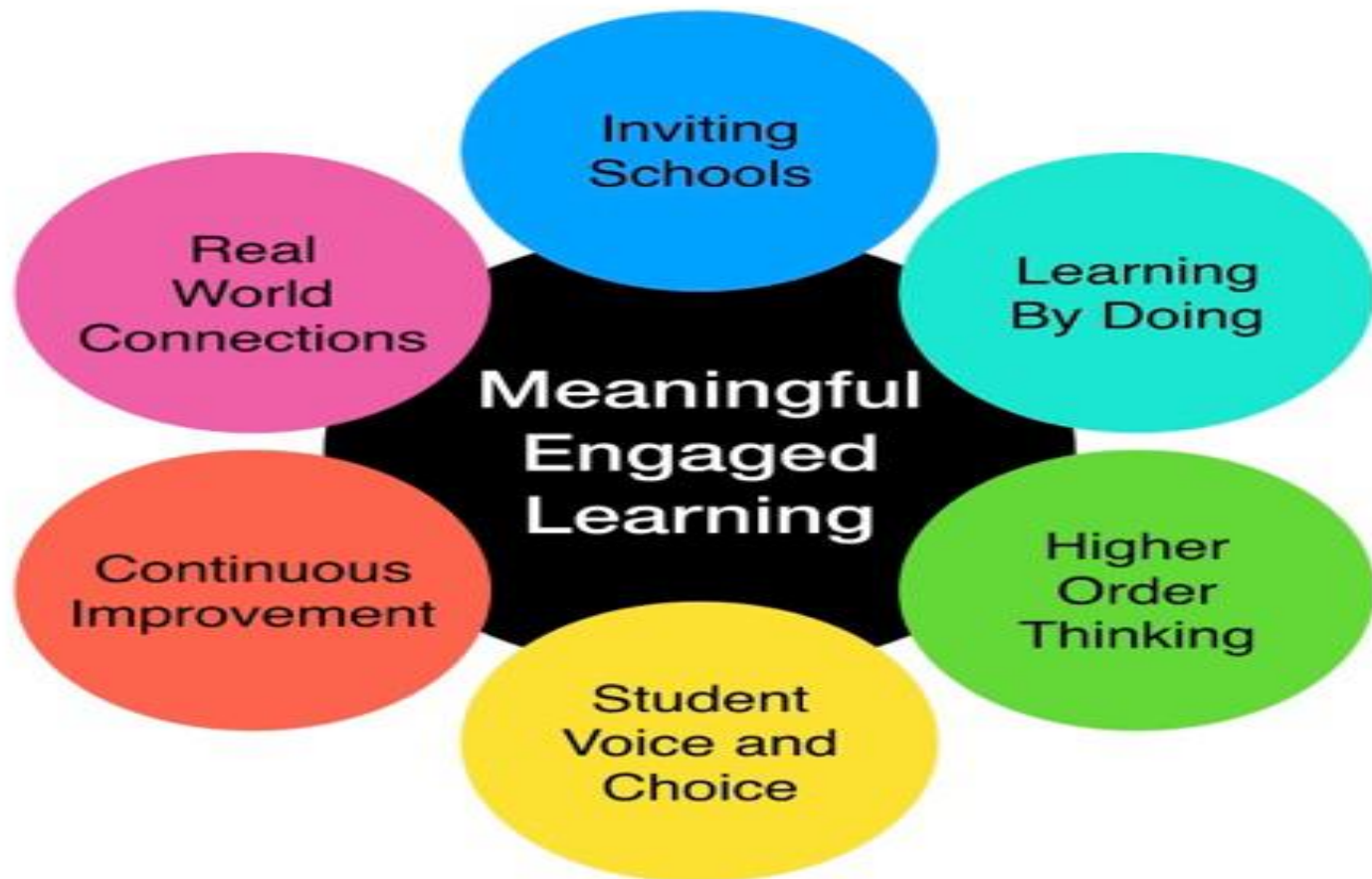
MOTIVATION

STUDENT
ENGAGEMENT

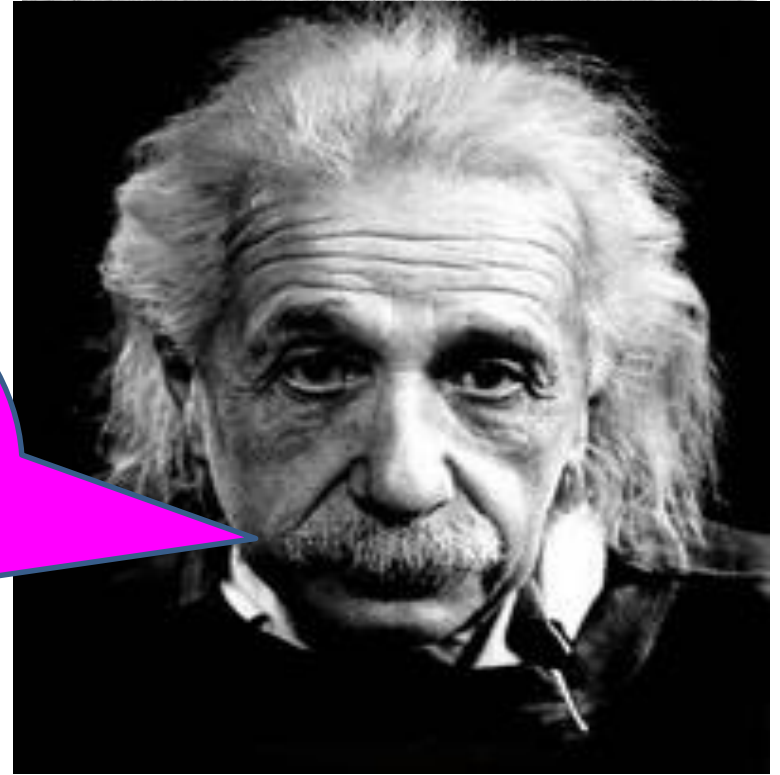
ACTIVE
LEARNING



Focus on 6 High-Impact Strategies



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



Albert Einstein (1879-1955)

THE UPSHOT?

Every truth has four corners: as a teacher I give you one corner, and it is for you to find the other three.



Confucius - 551 BCE – 479 BCE - Chinese teacher, editor, politician, and philosopher of the Spring and Autumn period of Chinese history.

Student-centered learning is important, but sometimes . . .

. . . instructors need to take the primary role in the classroom.

Teacher Practice



Teacher-Centered

Student-Centered

Paradigm Continuum

Now, something very important about Teaching, Learning and Testing

TEACHing

What should I
teach?



**Educational
Literacy**

LEARNing

What should my
students **be able to
do** with what they
learn?

I TAUGHT
STRIPE HOW
TO WHISTLE

TEACHING



I DON'T HEAR
HIM WHISTLING

TESTING



I SAID I TAUGHT
HIM. I DIDN'T SAY
HE LEARNED IT



What ultimately
matters is not
what is *taught*,
but what is
learned.

What matters is not what is *taught*,
but what is *learned*.



DOES TEACHING MEAN LEARNING?

TEACHing



DOES NOT ALWAYS

≠

LEARNing

HOW DO WE KNOW?

if we're making a difference

WITH OUR STUDENTS



BY TESTING
THEM

Tests are essential
components of a
successful
curriculum.

BUT

NEVER

**Create a culture of assessment
instead of a culture of learning**

AND.

**Never,
ever
forget.**

**TESTS ARE SIMPLY TOOLS, I.E.,
INDICATORS THAT LEARNING HAS OR
HAS NOT OCCURED**



Assessment/Testing

Instrument Driven

**National, Institutional, Professional
Norms**

Trend Lines

Collection

How do we compare?

Learning

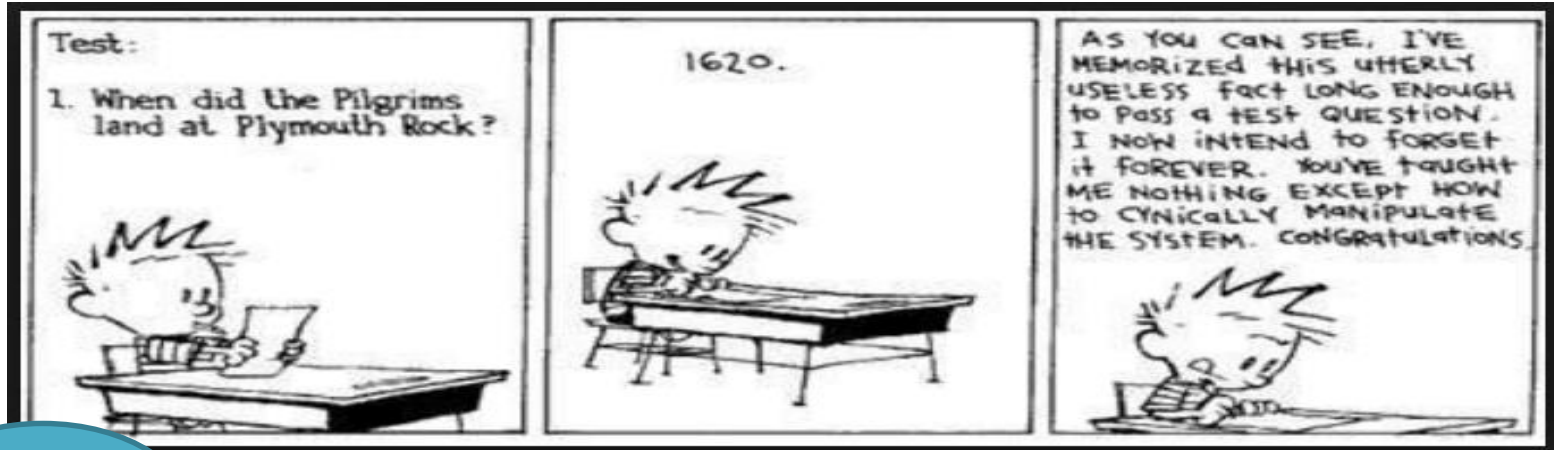
Outcome Driven

Targets & Goals

Relational Data

Analysis

What does it mean?



How can
we address
this?

Exam = The Silent Killer of Learning?

Students study for the exam, not for learning

Often, no
feed-
forward

**TESTS & EXAMS SHOULD
THEMSELVES BE LEARNING
OPPORTUNITIES . . .**

**. . . FOR BOTH STUDENTS AND
INSTRUCTORS.**

**DO YOU THINK THIS
IS LEARNING?**



HOW ABOUT THIS?



AND THIS?



THIS?



**SO, FINALLY, WHAT
IS ASSESSMENT?**

*Assessment is the
engine which
drives student
learning*

(Cowan, 2005)



Assessment

...is the
engine
which drives
student learning

(John Cowan)

**WHAT ARE SOME KEY
BENEFITS OF ASSESSMENT
OF OUR STUDENTS?**

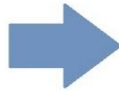
Key benefits of assessment

What is Assessment?

COURSE LEVEL

Assessment is more than grades

Assessment is a mechanism for providing instructors with data for improving their teaching methods and for guiding and motivating students to be actively involved in their own learning.

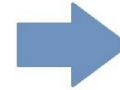


Assessment is feedback for both instructors and students & PROGRAM

Assessment gives feedback to both teachers and students not only at the end of the course, but also *throughout the course*.

It should also assist our students in diagnosing their own learning.

Such feedback can positively influence what our students learn because assessment drives student learning.



Assessment drives student learning.

The assessment method that we use on our students will give them the idea of what is important to learn in the subject. If we use assessment methods that are only factual and knowledge-based, we might be promoting 'superficial learning'. In order to avoid this, we need to set our course goals. These goals are the primary reason why we do assessments.



Assessment Methods -

What Exactly
Are They?



Program Outcomes,
Course Outcomes,
Class Learning Objectives

TOP DOWN

BOTTOM UP

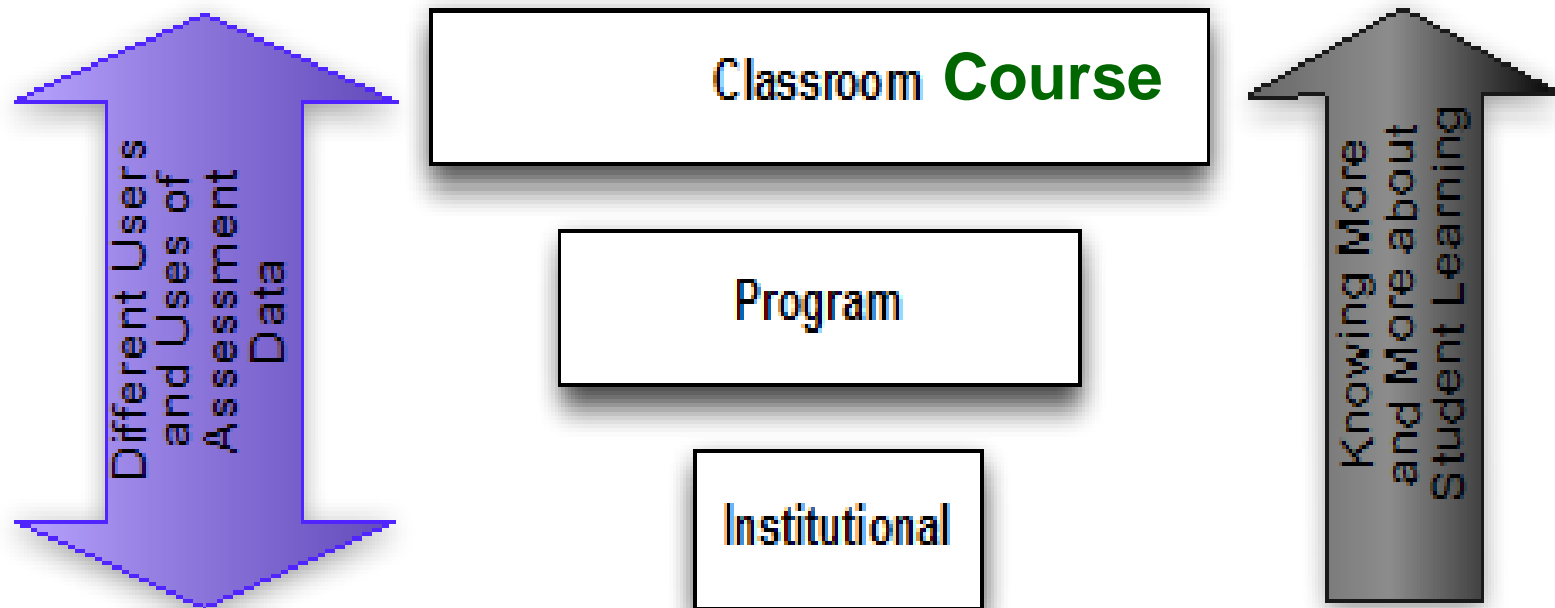
Levels of Analysis

Assessment can be conducted at various levels:

- **Student**
- **Class**
- **Course**
- **Major**
- **Degree**
- **Program**

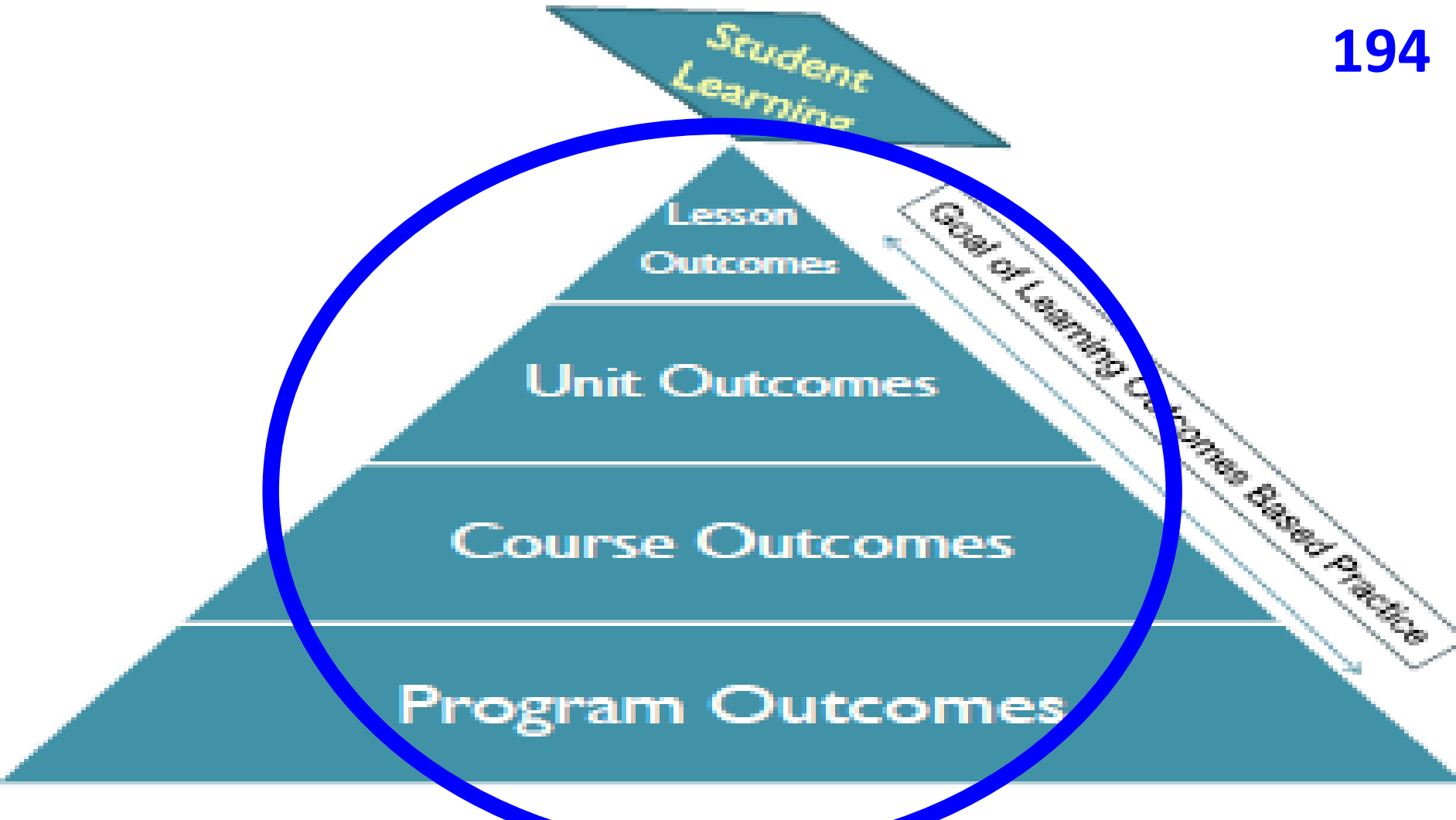


Three Levels of Assessment



Hierarchy of Assessment

- **University (Institutional) Level**
 - Vision/Mission
 - General Education Outcomes
- **Program Level**
 - Annual Update & Five-Year Program Review
 - AUN QA
 - Approval body
 - Accreditation
- **Course Level**
 - Unit/Module, Class



Student Learning

Lesson Outcomes

Unit Outcomes

Course Outcomes

Program Outcomes

Goal of Learning Outcomes Based Practice

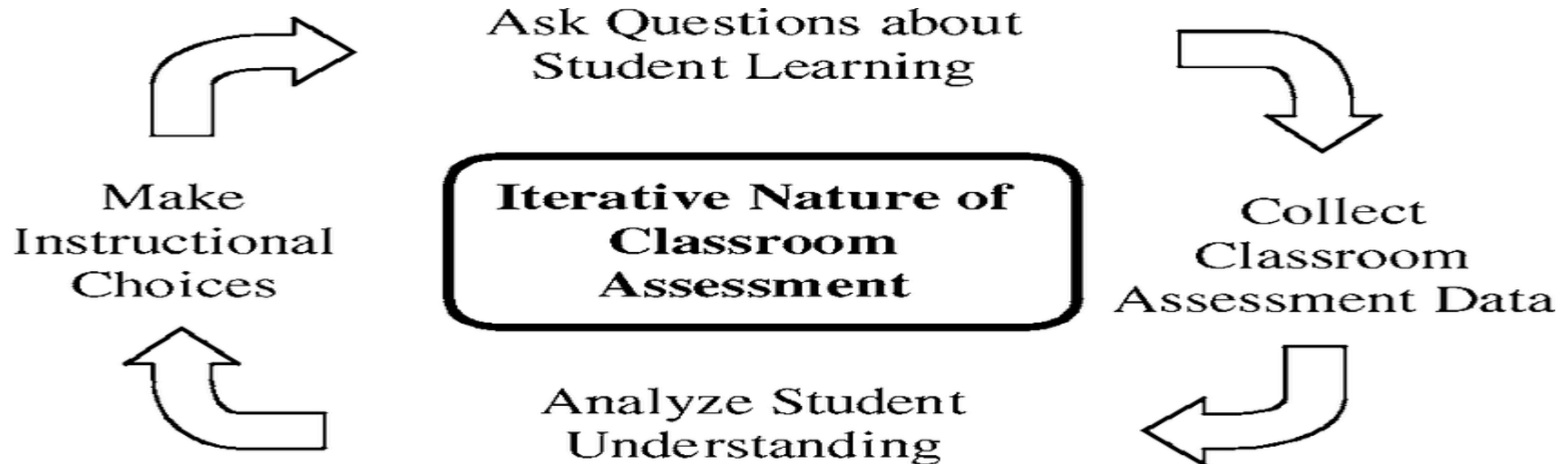
Levels of Assessment – from the bottom up

- **Classroom assessment**
 - Assessment of individual students' performance at the course level by instructors
- **Course assessment**
 - Assessment of how well a course is meeting student learning outcomes
- **Program assessment**
 - Assessment of how well an academic program is meeting student learning outcomes
 - Assessment of how well a support program is meeting its objectives
- **Institutional assessment**
 - Assessment of how well a university is meeting and achieving its **vision & mission**

Levels of Assessment – from the bottom up

- **Classroom assessment**

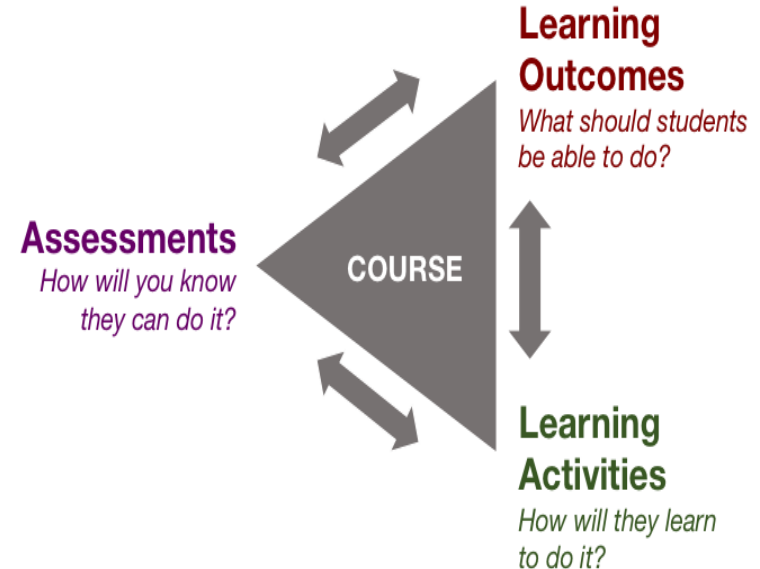
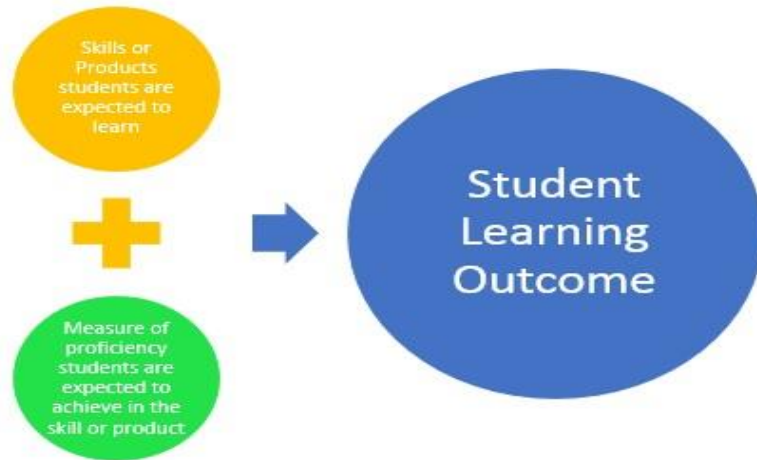
- Assessment of individual students' performance at the course level by instructors.



Levels of Assessment – from the bottom up

- **Course assessment**

- Assessment of how well a course is meeting student learning outcomes



Levels of Assessment – from the bottom up

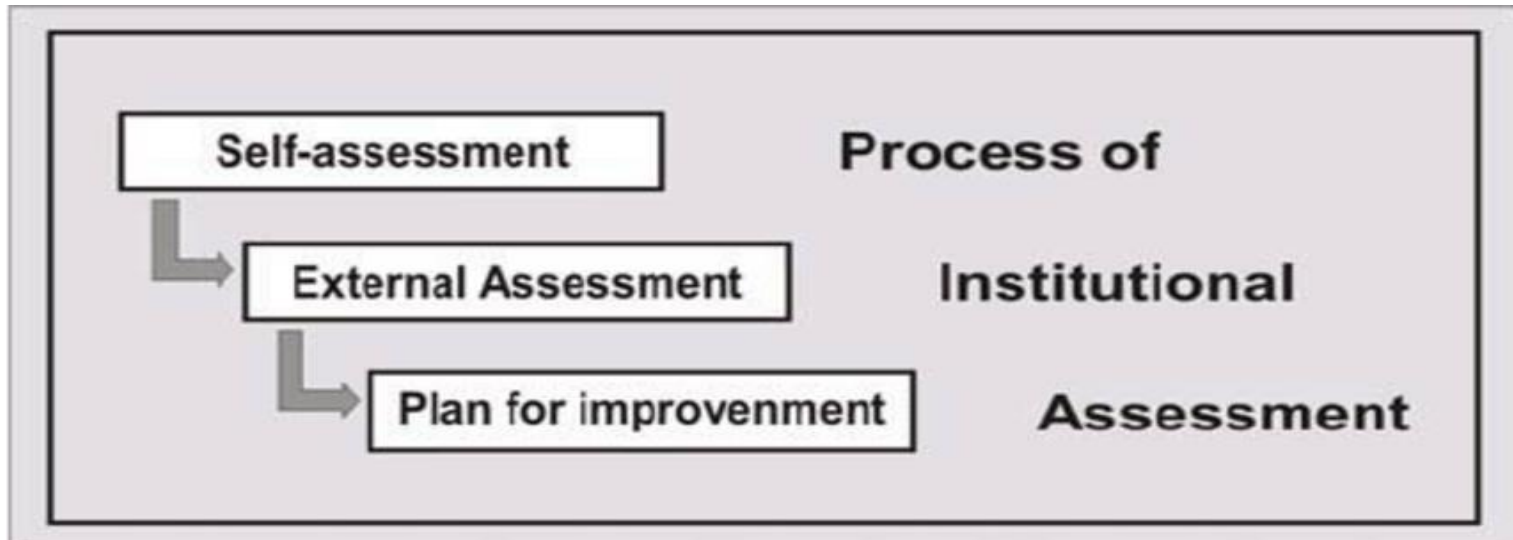
- **Program assessment**

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- Assessment of how well a support program is meeting its objectives

Levels of Assessment – from the bottom up

- **Institutional assessment**

- Assessment of how well a university is meeting and achieving its **vision & mission**





Program Outcomes

- *Broad*
- *Intangible*
- *Assessed across multiple courses at multiple learning levels*

Course Goals

Subset of Program Outcomes

- *Broad*
- *Intangible*
- *Assessed at level appropriate for the course*

Learning Objectives

Align with Course Goal(s)

- *Course specific*
- *Measurable and specific*
- *Assessed within module or unit, align with one or more course goal*

Steps in the Assessment Process

1. **Develop program mission that aligns to the University's Mission.**
2. Identify goals for the **program/courses**.
3. Map the outcomes through the **program/courses**
4. Identify useful and feasible **methods of assesment**.
5. **Tabulate, analyze, and report assessment results.**
6. Use assessment results for **continuous improvement**.

This is the HOW!

- **STEP 1: Plan Assessment**
 - identify **EXACTLY** what you want your students to know and be able to do upon completion of the Institutional (IOs) program (PLOs) and course (SLOs) and how you will show these.
- **STEP 2: Collect Data**
 - identify specific points throughout the course where measures of those outcomes of student learning occur.
- **STEP 3: Analyze and Interpret Results**
 - the faculty who gathered the data in their courses should be the ones analyzing the data
- **STEP 4: Report**
 - summarize the data collected; explain what the data yielded about student learning; indicate what actions were taken as a result of the assessment.
- **STEP 5: Act on Results**
 - identify opportunities to make changes to improve student learning; identify what worked well and how it can be reinforced and/or expanded.

Program Learning Outcomes

203

- Statements of the intended results of the program
 - **Specific, measurable statements** of what graduating students *should know, be able to do, believe, or value*
 - **Derived from the institutional learning outcomes - university's vision/mission statement**
 - Focused on the results of student learning, not on the learning process or on teaching
- **At least one** assessment (i.e., a source of evidence or data) is needed per learning outcome; two or three is better.





* SINCE 1969 *

มหาวิทยาลัยอัสสัมชัญ

Labor Omnia Vincit

Work Conquers All

ASSUMPTION UNIVERSITY OF THAILAND

VISION

- An international community of scholars,
 - Enlivened by Christian inspiration,
 - Engaged in the pursuit of Truth and Knowledge,
 - Serving human society, especially through the creative use of interdisciplinary approaches and cyber technology.

ASSUMPTION UNIVERSITY OF THAILAND

VISION

- Vision 2000 for The Assumption University Graduates
Assumption University of Thailand envisions its graduates as:
 - Healthy and open-minded persons, characterized by personal integrity, an independent mind, and creative thinking,
 - Professionally competent, willing to exercise responsible leadership for economic progress in a just society,
 - Able to communicate effectively with people from other nations and to participate in globalization.

ASSUMPTION UNIVERSITY OF THAILAND

MISSION

- Assumption University exists for the main purpose of serving the nation through generation, dissemination and application of business, scientific, technological and humanistic knowledge through research and interdisciplinary collaborations and partnerships that builds on a strong foundation of strong interdisciplinary scholarship.

ASSUMPTION UNIVERSITY OF THAILAND

MISSION

- Assumption University teaches students **to think critically, objectively and creatively, and to be lifelong learners, leaders and productive ethical citizens; pursues research to advance knowledge, to meet local, national and international challenges in a diverse, interdependent, knowledge based and technologically dynamic society.**

AU Course Specification

AU Identities and Desired Outcomes of Education

- **Ethics**

- Integrity
- Social Consciousness
- Discipline

- **English Proficiency**

- Communicating
- Understanding
- Learning

- **Entrepreneurial Spirit**

- Leadership
- Management knowledge
- Labor Omnia Vincit



What are learning outcomes?

- Learning outcomes are statements of observable and **measurable** student performance which provide the foundation for the assessment of student learning. The statements define what a student will know and be able to do at the end of a **learning activity**, **course**, or **program**.
- The key word above is '**measurable**'. How will you measure (assess) how well a student has learned an outcome? Learning outcomes should start with an action verb. Consider starting an outcome with: write, describe, present, analyze, compare, etc.

Program Outcomes respond to these questions...

- What is the general outcome that is sought?
- What skills or knowledge should show improvement or gains?
- What has changed for, in, or about the **student**, **course**, **program**?



Characteristics of Program Outcomes

- Precise and support only one interpretation
- Describe an observable behavior
- Specify conditions under which that behavior is performed
- Specify criteria for accomplishment



First Step - Program Learning Outcomes

- What knowledge, values, or abilities should all students in the program have when they graduate?
- When students walk across the stage, what unites them as AU program X graduates?
- What do they have that they didn't before?
- What makes the program distinctive?

Program Outcomes are used for . . .

- evaluating student learning (in the aggregate),
- identifying curricular improvements,
- faculty alignment, communication, collaboration,
- collecting evidence of student success,
- recruitment.

Program vs. Course Learning Outcomes

- Program learning outcomes (PLOs) = **What all students in a program should achieve (know and be able to do), at a minimum, by the time they graduate.**
- Course learning outcomes (CLOs) = **What students will learn in each course.**
- **Course learning outcomes will align with the PLOs.**

Course Level Assessment Different from Program Level Assessment?

Course-Level Assessment

- Assesses student learning outcomes both during (**formative**) and at the end of a **course** (**summative**)
- Assigns grades to individual students at the end of the course
- Grading typically involves only one faculty member who is teaching the course

Program-Level Assessment

- Assesses student learning outcomes at the end of **the program**
- Evaluates aggregate student artifacts for purposes of program improvement - student videos, examination, project, practicum results, etc.
- Evaluation involves faculty teams across the program/ discipline

Learning Outcomes are **NOT** . . .

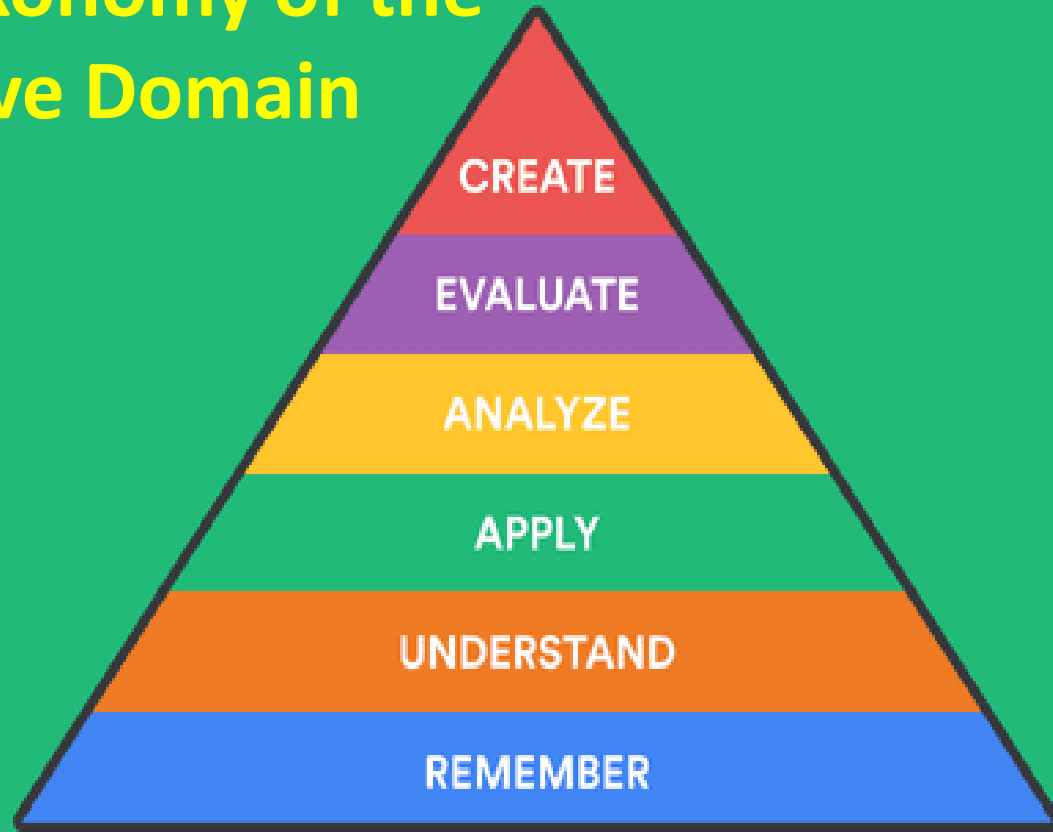
- descriptions of learning activities;
- descriptions of curriculum content;
- descriptions of the program;
- **Do not:** Confuse learning processes (e.g. completing an internship or an assignment) with learning outcomes (what is learned in the internship i.e. application of theory to real world practice).

Types of PLOs

Three types of Program Learning Outcomes, which reflect different aspects of student learning:

1. **Cognitive outcomes:** What do you want your graduates to know?
2. **Behavioral outcomes:** What do you want your graduates to be able to do?
3. **Affective outcomes:** What do you want your graduates to think or care about?

Bloom's Taxonomy of the Cognitive Domain



Bloom's Affective Taxonomy



BLOOMS' TAXONOMY



Naturalisation

Articulation

Precision

Manipulation

Imitation

Psychomotor Domain



Quality over Quantity

- Learning outcomes should be both comprehensive and concise. There is no *right* number. It depends on the Program. (recommend 3 to 7)
- Remember, you want students to use the learning outcomes **to guide their work throughout the program and to independently assess personal progress.**
- **Use course learning outcomes to unpack each program learning outcome into more specific and detailed skills.**

Common problems with PLOs

- Outcomes are vague or unmeasurable
 - “Students will become leaders in the field”
- Outcomes are inauthentic
 - Key components are missing
- Outcome statements are too long
 - Some are paragraphs

Common problems with PLOs

- Outcomes have sub-outcomes
 - E.g. one statement with four sub-statements that operationalize the core statement and could be considered the first step of a rubric
- Outcome statements are completion of tasks/assignments rather than learning outcomes
 - “Will complete an internship” or “Will complete a master's thesis”

How to approach PLO creation . . .

Specific

- Is the outcome narrow enough to be accomplished through the program?
- Does it focus on a single competency?

Demonstrable/Operational

- How will students demonstrate their learning?

Measurable

- How will you measure whether students achieve the outcome?

Understandable

- Are students able to understand what you want them to achieve?

Aligned with the field

- Is the outcome something that a graduate in your field would be expected to do?

Learning Outcomes: Guiding Questions

- To help identify your program's learning outcomes, consider the following questions:
 - What kinds of information does an ideal graduate from your program *know*?
 - What can s/he *do with that information*?
 - What does s/he *value or care about*?
 - What kinds of job skills does s/he take into the workforce and the community?

Learning Outcomes: Pitfalls to Avoid

- Combining two or more ideas into one outcome
- Describing an outcome that is not measurable
 - Too vague
 - Too broad or inclusive
- Writing for a specialist audience rather than a general audience
- Titling the outcome without defining it *in layman's*

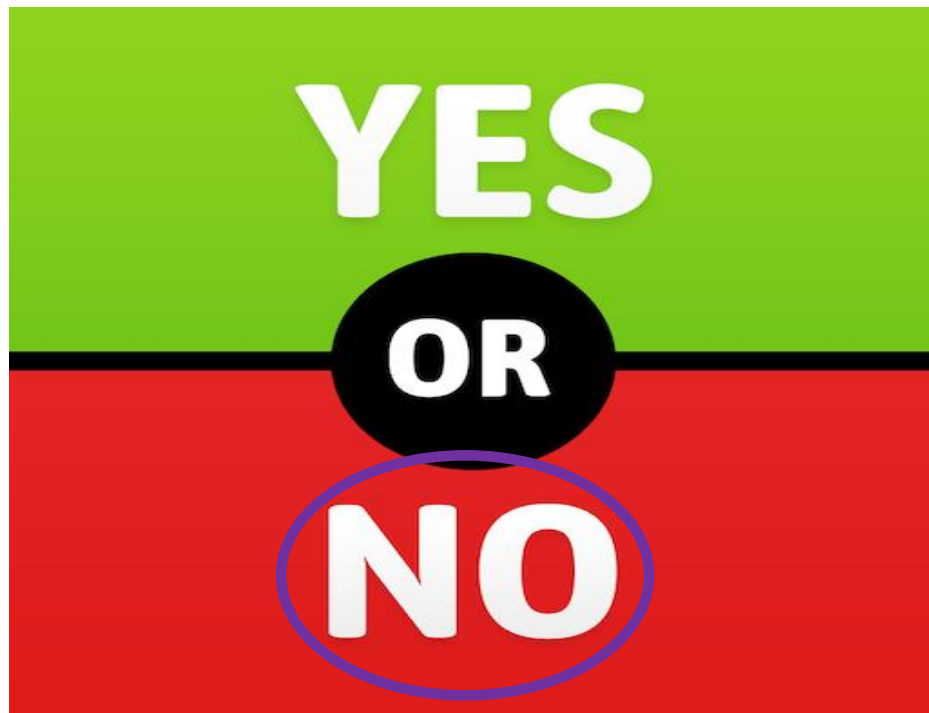
Learning outcomes: Helpful hints

- Learning Domains: Cognitive, Behavioral, and Affective
- Avoid vague terms like: understand, appreciate, be aware of, communicate, think critically – **WHY?**
- Be careful with using “value added” terms like increase, better, more - **WHY?**
- Test your outcomes- Once you create a learning outcome statement, think of examples of 2-3 assignments that would allow you to collect data to assess students’ progress toward its achievement

Is this a strong learning outcome?

- Students understand and appreciate the scientific method.

**WHY
NOT?**



Is this a strong learning outcome?

- Students can describe the essential elements of various leadership models and evaluate the merits and shortcomings of each.

WHY ?



Is this a strong learning outcome?

- Students do 40 hours of service at a tutoring organization.

**WHY
NOT?**



Is this a strong learning outcome?

- Students can develop and implement a survey tool as part of a research project.

WHY ?



Is this a strong learning outcome?

- Students construct a model of a structure that accounts for environmental factors and cultural needs of the host community.

WHY ?



Course Outcomes, Specific Learning Objectives

Learning Goals and Learning Objectives

Similarities

- ✓ Describe intended outcome
- ✓ Used to design course
- ✓ Provide direction for course instruction
- ✓ Establish foundation for assessment

Differences

- ✓ level of specificity
- ✓ time frame
- ✓ measurability
- ✓ observability

Assessment Cycle

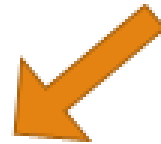
5) Interpret results, identify and implement revisions to pedagogy, curriculum, programs, criteria or outcomes



1) Design Assessment goals, outcomes, evidence, criteria, and standards (i.e. rubrics)



2) Publicly share outcomes, criteria, and standards



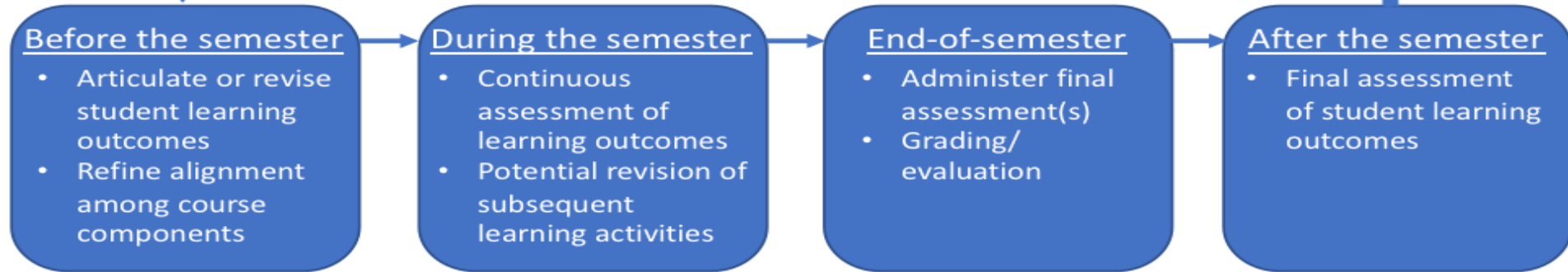
3) Provide intentional learning experiences



4) Collect, review, and analyze evidence of student learning



Course Assessment Cycle



The course assessment cycle, illustrated above, helps you identify areas in which students excel in the current course design, and others in which they may struggle. This allows you to reallocate time from easier skills or topics to more challenging ones, and to design activities that guide and support students' learning where they need it most.

How to Use Learning Outcomes to Align Course Components

- Alignment, where all components work together to bolster specific student learning outcomes, occurs at multiple levels.
- At the **course level**, assignments or activities within the course are aligned with the class or unit-level learning outcomes, which in turn are aligned with the course-level objectives.
- At the next level, the learning outcomes of each course in a curriculum contribute directly and strategically to **program learning outcomes**.

Alignment Within the Course

- Since learning outcomes are statements about key learning takeaways, they can be used to focus the assignments, activities, and content of the course. In a constructively aligned system, all components... support each other, so the learner is enveloped within a supportive learning system.

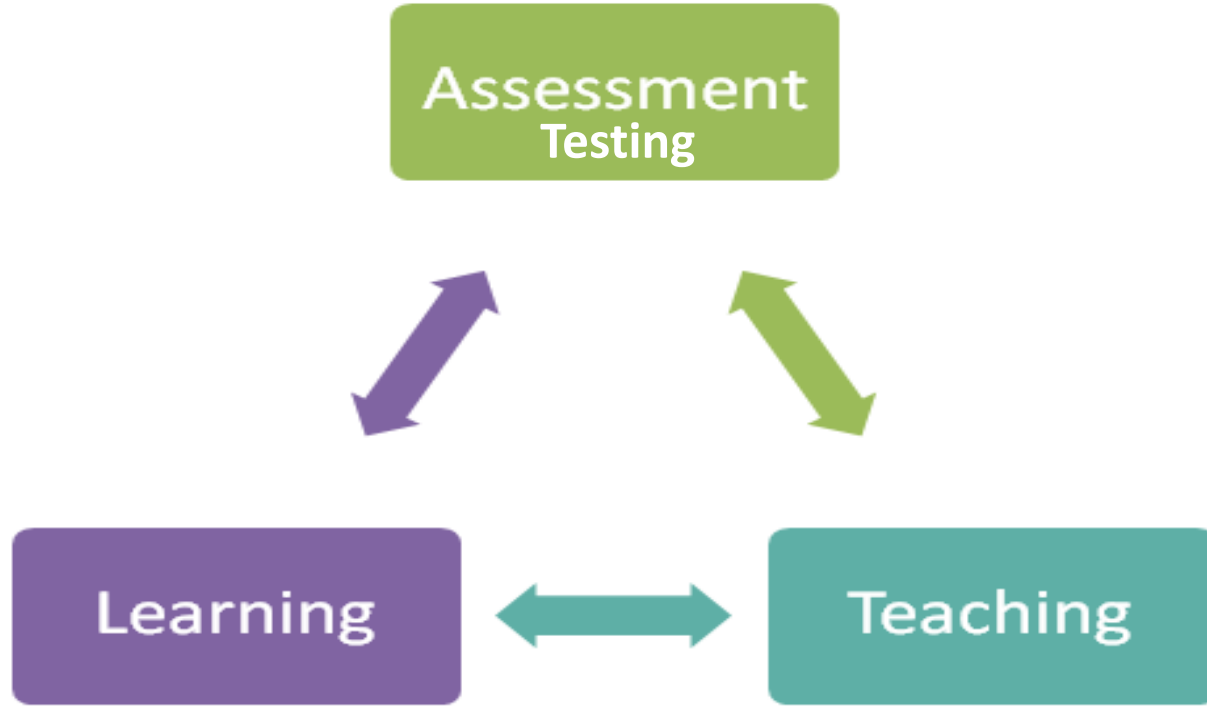


A VERY IMPORTANT CONCEPT

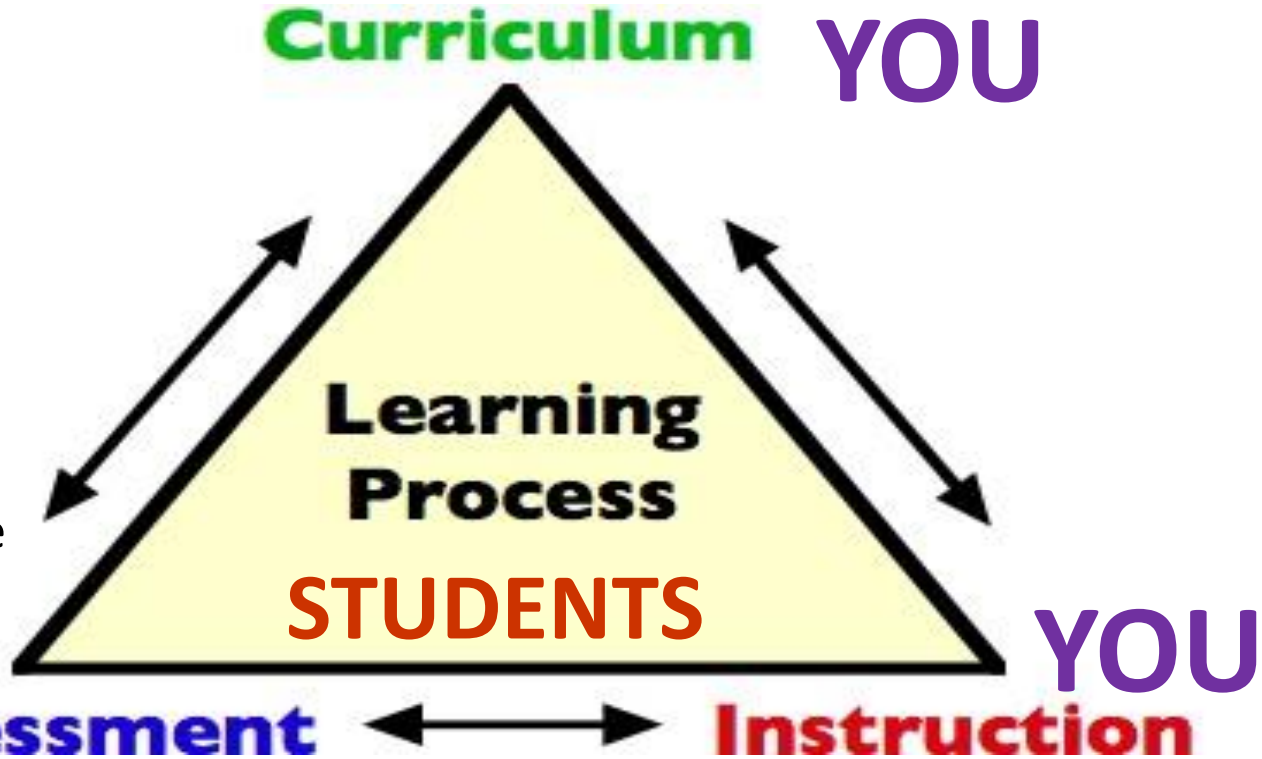
Instructional Alignment

What is Instructional Alignment?

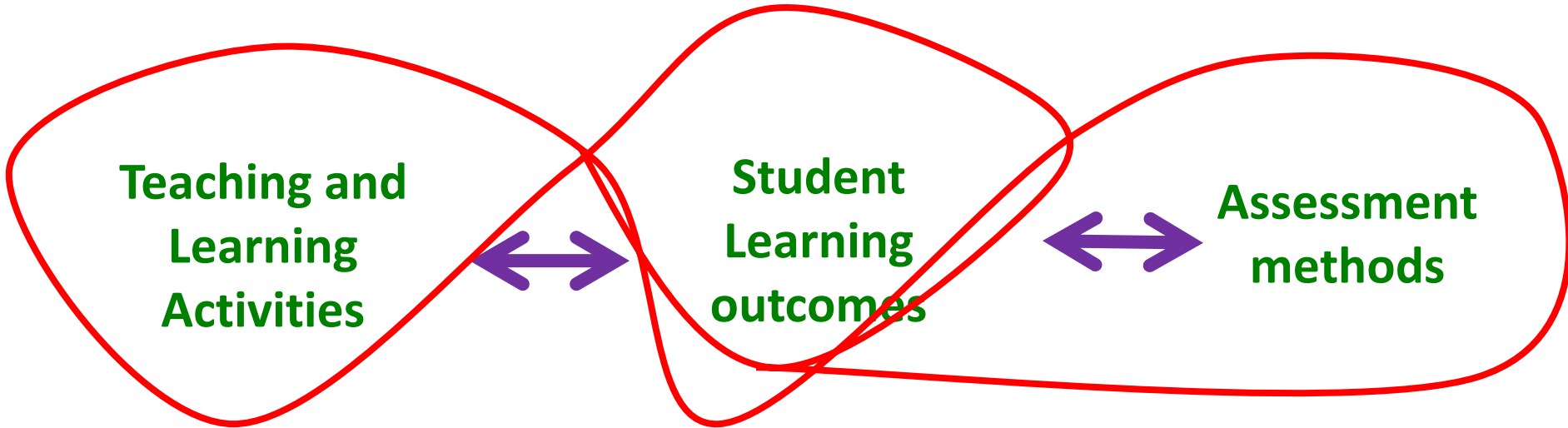
INSTRUCTIONAL ALIGNMENT



Instructional alignment is the process of ensuring that **what you teach**, **how you teach**, **what you assess**, **how you assess** are aligned.



Planning aligned assignments/assessment methods



Learning outcomes, learning activities and assessments are tightly linked.

3 questions to ask when preparing for a course

- Where are **we** going?



Course Goals & specific learning Objectives

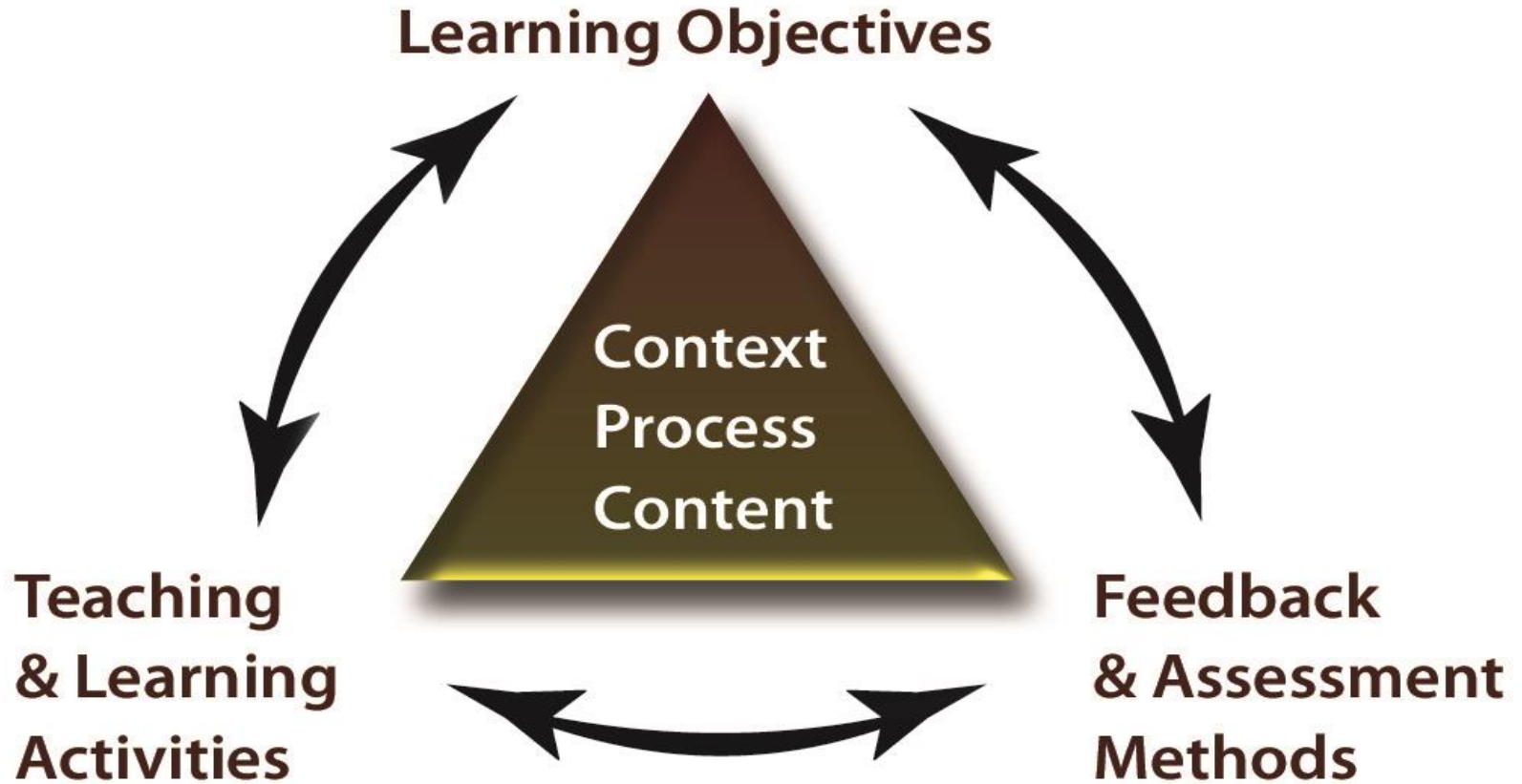
- How will **we** know when **we** have arrived?



- How will **we** get there?

Learning Activities

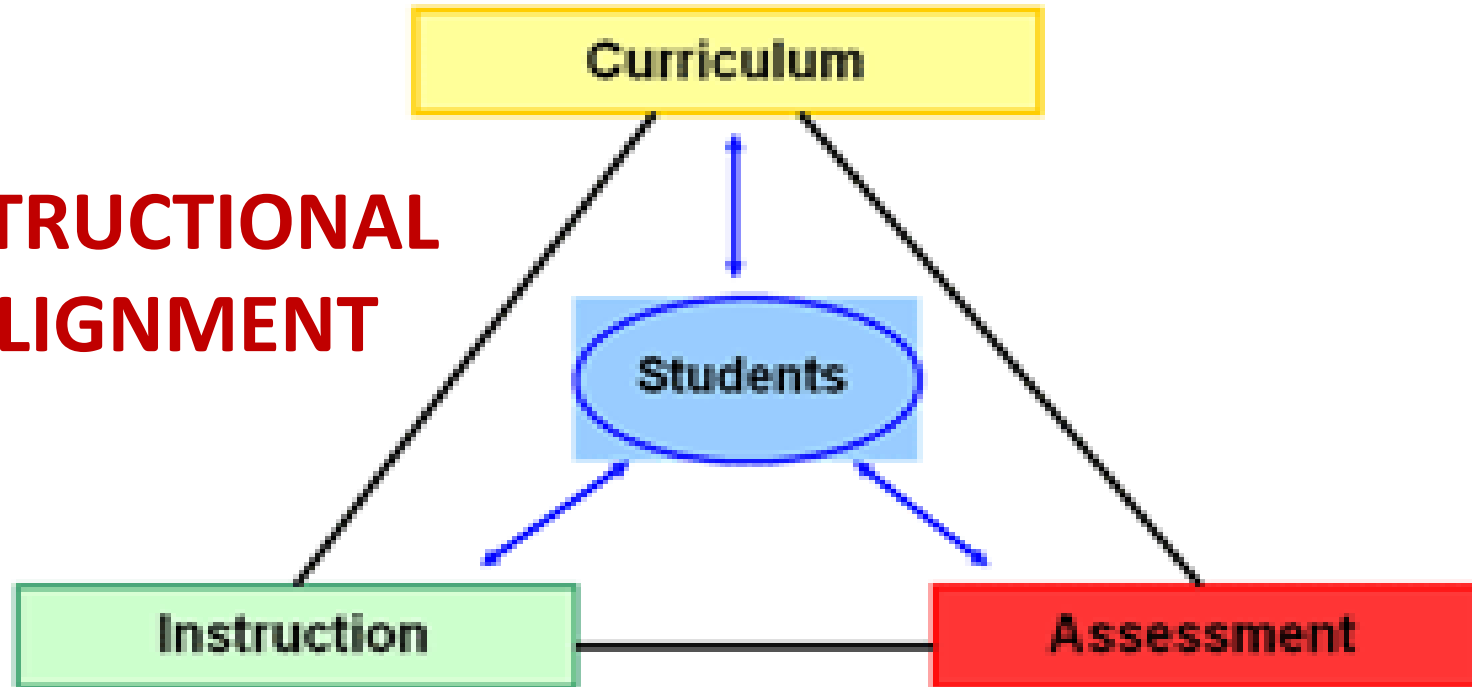
Testing / Assessment



What should students know and to be able to do?
What should students learn?
What should students be taught?

247

INSTRUCTIONAL ALIGNMENT



What are students being taught?
How are students being taught?

What have students learned?
What haven't students learned?

Curriculum

The what and how of instruction must align with what is essential to learn.

What is assessed must align with what is essential to learn.

Students

The system should align with student needs, ways of knowing/doing, etc.

Instruction

Assessment

The what and how of assessment must align with the what and how of instruction.

**I just showed you several examples
of the concept –**

INSTRUCTIONAL ALIGNMENT

Why did I do that?

**Because we should teach by giving
multiple
examples of important concepts.**

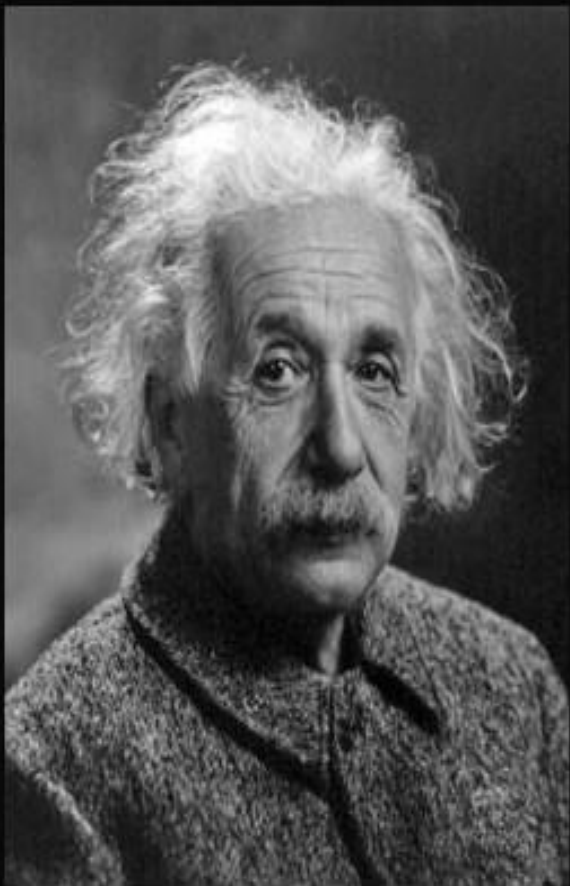
WHY?

BECAUSE . . .

251

Example isn't another way to teach, it is the
only way to teach.

(Albert Einstein)



Sample Class Level Learning Outcomes – By the end of this class, students will be able to . . .

- Design and develop a research project from inception to presentation of the results.
- Demonstrate knowledge of quantitative and qualitative research methodologies.
- Use SPSS to analyze research data.
- Apply the scientific method to define and solve problems.

Define Performance Expectations

- Acceptable levels of performance need to be established.

Examples:

80% of students pass with a score of 8 or higher on a 10-point rubric.

85% of students are satisfied or very satisfied.

- Expectations should be both **ambitious and attainable**.
- **Unreached goals often provide direction for program change and renewal.**

Questions to consider in planning strategic change

- How well are students currently performing, and what are they poor at?
- What do students currently do with their time out of class and do they spend enough time which is distributed evenly enough learning?
- **How is students learning behaviour influenced by the current assessment methods and tasks?**
- How else might students gain useful feedback quickly enough to be useful?
- How might students' learning time be captured in sufficient quantity and with an appropriate distribution across the course, without increasing instructor effort?
- What learning benefits might accrue from students doing some of the assessment for themselves and/or each other that instructors currently do for them?

Assessment patterns that work and implications for course/program design

- Do your assessments currently enable you to assess and give feedback on students' mastery of important skills and behaviours/ attitudes, as well as their knowledge?
- Does this range of assessment methods enable all students to demonstrate their ability to achieve the learning outcomes?
- Are there an appropriate number and range of assessment methods at each level?

Assessment patterns that work and implications for course/program design

- Are assessments spread throughout the year to enable students to monitor their study strategies and to learn from and feed forward your feedback?
- Are summative assessments positioned to capture the students' final integrated learning?
- Do you explain to students what is expected of them for each assessment and how to use feedback to guide their learning?

Consider Two stage exams

Stage 1: Individual, between $\frac{2}{3}$ and $\frac{3}{4}$ of the examination time; a standard formal examination that students complete working alone.

Stage 2: After students turn in their individual exams, small groups solve similar or identical problems during the remainder of the examination time.



What are the qualities of good assessment?

ALWAYS deliver high quality feedback information that helps learners self-correct.

ABOUT

FEEDBACK

A row of eight hands of various skin tones holding up large, colorful letters that spell out the word 'FEEDBACK'. The letters are: F (blue), E (orange), E (pink), D (yellow), B (blue), A (red), C (red), and K (pink). The hands are positioned below the letters, with some holding one letter and others holding two.

Rule #1

Do No Harm



Feedback Creed



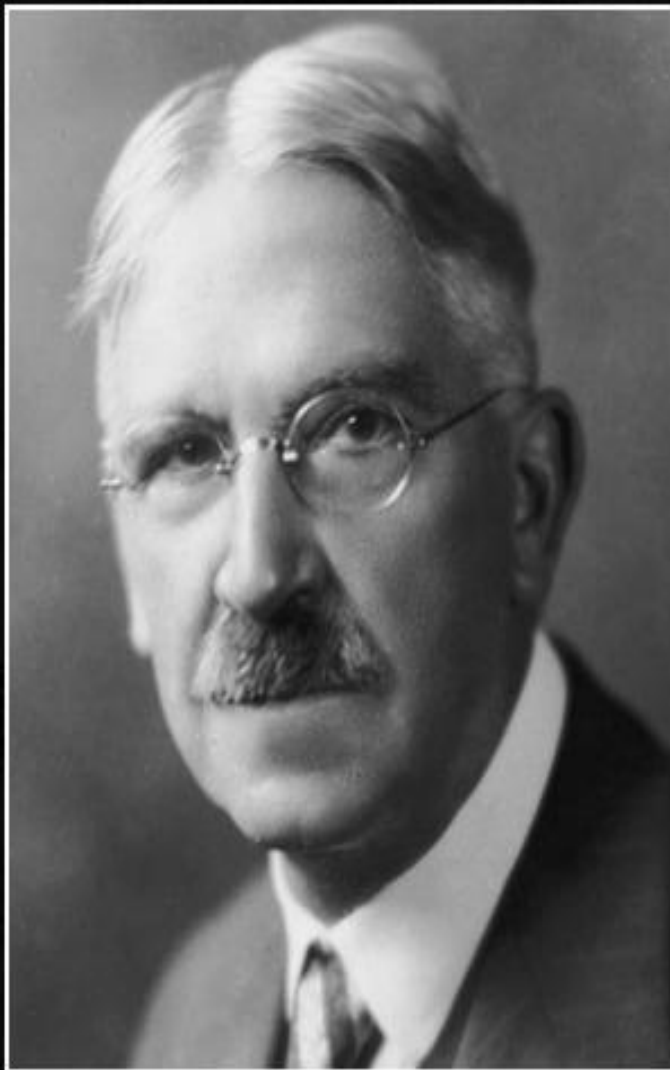
***Do nothing to
diminish hope.***



This was good,
but

We all know what
it feels like getting
feedback that
begins with
something
positive,

Facilitate the development of self-assessment and reflection in learning.



We do not learn from
experience...we learn from reflecting
on experience.

— *John Dewey* —

AZ QUOTES



Learning is a process where
knowledge is presented to us, then
shaped through understanding,
discussion and reflection.

— Paulo Freire —

AZ QUOTES

**ENCOURAGE REFLECTIVE
THINKING**

FOR YOURSELF

What am I teaching?

How will I teach it?

Who am I teaching?



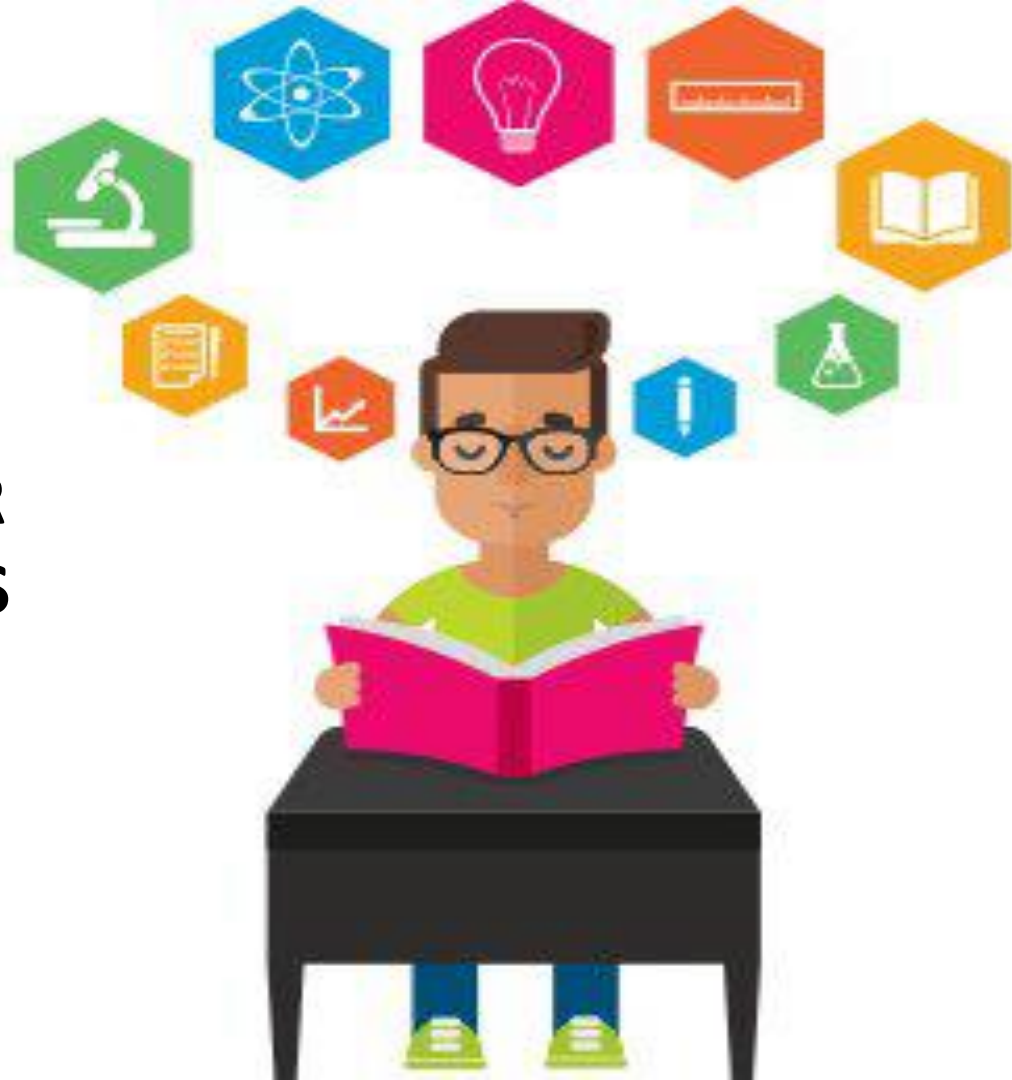
How will I know if the students understand?

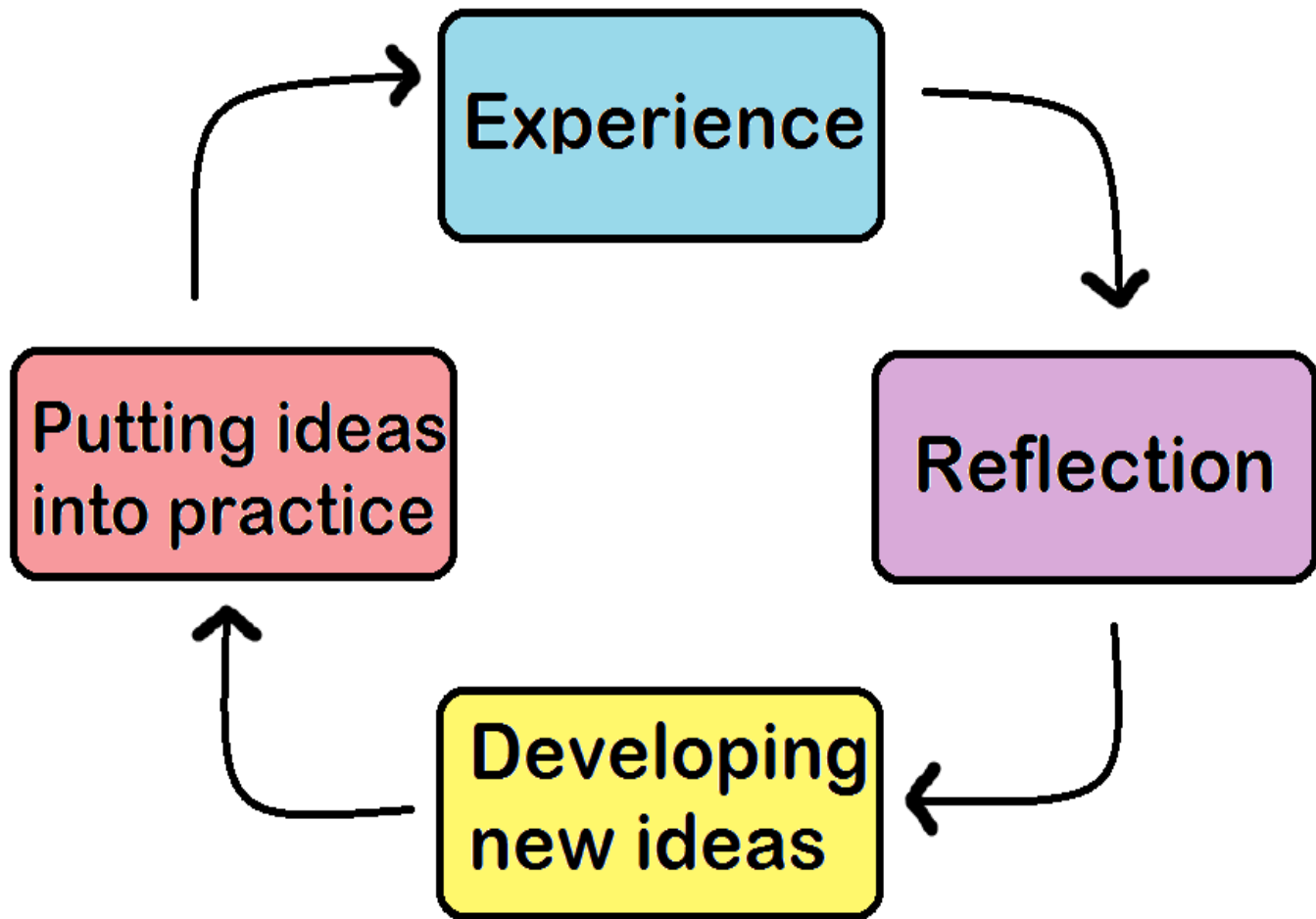


The more
reflective
you are,

the more
effective
you are

**FOR YOUR
STUDENTS**





Goal Setting

"Capture the Moment"

before

planning

during

doing

Reflection Cycle

after

reflecting

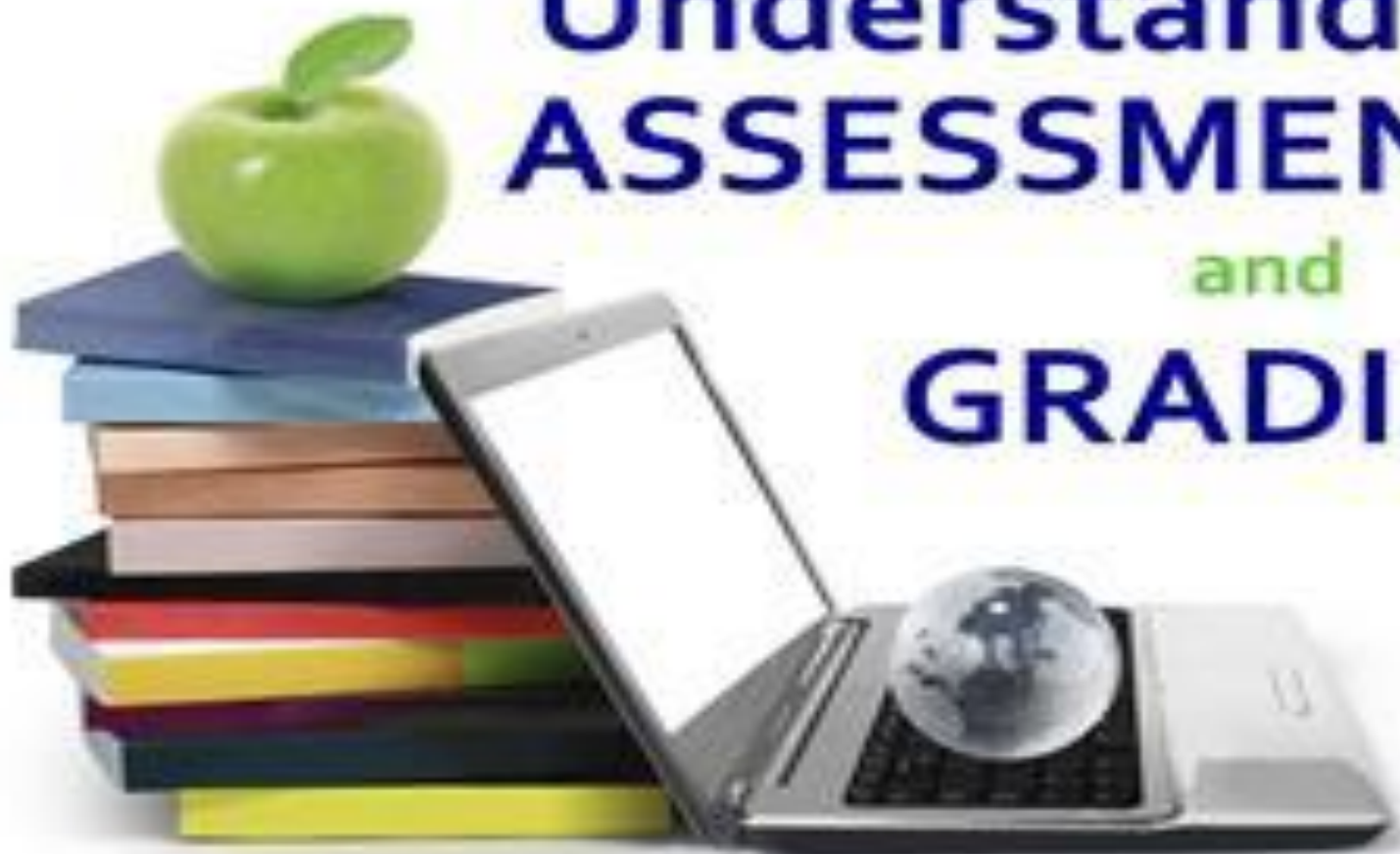
"Now What?"

"So What?"

"What?"

Metacognition: Change over Time

Understanding ASSESSMENTS and GRADING



Assessment vs. Grading

- **continuous process**
- **provides feedback to improve student achievement**
- **may be *formative* or *summative***
- **provides a means of collecting evidence of student mastery of the content standards**
- **provides a photo album of student progress through which we can observe a student's growth**

1

- **a means of assigning numerical or alphabetical grade to a student's work**
- **may be *formative* or *summative***
- **often represented as an average**
- **may not represent an adequate picture of a student's growth or progress toward the learning goals**

Differentiating Grading from Assessment

- “**Assessment**” is sometimes used to mean “**grading,**” but there are distinctions between the two.
- Grading is a process of evaluating individual student learning for the purposes of characterizing that student’s level of success at a particular task (or the entire course).

Differentiating Grading from Assessment

- Differentiating assessment from grading allows instructors to plot a clear course forward toward making the changes that will have the greatest impact in the areas they define as being most important, based on the results of the assessment.

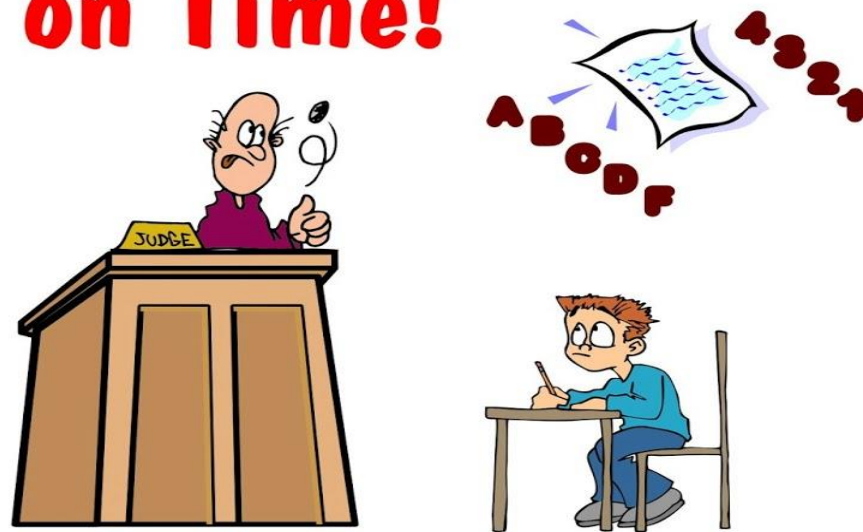


Assessment & Evaluation

Check & Coach to Excellence!



Check & Grade on Time!



The Purpose of...

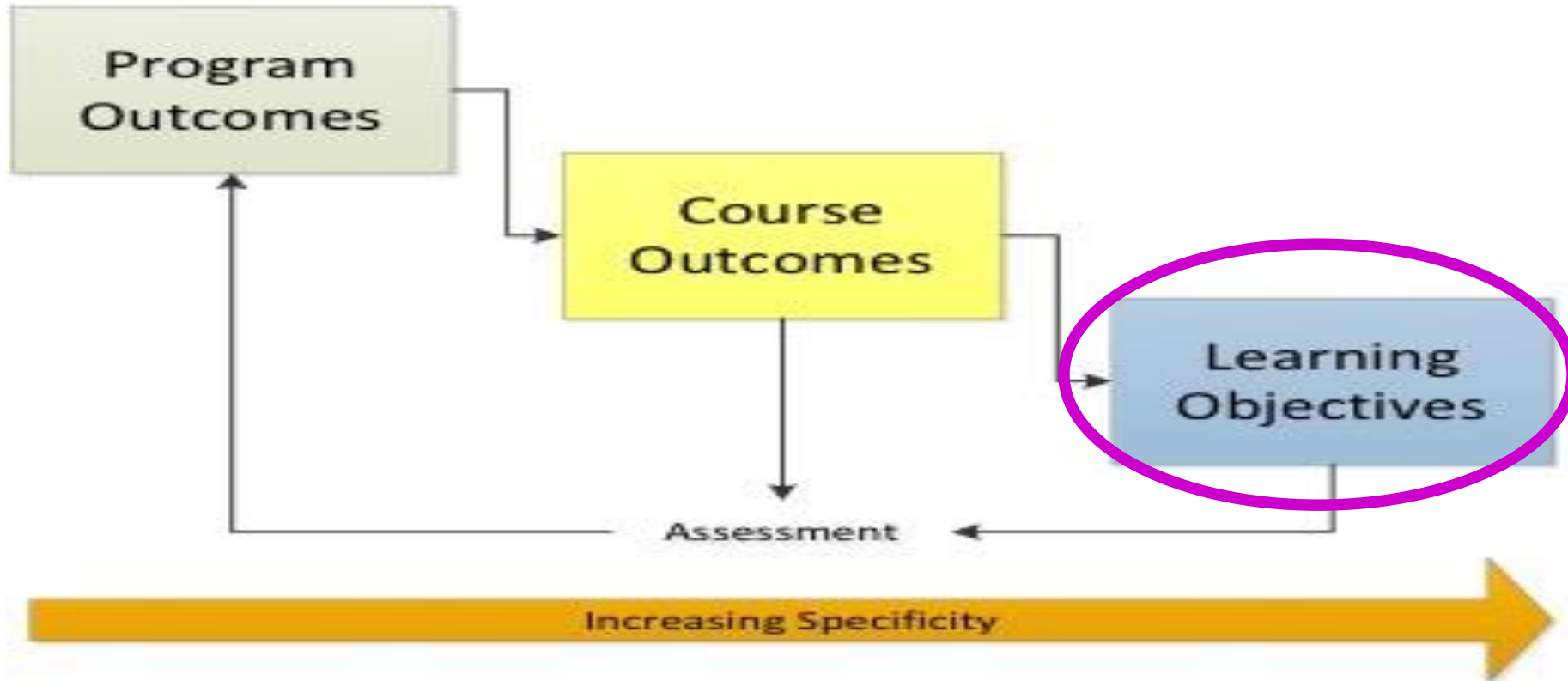
assessment
is to
INCREASE
quality.



evaluation
is to **JUDGE**
quality.



Create Course Outcomes and Specific Learning Objectives



Types of Assessment

- **Formative assessment**

- On-going, takes place during the course of instruction ,evaluates students in the process of “forming” their competencies and skills with the goal of helping them to continue the growth process.

Summative assessment

- Terminal, takes place at the end of the course of instruction, aims to measure, or summarize, what a student has grasped, and typically occurs at the end of a course or unit of instruction.

**FORMATIVE
ONGOING
ASSESSMENT**

**SUMMATIVE
ASSESSMENT**

Self Assessment

Peer Assessment

Portfolios

Rubrics

Standardized tests

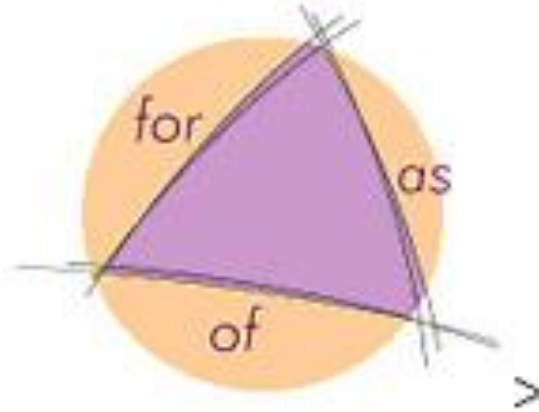
Exhibitions

Assessment FOR, AS, and OF Learning

Assessment FOR learning

occurs when teachers use inferences about student progress to inform their teaching.

Formative
(during learning)



Assessment AS learning

occurs when students reflect on and monitor their progress to inform their future learning goals.

Student Self-Assessment
(during & after learning)

Assessment OF learning
occurs when teachers use evidence of student learning to make judgements on student achievement against goals and standards.

Summative
(after learning)

Assessment for Learning

- enables teachers to use information about students' knowledge, understanding and skills to inform their teaching
- teachers provide feedback to students about their learning and how to improve

Assessment as Learning

- involves students in the learning process where they monitor their own progress, ask questions and practise skills
- students use self-assessment and teacher feedback to reflect on their learning, consolidate their understanding and work towards learning goals

Assessment of Learning

- assists teachers to use evidence of student learning to assess student achievement against learning goals and standards

Assessment for, of and as learning

- Assessment **for** learning
 - any assessment for which the first priority in its design and practice is to serve the purpose of promoting students' learning.
- Assessment **as** learning
 - provides information to be used as feedback by instructors and by students in assessing themselves and each other in order to modify the teaching and learning activities in which they are engaged.
- Assessment **of** learning
 - serves the purposes of accountability or of ranking or of certifying competence.

Assessment of & for Learning

OF LEARNING

Summative

- occurs **after** the learning
- to **prove** learning
- **measures** learning
- **done to** learners
- **widens** the ability range
- **externally** referenced
- **outcome** focused

I DON'T WANT TO GO TO
SCHOOL! I HATE SCHOOL!
I'D RATHER DO ANYTHING
THAN GO TO SCHOOL!



FOR LEARNING

Formative

- occurs **during** the learning
- to **improve** learning
- **grows** learning
- **done with** learners
- **narrows** the ability range
- **personally** referenced
- **process** focused

BENEFITS OF ASSESSMENT FOR LEARNING



**MOTIVATE
UNMOTIVATED
STUDENTS**



**RESTORE
STUDENTS DESIRE
TO LEARN**



**ENCOURAGE
STUDENTS TO
KEEP LEARNING**



**CREATE
INCREASED
ACHIEVEMENT**



Balanced Assessment



Formative

Formal and informal processes Instructor's and students use to gather evidence to directly **improve the learning** of students assessed

Assessment *for* learning

Use assessments to help students assess and adjust their own learning – self-assessment

Assessment *for* learning

Use classroom assessments to inform Instructor's decisions

Summative

Provides evidence of achievement to certify student competence or program effectiveness

Assessment OF Learning

Formative uses of summative data

Use of summative evidence to inform what comes next for individuals or groups of students

Formative Assessment Decisions

■ Positive Washback

- **Instructors** make decisions about:
 - changing their teaching (materials, activities).
 - presenting, revising, contextualizing, and scaffolding new material;
 - placing learners into appropriate groups or levels;
 - guiding their students' learning;
 - challenging and motivating their students to learn.
- **Learners** make decisions about making changes:
 - in their approaches to or strategies of learning;
 - in the particular areas on which they may need or want to place greater emphasis.

Summative Assessment

Usually given at the end of instruction to assess mastery of learning objectives.

Types:
Exams
Presentations
Creation of a product
Portfolio
Group project

Formative Assessment

Given frequently throughout the course to evaluate progress.
*Feedback must be given to be effective.

Types:
Learning logs/HW/activities
Discussions
Reflection
Group presentation
Practice quizzes

Formative

Summative

When?

Before or during
instruction

End of instruction

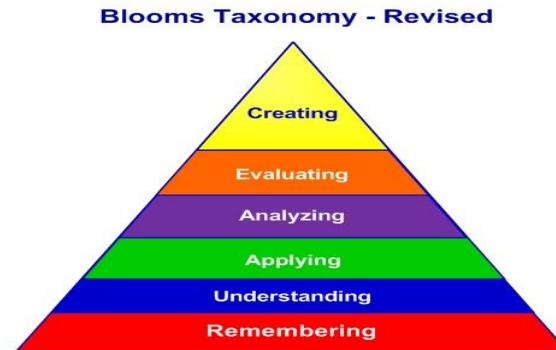
Purpose?

Guide the teacher in
planning and
improving instruction;
help students improve
learning

Let teachers and
students know the level
of accomplishment
attained.

How to Indentify & Organize Course Learning Outcomes/Objectives

- *Bloom's Taxonomy of Educational Objectives* is a helpful tool for deciding which of your objectives are course-level, which may be unit-to class-level objectives, and how they fit together. This taxonomy organizes action verbs by complexity of thinking, resulting in the following categories:



Bloom's Taxonomies



BENJAMIN BLOOM

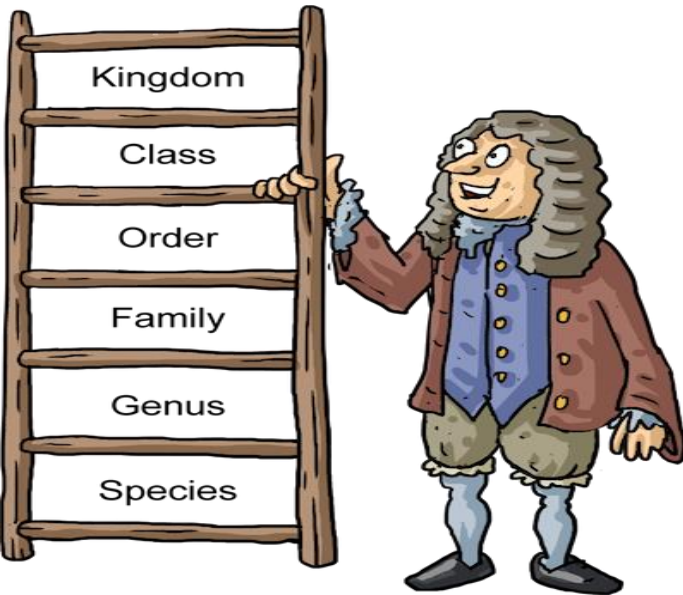


What is a taxonomy?

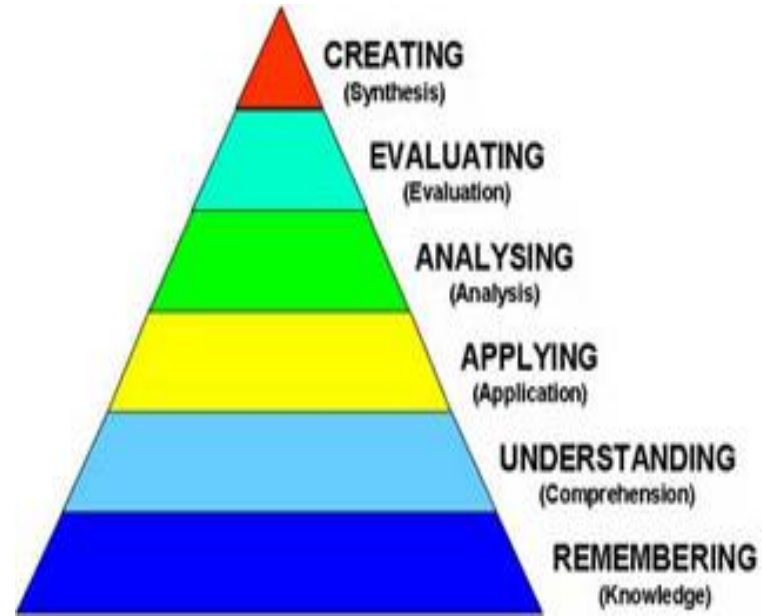
293

Taxonomy = Classification

A Taxonomy is an arrangement of ideas or a way to group things together



What types of taxonomies are these?



Psychomotor

Affective

Cognitive

The Three Domains

Affective

Feeling



Psychomotor

Doing



Cognitive

Thinking



The Three Domains

| | | |
|------------------|------------------|-------------------|
| Cognitive | Affective | Behavioral |
| Thinking | Feeling | Doing |
| Head | Heart | Hands |



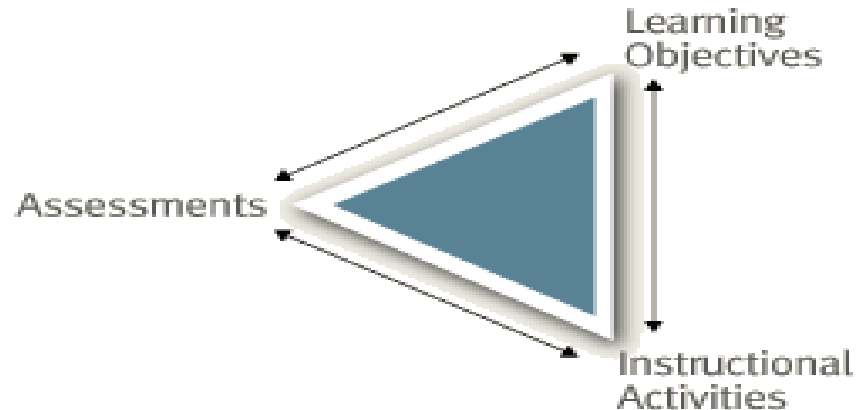
- **Most classroom-based education leans more toward the cognitive domain to the exclusion of the affective and psychomotor domains.**
- **Well-rounded and fully functioning people need development in all three domains.**



Structure of Specific Learning Objectives

298

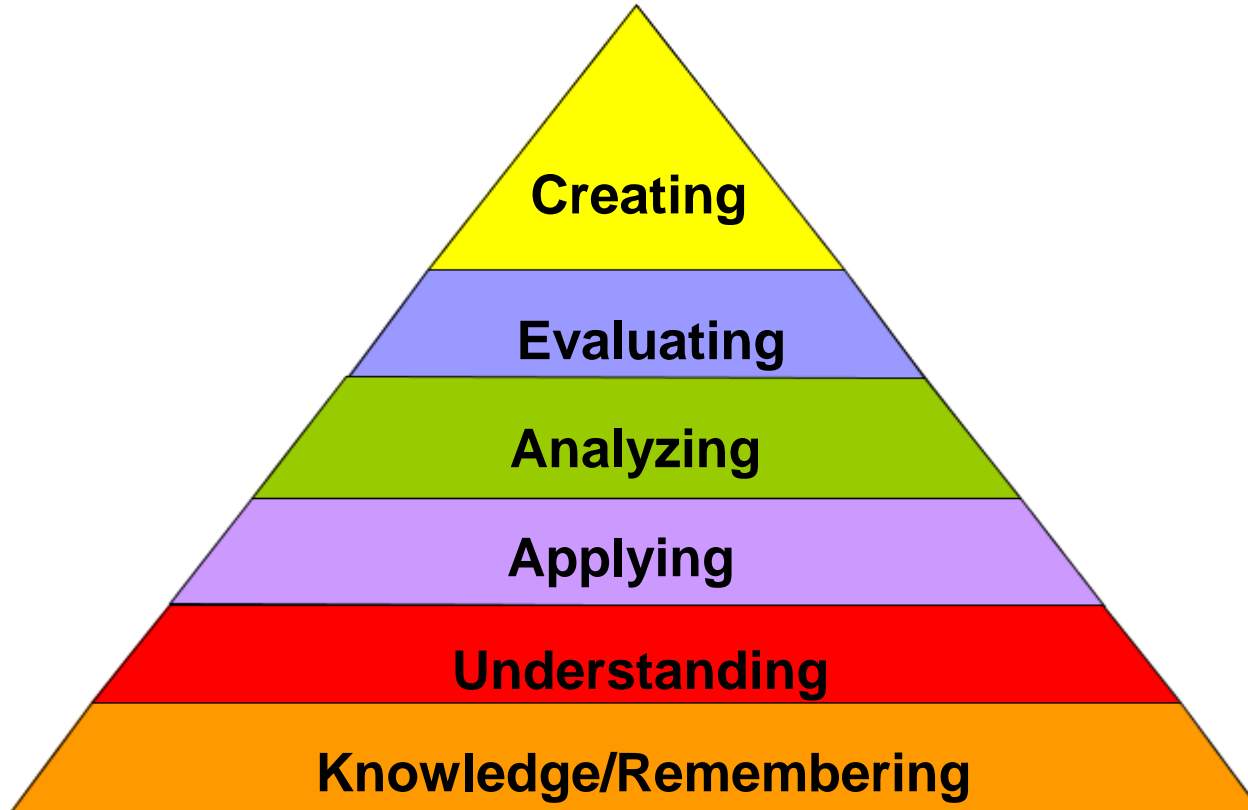
- In other words, a learning objective is measurable when the learner can perform a task identified in the learning objective. Therefore, they should focus on concrete actions and behaviors.



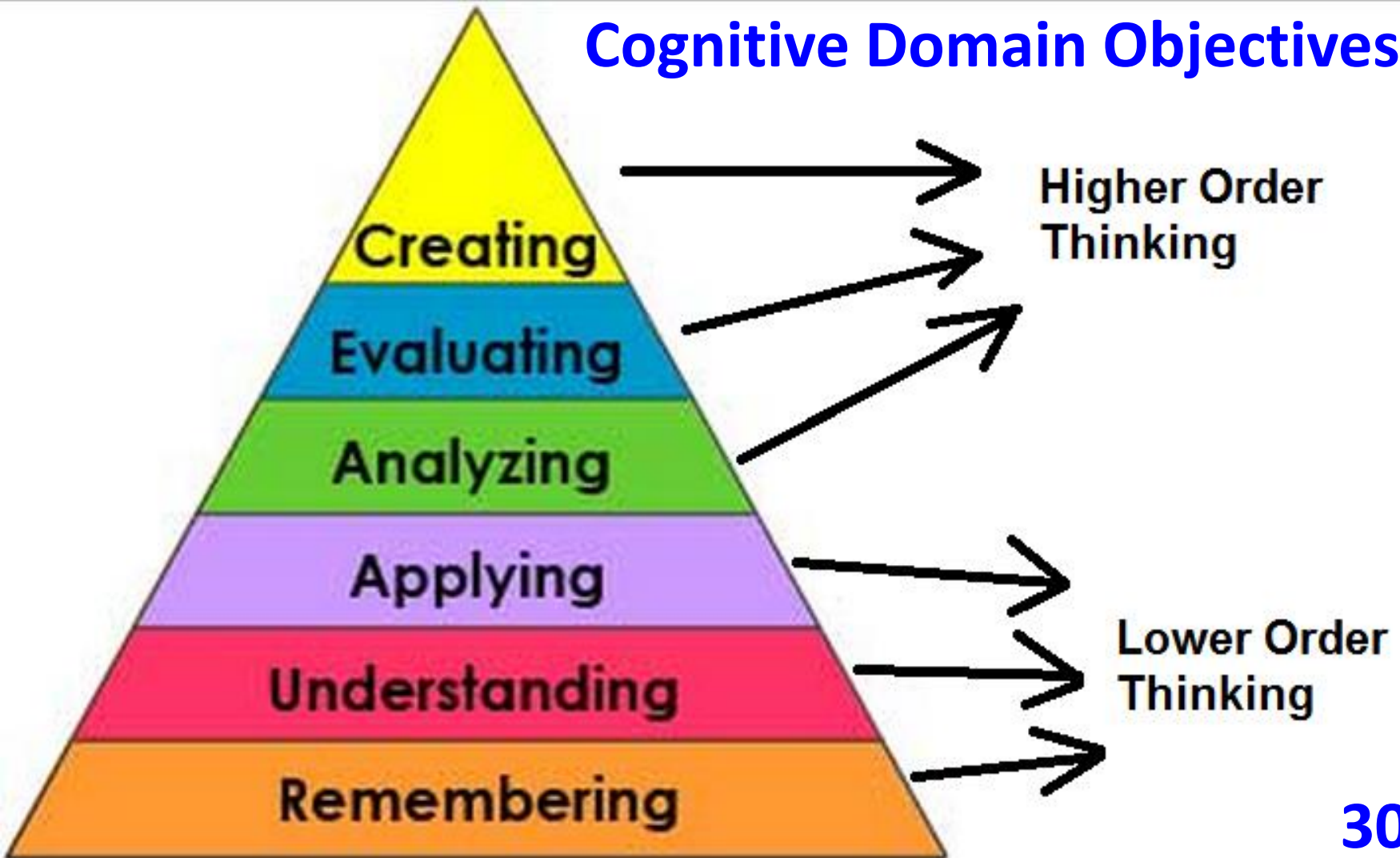
The Cognitive Domain



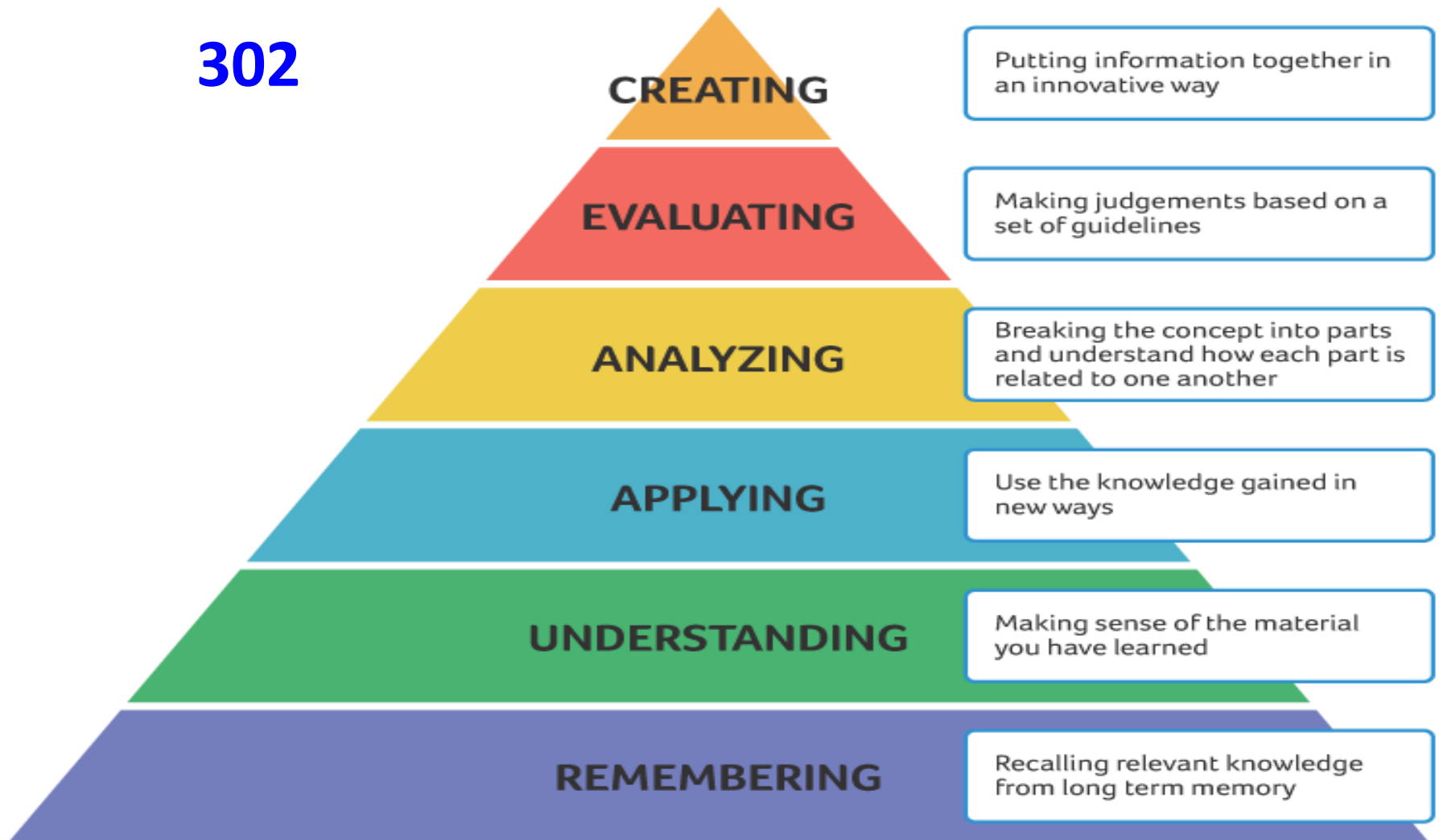
Bloom's Taxonomy of the Cognitive Domain



Cognitive Domain Objectives



302



CREATING

Use information to create something new

Ex.: Learners should be able to integrate knowledge of metabolism and nutrition to formulate nutritional therapy for chronic disease patients.

EVALUATING

Critically examine info & make judgments

Ex.: Learners should be able to recommend a meal plan to someone wishing to lose weight, and defend their choice of meal plan.

ANALYZING

Take info apart & explore relationships

Ex.: Students should be able to analyze data and differentiate nutrient deficiencies and toxicities.

APPLYING

Use info in a new (but similar) situation

Ex.: Learners should be able to apply safety principles related to food, consumers, and personnel in quality management situations.

UNDERSTANDING

Understanding & making sense out of info

Ex.: Learners should be able to explain the importance of the Food & Drug Administration policies and regulations.

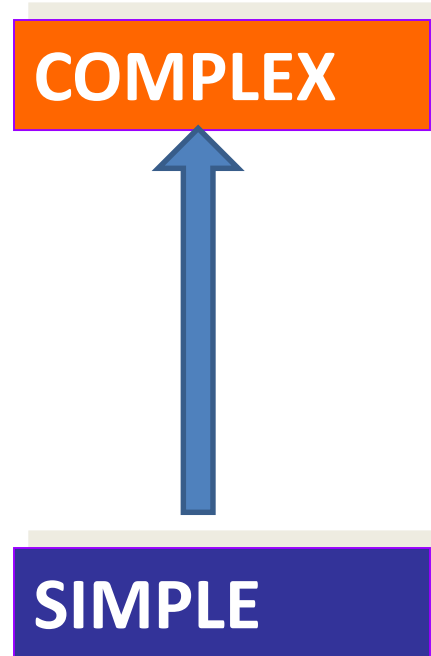
REMEMBERING

Find or remember info

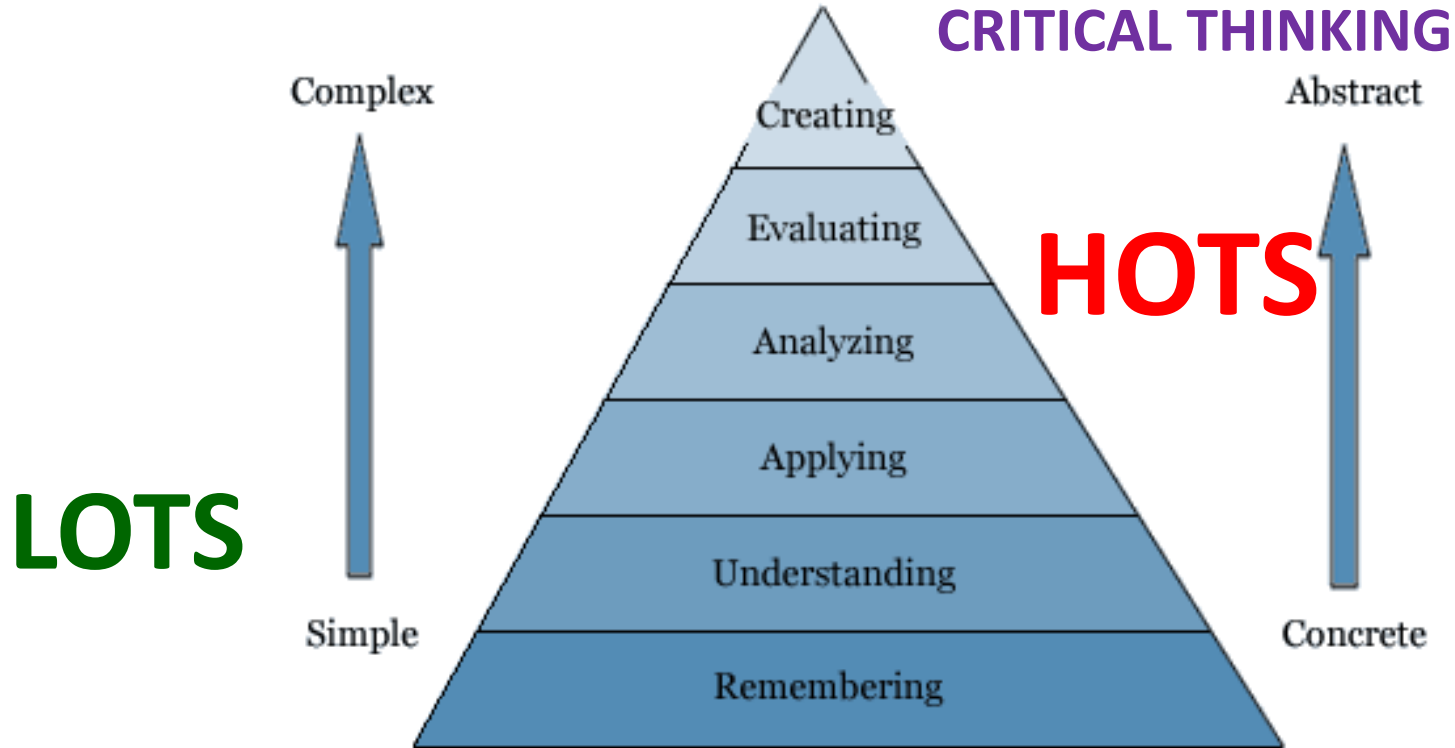
Ex.: Learners should be able to recall nutritional guidelines for planning meals.

Cognitive Learning Objectives

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



BLOOM'S COGNITIVE TAXONOMY



Bloom's Taxonomy

Supply
Response

Extended
Performance

Restricted
Performance

Selected
Response

Creating

Evaluating

Analyzing

Applying

Understanding

Remembering

Creative Thinking

Creating

Critical Thinking

Evaluating

Analysing

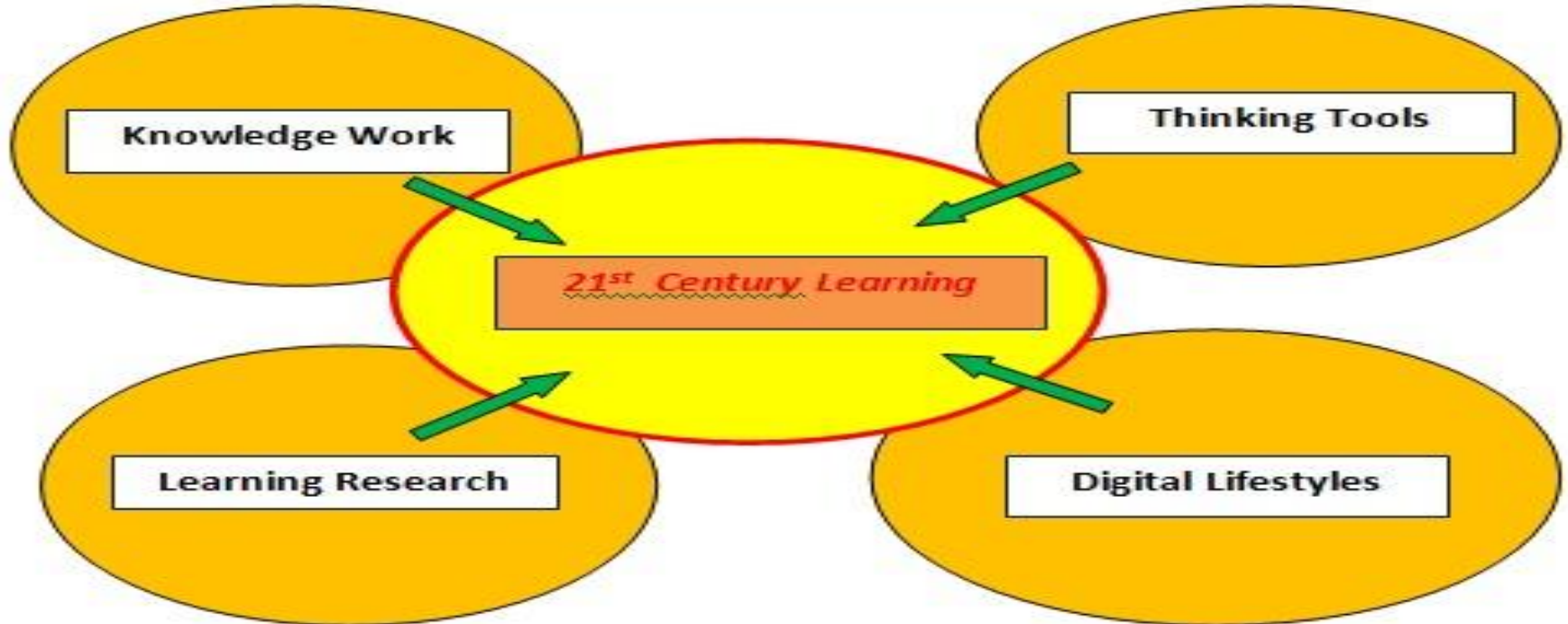
Applying

Understanding

Remembering

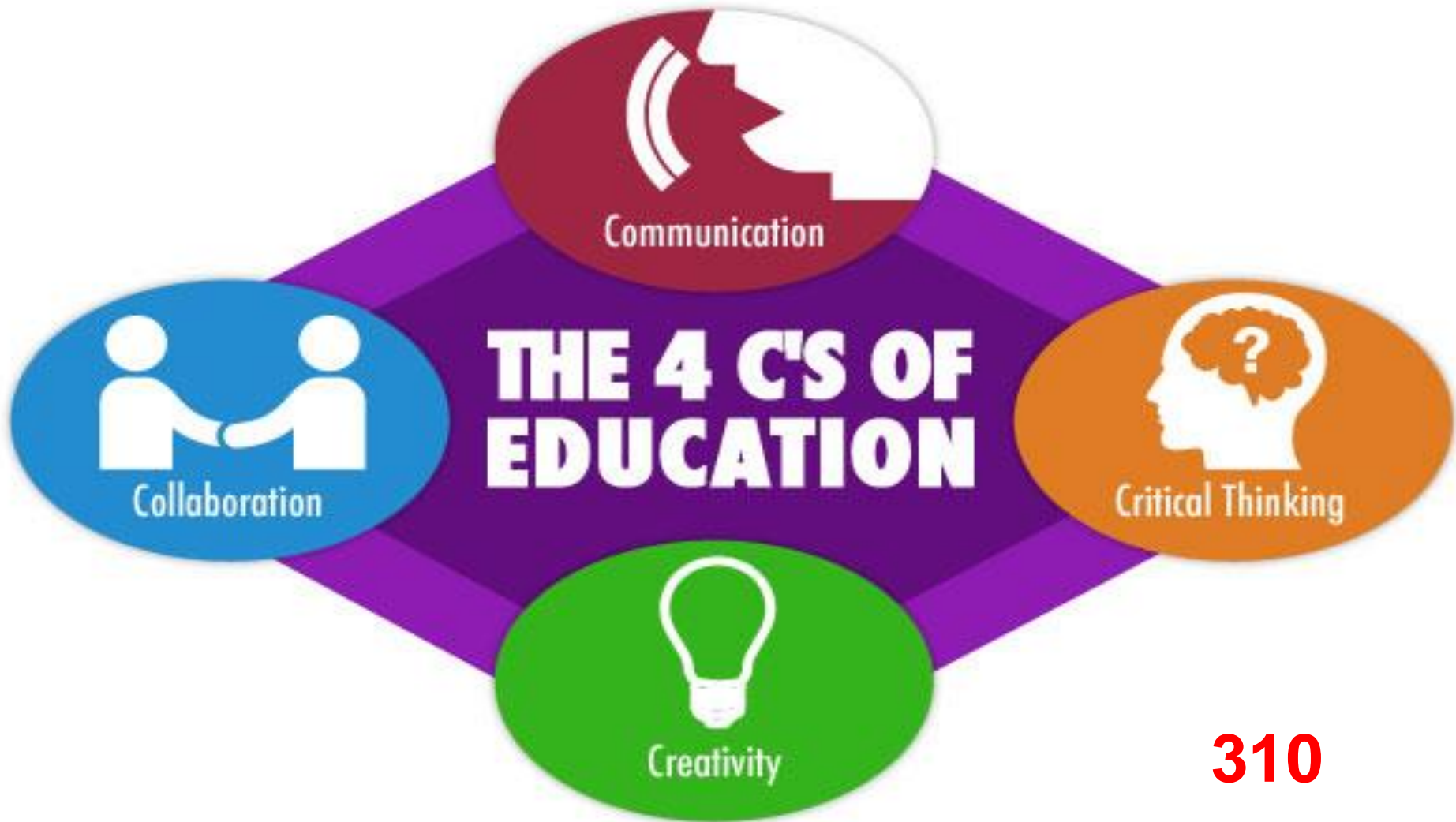
Knowledge Work & Education

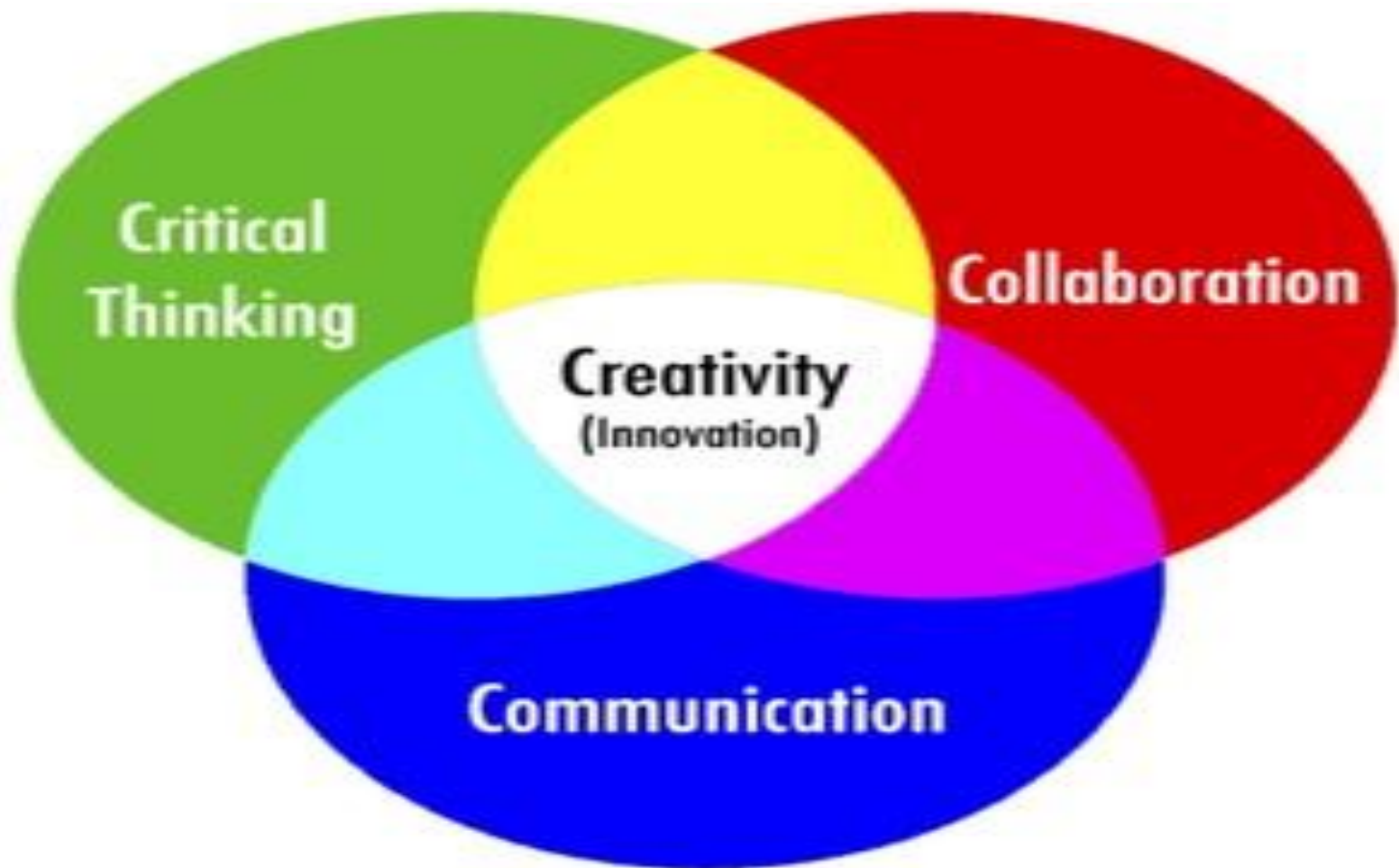
21st Century Learning Convergence



ESSENTIAL 21ST CENTURY SKILLS

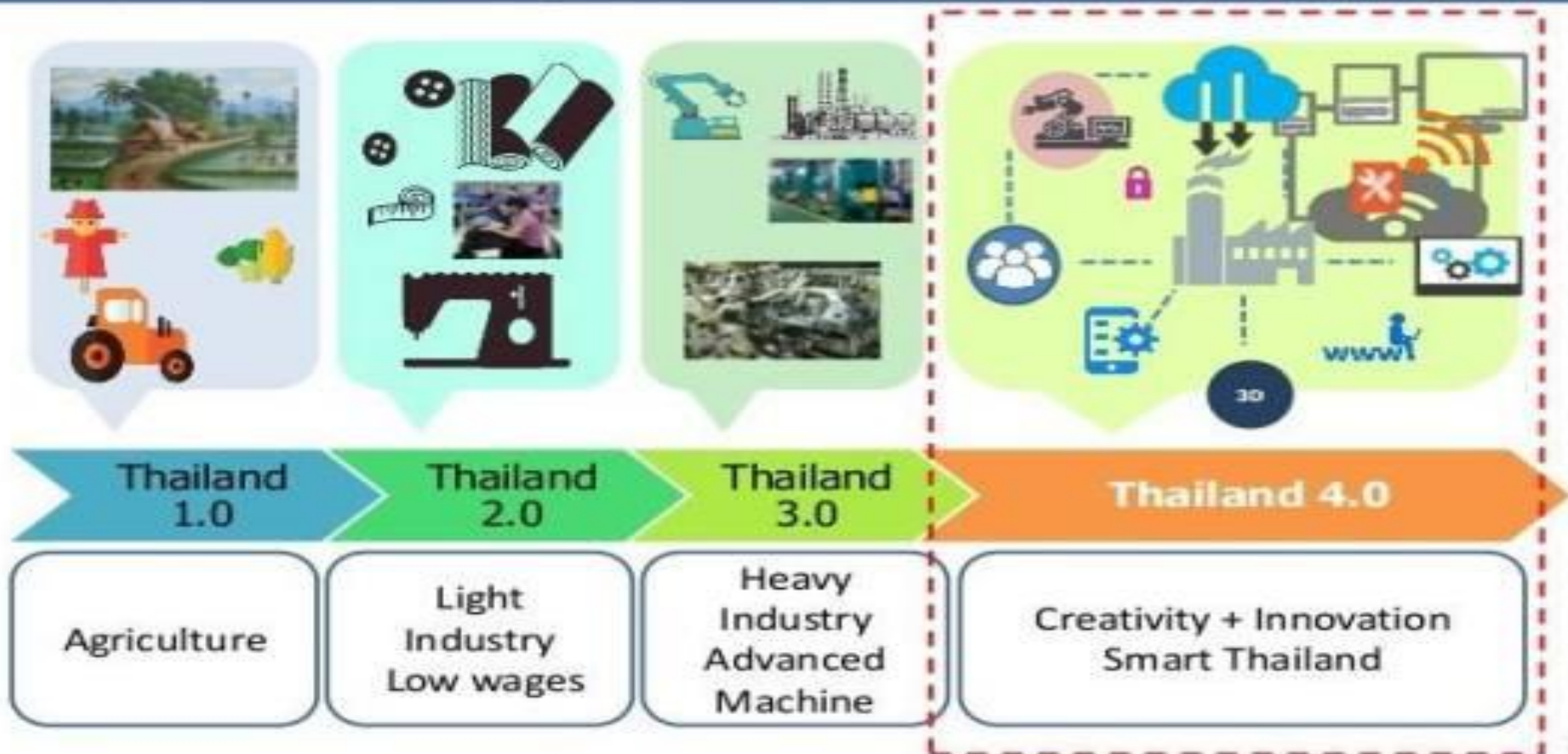






Thailand 4.0

(Smart Industry + Smart City + Smart People)



Education 4.0

1.0: Dictation of Knowledge

2.0: E-Learning

Knowledge: a commodity in modern world

Skills: 21st century skill

Attitude: Can-Do Attitude

3.0: Knowledge-Producing

4.0: Innovation-Producing



Innovation Society

EDUCATION
EVOLUTION

1.0

2.0

3.0

4.0



รับฟัง

ค้นหา

วิเคราะห์

พัฒนา

Important Attributes of 21st Century Education

- 21st century educational administrators & instructors must develop competencies in so as to lead others in their acquisition:
 - 21st Century Skills Development
 - Student-Centered Learning
 - Technologies & Multimedia
 - Integrated and Interdisciplinary teaching & learning approaches
 - Globalized Classrooms
 - Relevant, Rigorous and Real-world Learning Activities
 - Life-long Learning
 - Project-Based & Research-Driven Curricula



PERFORMANCE



Performance Based Assessment



*I am always doing
that which I cannot
do, in order that I
may learn how to
do it.*

Pablo Picasso (1881 –1973) was a Spanish painter, sculptor, printmaker, ceramicist and theatre designer who spent most of his adult life in France. He is regarded as one of the most influential artists of the 20th century



**I hear and I
forget. I see and I
remember. I do
and I understand.**

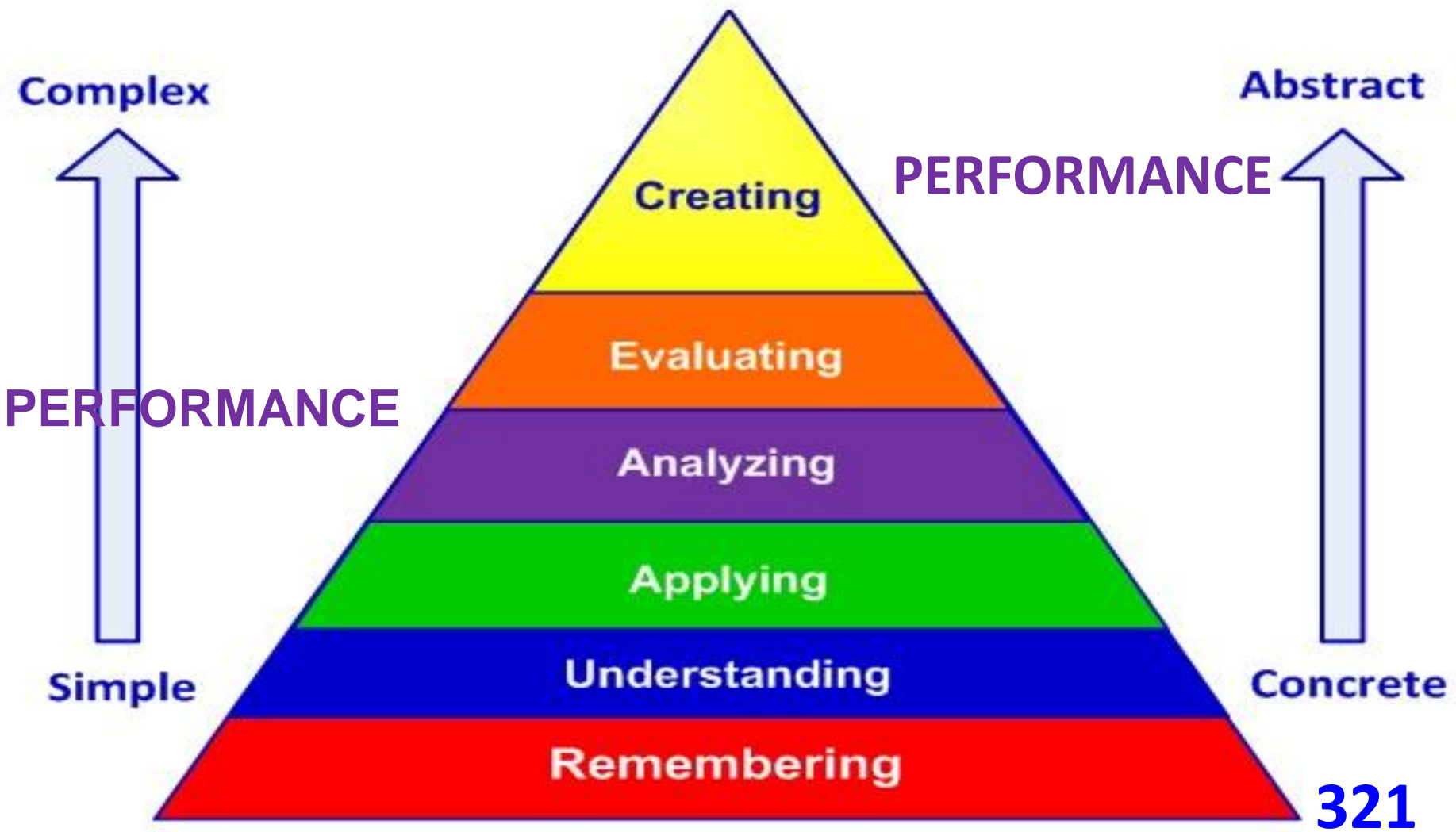
**Confucius (551-479 BC) was a
Chinese philosopher and politician
of the Spring and Autumn period
who is traditionally considered the
paragon of Chinese sages.**



You don't learn to walk by following rules. You **learn by **doing** and **falling over**.**

Sir Richard Branson (1950 - English business magnate, investor, author and former philanthropist. In the 1970s he founded the Virgin Group, which today controls more than 400 companies in various fields.





What is Performance Based Assessment ?

- In its simplest terms, a performance assessment (Alternative assessment) is one which requires students to demonstrate that they have mastered specific skills and *competencies by performing or producing something.*

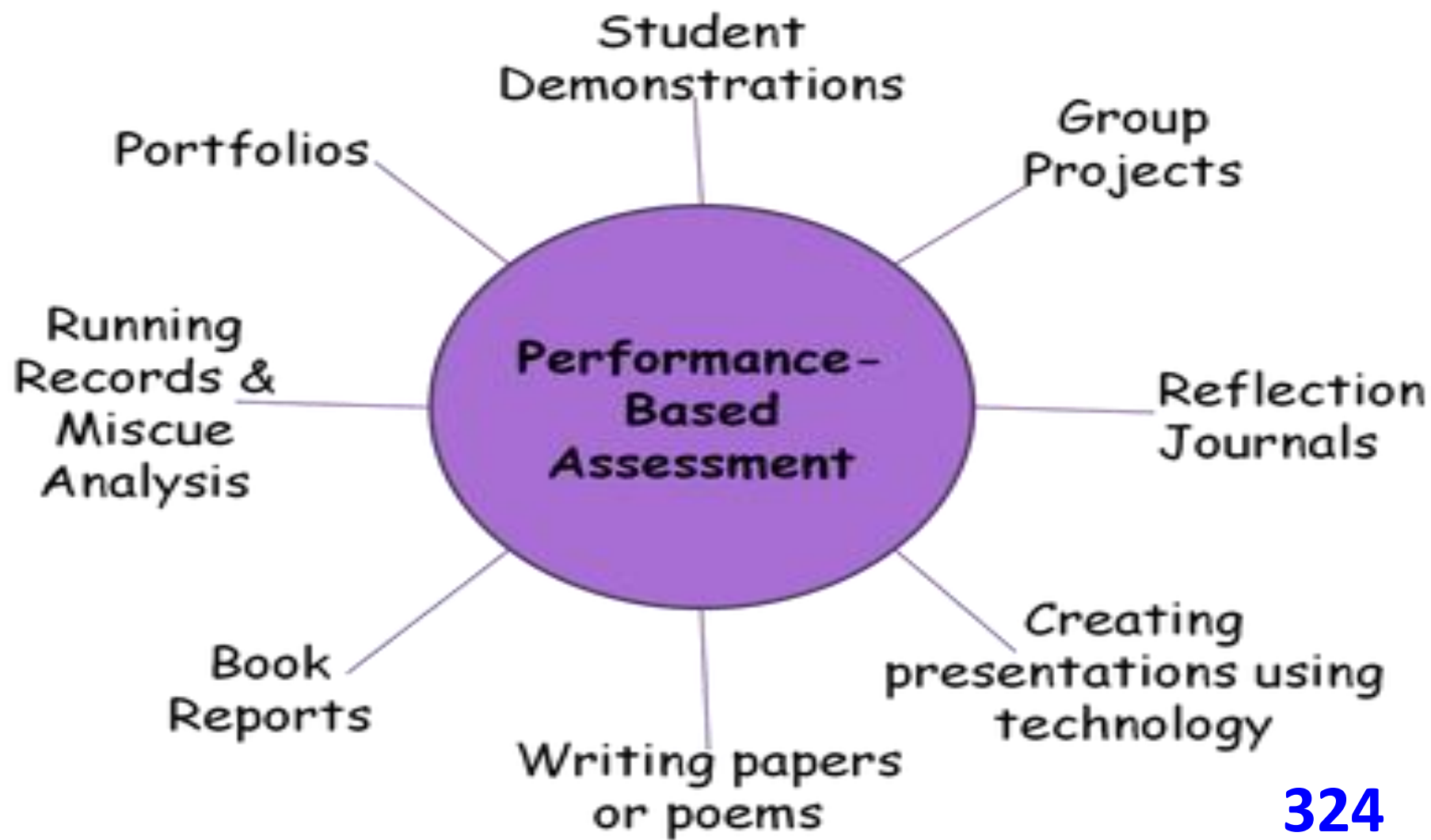


What is Performance Based Assessment?

PBA is a form of assessment that requires students to perform a task rather than an answer questions from a ready made list.

Also known as:

- Authentic Assessment
- Alternative Assessment
- Active Learning
- Performance Assessment



After 2 weeks, we tend to remember...

Involvement

10% of what we READ

Reading

20% of what we HEAR

Hearing Words

30% of what we SEE

Seeing

50% of what we SEE & HEAR

Watching a Movie
Looking at an Exhibit
Watching a Demonstration
Seeing It Done on Location

70% of what we SAY

Participation in a Discussion
Giving a Talk

90% of what we DO

Doing a Dramatic Presentation
Simulating the Real Experience
Doing the Real Thing

P
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PERFORMANCE

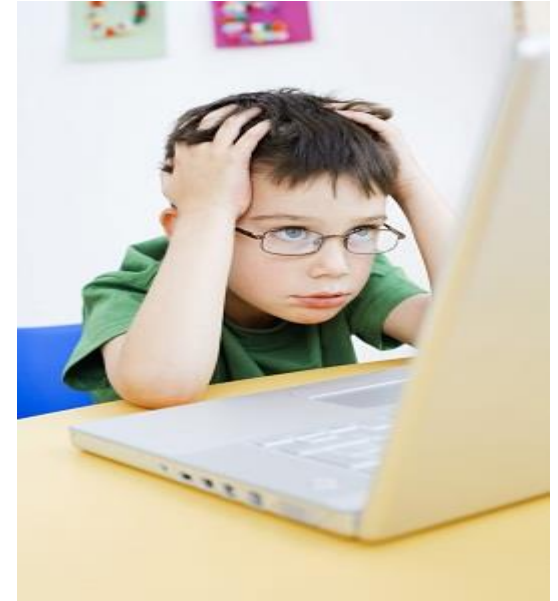
What does the research say about PBA?

- Students actively construct meaning of their own understanding.
- Students become more actively engaged when they have to organize, structure and apply their knowledge.



What are some examples of performance assessments

- Oral Presentations
- Powerpoint Presentations
- Journals
- Letters
- Projects
- Experiments
- Debates
- Oral Reports
- Oral Interviews
- Original Stories
- Skits
- iMovies
- Performances
- Art Work/ Designs/Drawing
- Portfolios of student work over time



General Principles for Classroom Assessment

1. Set clear learning objectives.
2. Assessments should be appropriate (relevant) for those objectives.

INSTRUCTIONAL ALIGNMENT

What you teach



How you teach

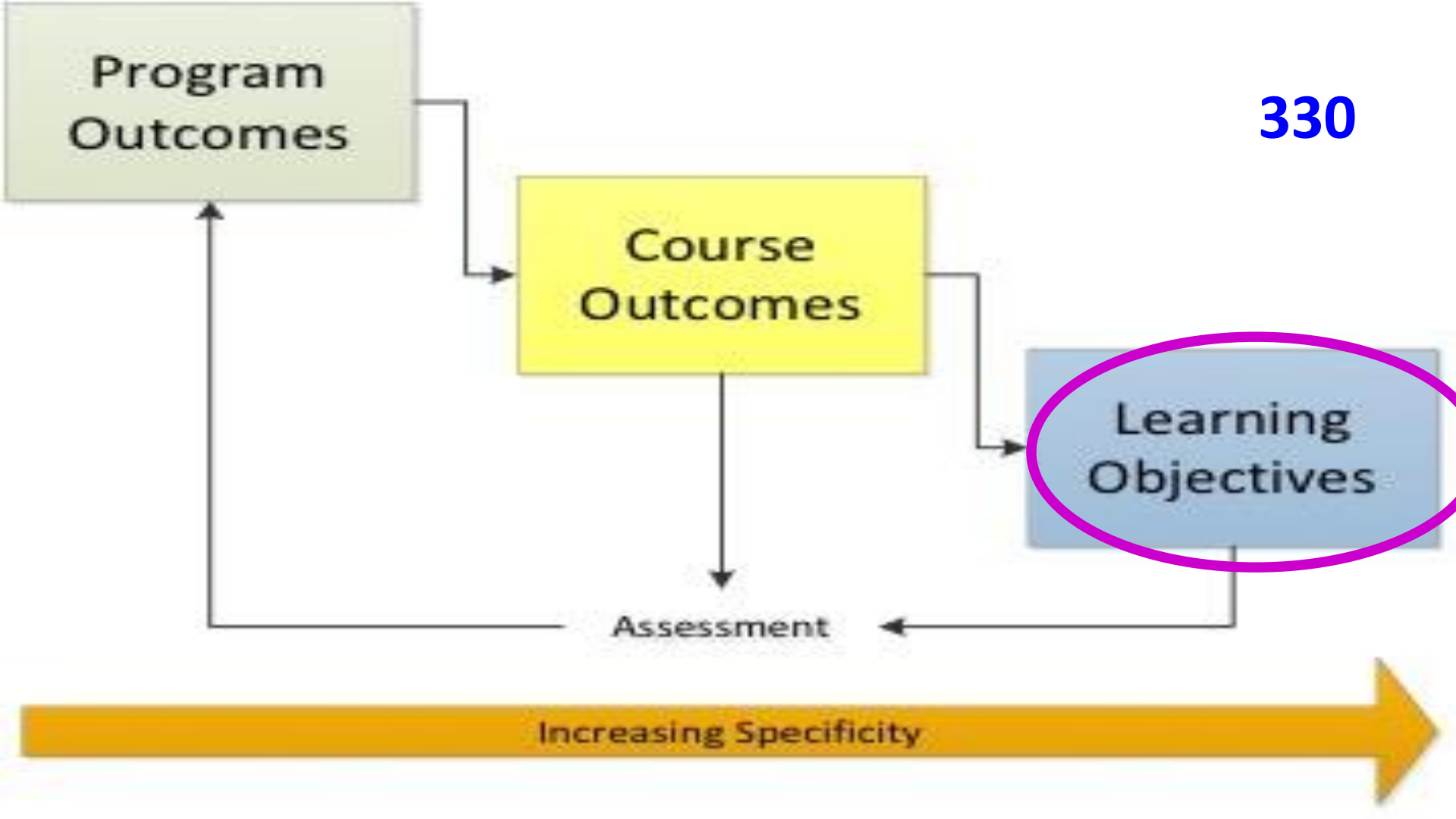
How you test

CLASS
Learning
Objectives



Writing





Program Outcomes

Course Outcomes

Learning Objectives

Assessment

Increasing Specificity

Creating learning-centered lesson objectives



Specific



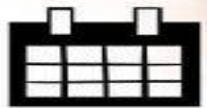
Measurable



Achievable



Rewarding



Timely



Student Learning Objectives



BASED ON . . .
BASED ON BLOOM'S
TAXONOMY
OF THE COGNITIVE DOMAIN



Creating
Evaluating
Analyzing
Applying
Understanding
Remembering

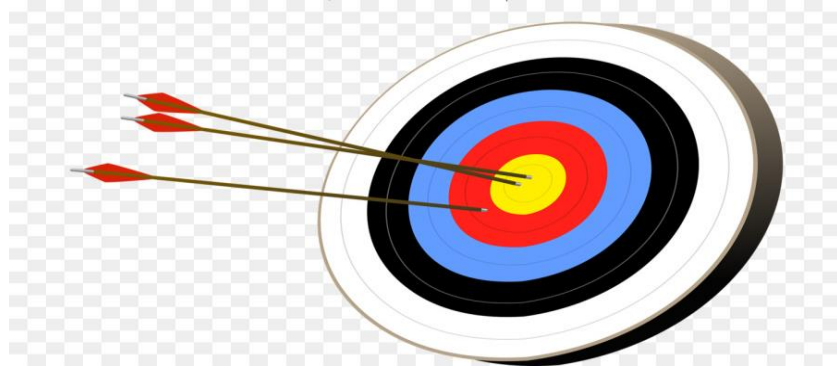
Specific Learning Objectives

- **Specific learning objectives** are statements of what is expected that a student will be able to **DO** as a result of a class learning activity.



What is a Specific Lesson Objective?

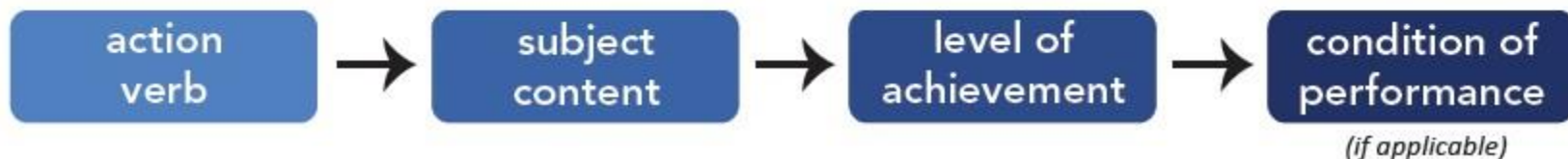
- A description of what the learner should **know** (knowledge), **feel** (affect), or **be able to do** (performance) at the end of a lesson.



A **Learning Outcome (LO)** is a

- **measurable, observable,** and **specific** statement that clearly indicates what a student should know and **be able to do** as a **result** of learning.

Well-written LOs involve the following parts:



Traits of *SMART* Specific Lesson Objectives

Objectives must be **SMART:**
Specific
Measurable
Achievable
Realistic
Time Based

S

SPECIFIC

Details exactly what needs to be done

M

MEASURABLE

Achievement or progress can be measured

A

ACHIEVABLE

Objective is accepted by those responsible for achieving it

R

REALISTIC

Objective is possible to attain (Important for motivational effect)

T

TIMED

Time period for achievement is clearly stated

Structure of Specific Learning Objectives

- The process of writing the objectives can be broken into three simple parts with the following questions:
 - **Behavior (Performance)** – What will students be able to do? (must be measurable, use action verbs)
 - **Condition** – How/under what conditions will students be able to do it?
 - **Degree (Criteria)** – How well will students be able to do it and what will be the minimum level of evidence/achievement in order for student's performance to be acceptable?

The ABCD's of Objectives

A

Audience: Who is this objective for?

B

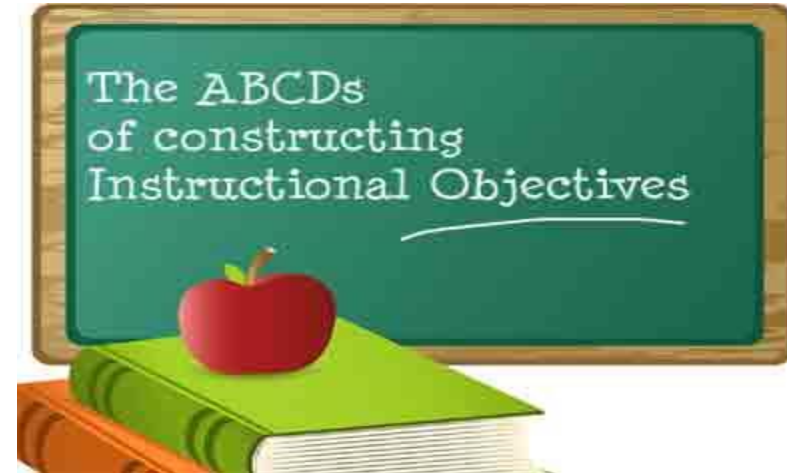
Behavior: What will be measured?

C

Conditions: Under what conditions?

D

Degree: To what degree?



Current Results

Where the learners are.

Desired Results

Where they need to be.



With Specific Learning Objectives

1. What do we want students to learn?

2. How will students demonstrate their learning?

3. In what activities will **students** need to engage to develop their learning?

4. In what activities will **teachers** need to engage to support students in their learning?

Overt vs. Covert Objectives

- Specific objectives should be overt, **not covert**.

COVERT

Understand the periodic table

Determine the grammatical error in the sentence

Know the meaning of the terms

OVERT

Define the periodic table by giving examples

Underline the grammatical error in the sentence

Verbally define each term

Cognitive Domain – Learning Objectives Structure

- Audience - Blue
- Behavior - Red
- Condition - Green
- Degree - Purple
- Cognitive (application)
 - Given a sentence written in the past or present tense, the student will be able to re-write the sentence in future tense with no errors in tense or tense contradiction (i.e., I will see her yesterday.).

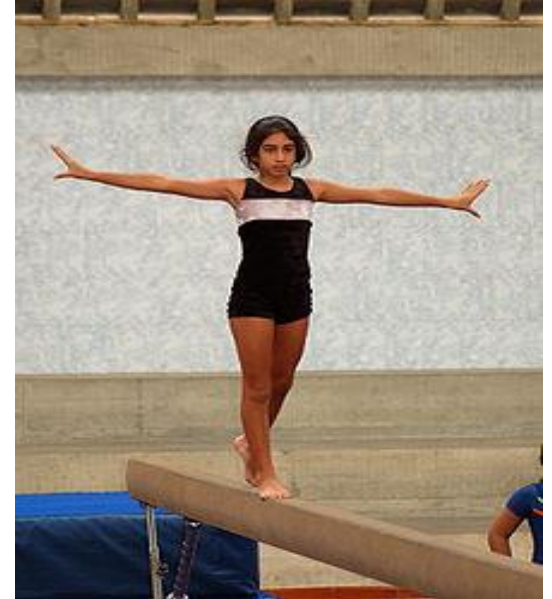
Affective Domain – Learning Objective Example

- Audience - Blue
- Behavior - Red
- Condition - Green
- Degree - Purple
- Given the opportunity to work in a team with several people of different races/ethnicities/religions, the student will demonstrate a positive increase in attitude towards non-discrimination of race & religion, as measured by a checklist completed by non-team members.



Psychomotor Domain - Learning Objective Example

- Audience - Blue
- Behavior - Red
- Condition - Green
- Degree - Purple
- Given a standard balance beam raised to a standard height, the student (attired in standard balance beam usage attire) will be able to walk the entire length of the balance beam (from one end to the other) steadily, without falling off, and within a six second time span.

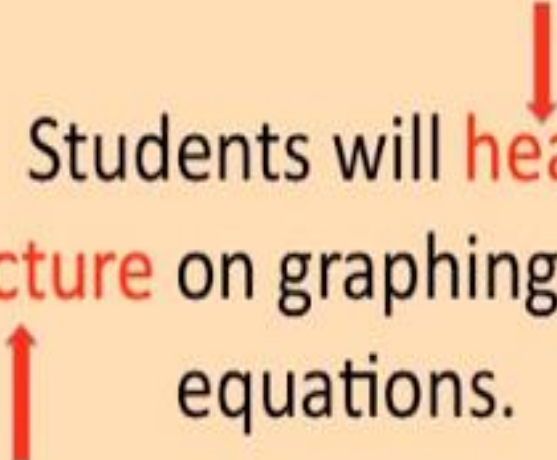


Student-centered - Non-Example . . . Example

A Non-Example

This is not a student centered Learning Objective.

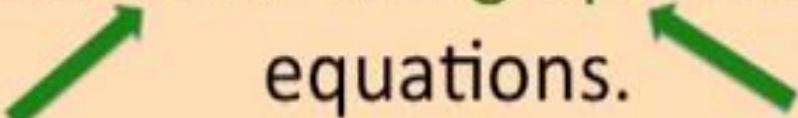
Students will **hear** a **lecture** on graphing linear equations.



An Example

This is a student centered Learning Objective.

After observing a lecture/demonstration, **students** will **graph** linear equations.



Effective Learning objectives are student-centered
describing outcome behaviors not activities

Specific - Non-Example . . . Example

347

A Non-example

This is a Learning Objective that is not Specific.

Students will **take notes**
from a PowerPoint
lecture about the stock
market crash of 1929.

An Example

This is a Learning Objective that is Specific.

By the end of the lesson,
students will **create** a
graphic organizer showing
causes and effects of the
stock market crash of 1929.

Effective Learning objectives should be specific. They should state exactly what is to be accomplished by students.

Measurable - Non-Example . . . Example

348

A Non-example

This is a Learning Objective that is not Measurable.

Students will **discover** diversity in a meadow by coming face to face with it.

An Example

This is a Learning Objective that is Measurable.

After a working field trip, students will **describe** at least **12 plant species** and **12 animal species** found in the meadow.

Effective learning objectives should be measurable to define acceptable levels of learning

Attainable - Non-Example . . . Example

349

Non-Example – a learning objective
that is not attainable

At the end of 1 week, the students
will be able to read and pronounce
correctly 2,273 new Mandarin
characters.



Example – a learning objective
that is attainable

At the end of 1 week, the students
will be able to read and pronounce
correctly 10 new Mandarin
characters.

| | Traditional | Simplified | Reduction |
|---------|-------------|------------|-----------|
| Center | 中 | 中 | 中 |
| People | 民 | 民 | 民 |
| Vehicle | 車 | 车 | 車 |
| Door | 門 | 门 | 門 |
| Country | 國 | 国 | 国 |
| Dragon | 龍 | 龙 | 竜 |
| Gateway | 關 | 关 | 関 |

Confucius
said -

Effective learning objectives should be attainable
and realistic giving students a chance for success.

Relevant - Non-Example . . . Example

A Non-example

This is a Learning Objective that is not Relevant/Results-oriented.

Students will **get** a lesson on using Internet sources.

An Example

This is a Learning Objective that is Relevant/Results-oriented.

During class, **students will use the Internet to locate five reliable sources of information about Picasso.**

Effective learning objectives should be relevant/result oriented

Time-bound - Non-Example . . . Example

A Non-example

This is a Learning Objective that is not Time-bound.

Students **will evaluate** the impact of human activity on specific watersheds.

An Example

This is a Learning Objective that is Time-bound.

At the end of the experiment, students will evaluate the impact of human activity on specific watersheds.

Effective learning objectives must have a specific ending point

NOTE #1: When you start thinking of objectives including all three parts – **BEHAVIOR (PERFORMANCE), CONDITIONS, DEGREE (CRITERIA)** you are starting to structure learning activities, assignments and assessments to meet class level, course level and program level outcomes.

NOTE #2: Effective specific student learning objectives **MUST** be keyed to a specific level of one or other of Bloom's taxonomies.

HOW CAN THAT BE DONE?



**BY USING ACTION VERBS
KEYED TO BLOOM'S LEVELS**

Action VerBS

PHOTOGRAPHY by DIANE ABAPO
INTERVIEW by NICHOLAS MANSOURI
ASSISTANTS EDDIE SAUCEDO &
LOVELIN DESCALSO

CULVER CITY-BASED RAPPER
KYLE "VERBS" GUY
WINS US OVER WITH HIS
MILLION-DOLLAR SMILE
& TELLS US WHAT IT'S LIKE
TO GO ON TOUR
WITH RAP LEGEND MURS - TWICE

Revised Bloom's Taxonomy of the Cognitive Domain

| Cognitive Level | Sample Verbs to Use in Writing Intended Student Learning Outcomes | | | | |
|----------------------|-------------------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|
| Remembering | Define Duplicate | Identify List | Name Recall | Recognize Reproduce | Retrieve Tell |
| Understanding | Calculate Categorize Clarify Classify Compare | Conclude Contrast Describe Discuss Exemplify | Expand Explain Identify Illustrate Infer | Interpret Locate Match Outline Paraphrase | Predict Report Restate Summarize Translate |
| Applying | Carry out Classify | Demonstrate Execute | Illustrate Implement | Practice Solve | Use Utilize |
| Analyzing | Appraise Attribute Compare Contrast | Deconstruct Detect Differentiate Discriminate | Distinguish Examine Formulate Infer | Integrate Organize Parse Relate | Select Sequence Structure Test |
| Evaluating | Appraise Check Coordinate | Critique Defend Detect | Dispute Judge Monitor | Prioritize Rate Reconstruct | Select Support Verify |
| Creating | Change Combine Compile | Compose Construct Create | Design Formulate Generate | Hypothesize Improve Invent | Plan Predict Produce |



GO FORTH

**Now Go Forth
and
Do Good Things**

THANK YOU
HAPPY TEACHING &
ASSESSING



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