



# Targets:

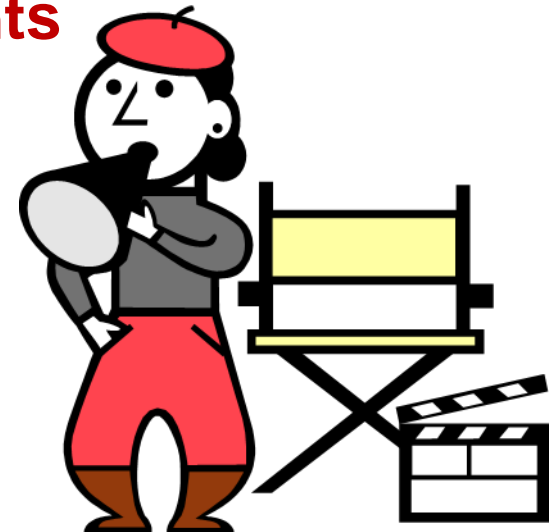
By the end of the session, participants are expected to:

- ☐ have reviewed functional knowledge on the 21<sup>st</sup> century teaching approaches across levels and disciplines;
- ☐ share essential understandings on the importance of developing, enhancing and employing 21<sup>st</sup> century teaching approaches across levels and disciplines;
- ☐ engage themselves in enduring discussions or exchange their ideas on different active-teaching-active learning pedagogical strategies that develop Constructivist critical and creative thinking skills among pupils/students;



# Quick Survey!

- Who experienced teaching in college
- Who experienced teaching in Junior High School
- Who experienced teaching in Grade School
- Who experienced teaching in Pre-School
- Coordinators and Administrators
- STEM, ABM, HUMSS, Generalists, Tech-Voc
- New Teachers, at least 5 years, at least 10 years...
- Have email accounts, facebook accounts
- Have talent in singing
- Have talent in dancing
- Love students in the school



What should good teaching and learning look like in the 21st century classroom?

Discuss with your neighbor/s and share it with the group.

Let's watch this video...



*I see*



*I think...*

*I hear...*



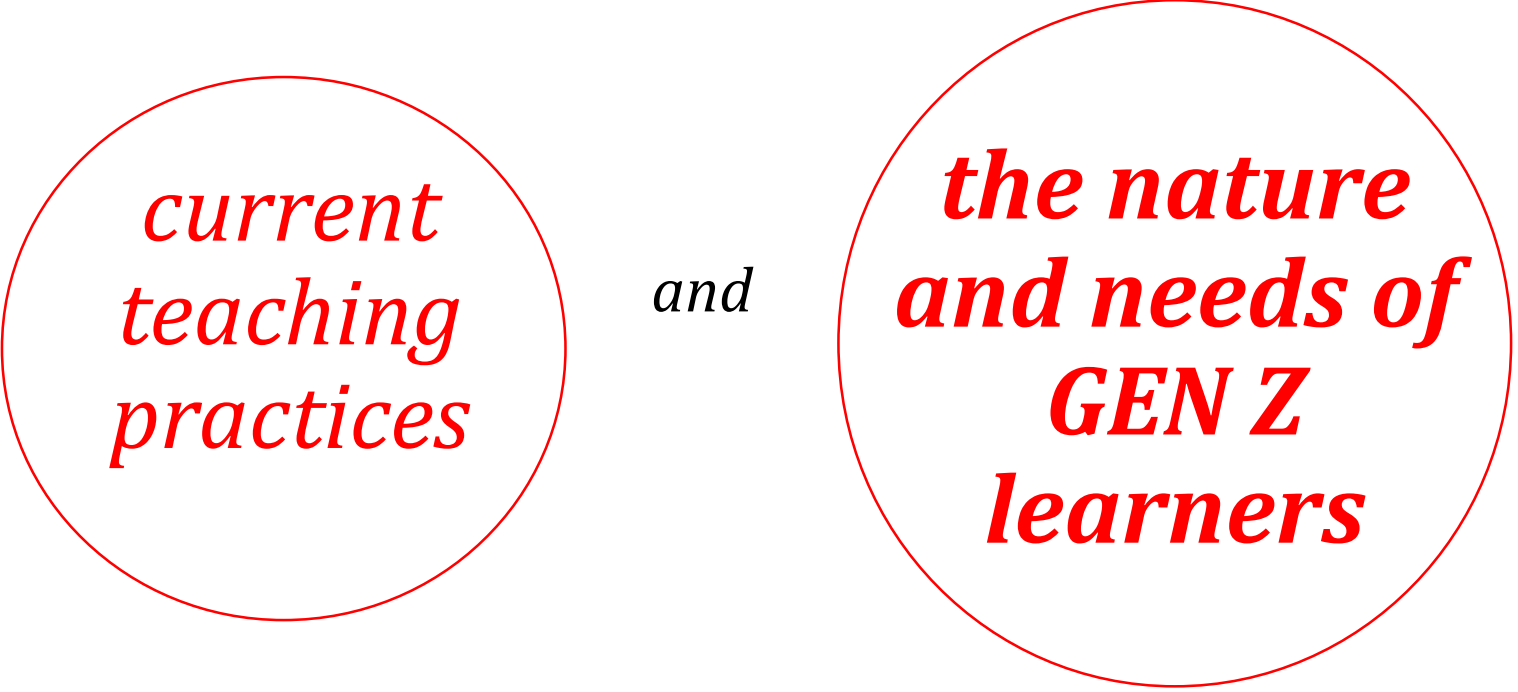
*I feel...*

*I do / act...?*

with  
available  
tools and other  
materials  
ready for use

# What is the challenge now?

*There is a need to bridge the gap between...*



*current  
teaching  
practices*

*and*

*the nature  
and needs of  
**GEN Z**  
learners*

# Which generation is this?

BOOMERS   GEN **X**   GEN **Y**   GEN **Z**

*Today, their preferred source of current national and international news is:*

- A. Facebook, Instagram, Twitter, etc.*
- B. Internet (including via Facebook)*
- C. Print (books, newspapers), TV*
- D. Print, TV, Internet*

Which generation is this?

BOOMERS   GEN **X**   GEN **Y**   GEN **Z**


*As young adults, an important possession was/is/will be:*

- A. Laptop/ cellphone*
- B. Tablet / smart phone/ Google glass, 3D printer, smart watch, wearable devices (internet of things)*
- C. Personal computer*
- D. Television*



How do today's young  
students prefer to  
learn?





No Grandma,  
Listen,  
Double-click the Internet  
Explorer icon.

Gen Z:  
multi-tasking  
across 5 screens



# ***DIGITAL IN THEIR DNA***



*Have never known a world without laptops, tablets, smartphones, and 24/7 high-speed wireless Internet*

<https://www.jwt.com/en/worldwide/news/genzdigitalintheirdnastudyexaminesattitudesandtechhabitsofteensandtweensandtheirparents/>

# ***SCREENAGERS***

***Technoholics – entirely dependent on IT***

“They have integrated technology seamlessly into their lives and used it from the youngest age. It is almost like the air that they breathe, permeating almost all areas of their lifestyle and relationships...

Globally focused, visually engaged, educationally transformed, socially defined. It is the generation that will experiment Google glass, nano-computing, 3-D printing, driverless cars”

Wallop, H. (2014, July 31). Gen Z, Gen Y, baby boomers – a guide to the generations. *The Telegraph Online*. Available at <http://www.telegraph.co.uk/news/features/11002767/Gen-Z-Gen-Y-baby-boomers-a-guide-to-the-generations.html>.

Students are

self-navigators      collaborators

*shared physical space*  
**...with or without us**  
*shared virtual space.*



First-order  
change

Technology = the devices  
Technology *enhances* our lives.

**REDEFINED**



**SECOND-ORDER CHANGE**





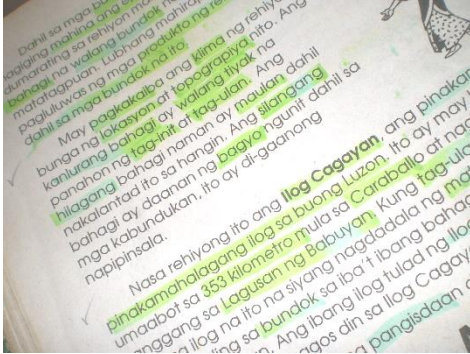
<http://www.larrysworld.com/wp-content/uploads/2013/02/Screen-Shot-2013-02-22-at-8.24.57-AM.png>



<http://www.public-domain-image.com/free-images/people/children-kids/el-salvador-third-grade-students-classroom-725x483.jpg>

**FIRST-ORDER RESPONSE TO A SECOND-ORDER CHANGE**





## ILOG CAGAYAN

- Pinakamalaking ilog sa buong Luzon
- 353 kilometro mula sa Caraballo



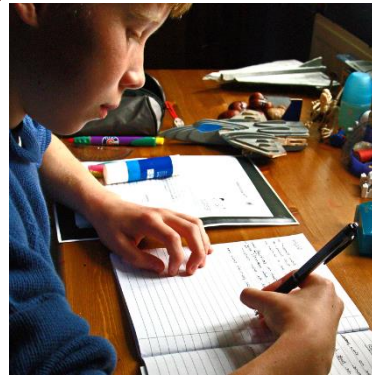
[www.bluewaikiki.com](http://www.bluewaikiki.com)

**FIRST-ORDER RESPONSE TO A SECOND-ORDER CHANGE**

# THINK – PAIR - SHARE

How well are you preparing your students  
for a world which is characterized by  
second-order change?

## BOOMERS



## GEN Z



[https://c1.staticflickr.com/1/90/250121409\\_0d2f4f2740\\_b.jpg](https://c1.staticflickr.com/1/90/250121409_0d2f4f2740_b.jpg)  
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[https://farm6.static.flickr.com/5108/5667294683\\_ee86a947cf\\_m.jpg](https://farm6.static.flickr.com/5108/5667294683_ee86a947cf_m.jpg)



BOOMERS	GEN Z
CONTENT (what and how, to cover prescribed curriculum)	PROCESS (how, why, “what if”, to explore the real world around them)
Verbal	Visual
Sit and listen, apply	Try and see, just-in-time learning
Step by step, providing information sequentially <sup>1</sup>	Access and manage hyperlinked multimedia information simultaneously and quickly
Slow, controlled release of information from limited resources	
“Stand alone” information	Multiple layers of connections
Closed book exams	Open book world via the Internet
Technology as “something to learn”	Technology in their DNA

[https://c1.staticflickr.com/3/2292/1544099145\\_7589515f36\\_b.jpg](https://c1.staticflickr.com/3/2292/1544099145_7589515f36_b.jpg)

Sheninger, Eric. (2014). *Digital leadership: Changing paradigms for changing times*. CA: Sage.

[https://farm6.static.flickr.com/5108/5667294683\\_ee86a947cf\\_m.jpg](https://farm6.static.flickr.com/5108/5667294683_ee86a947cf_m.jpg)

<http://one-europe.info/user/files/Hanna/Generation%20Z%20in%20details.jpg>

<http://idmaa.org/?journalarticle=v1n3-the-generation-gap-bridging-learners-and-educators>

# THINK – PAIR - SHARE

“What age are you  
preparing your  
students for?”

~ Heidi Hayes Jacobs

# Essential Question

- What age are you preparing your students for?





How do we prepare  
today's young students  
for their future?



# JOBS OF THE FUTURE

- **Home carer** Helps care for elderly people in their own homes
- **Elderly well-being consultant** Specialises in holistic and personalised care for the elderly
- **Body part maker** Creates living body parts for athletes and soldiers
- **Nano-medic** Creates very small implants for health monitoring and self-medication
- **Vertical farmer** Farms crops upwards rather than across flat fields to save space
- **Waste data handler** Disposes of your data waste in a responsible way
- **Climate controller** Manages and modifies weather patterns
- **Avatar manager** Designs and manages holograms of virtual people
- **Memory augmentation surgeon** Helps preserve and improve memory in an ageing population



Tom Friedman and Tony Wagner say:

In this century, it's **not** what you know that matters.

What matters most

*is what you can do with  
what you know.*

“Today, because knowledge is available on every Internet-connected device, what you know matters far less than what you can do with what you know. The capacity to innovate—the ability to solve problems creatively or bring new possibilities to life—and skills like critical thinking, communication and collaboration are far more important than academic knowledge.

Lenz, B., J. Wells, & S. Kingston. (2015). *Transforming schools: Using project-based learning, performance assessment, and common core standards*. USA: Jossey-Bass.

As one executive told me, ‘We can teach new hires the content, and we will have to because it continues to change, but we can’t teach them how to think—to ask the right questions—and to take initiative.’ ”  
(Friedman, 2013, in Lenz, Wells, & Kingston, 2015, p. 45).

Lenz, B., J. Wells, & S. Kingston. (2015). *Transforming schools: Using project-based learning, performance assessment, and common core standards*. USA: Jossey-Bass.



With RADICAL CHANGE  
being the only constant,

**what should our students**

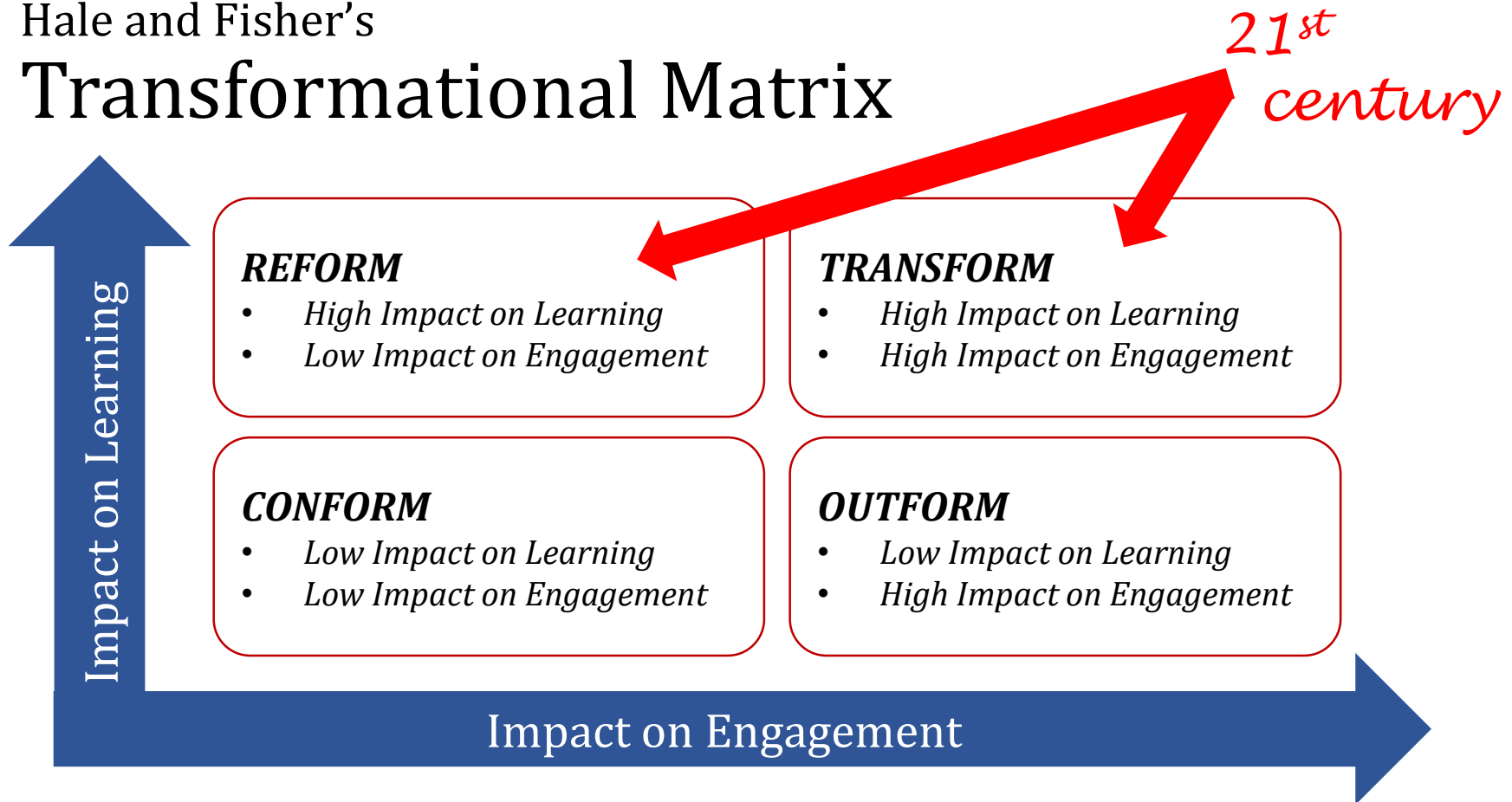
***KNOW***

***UNDERSTAND***

***BE ABLE TO DO***

**to survive and thrive in the future?**

# Hale and Fisher's Transformational Matrix



Hale, Janet A. and Michael Fisher. 2013. *Upgrade Your Curriculum: Practical Ways to Transform Units and Engage Students*. Alexandria, Virginia: ASCD.



with  
available  
tools and other  
materials  
ready for use

It's the

**thinking,**

...not the

**tools!**

(Hale and Fisher, 2013)

It's the

**task,**

...not the

**tools!**

(Hale and Fisher, 2013)



# THE 21<sup>ST</sup> CENTURY KID!

GLOBAL CITIZEN • CREATIVE  
 ACTIVE • MISSION-DRIVEN  
 CIVICALLY-ENGAGED • FUN  
 MUSICAL • ARTISTIC  
 PLANNER • LEADER • BRAVE  
 CONSTRUCTIVE • OPTIMISTIC  
 EMPATHETIC • CARING  
 CONNECTED • VISIONARY  
 KNOWLEDGE-HUNGRY • GLOBAL  
 INDEPENDENT • THINKER  
 EXPERIENTIAL • PROBLEM SOLVER  
 INVENTOR • WRITER • INNOVATOR  
 INVESTIGATOR • DREAMER • ACTION-ORIENTED • HAPPY  
 INSPIRED • INSPIRATIONAL • ORIGINAL • EFFECTIVE  
 FRIENDLY • FLEXIBLE • COLLABORATOR • CIVICALLY-ENGAGED • FUN  
 MUSICAL • ARTISTIC • CONNECTED • POSITIVE  
 PLANNER • LEADER • BRAVE GREEN • ETHICAL  
 CONSTRUCTIVE • OPTIMISTIC • COLLABORATOR • INNOVATOR  
 EMPATHETIC • CARING • GLOBAL CITIZEN • CREATIVE  
 CONNECTED • VISIONARY • ACTIVE • MISSION-DRIVEN



Peter H. Reynolds 2008

# The 21<sup>st</sup> Century Learner

I am a 21<sup>st</sup>  
century  
learner...

I am a  
critical thinker

I am  
creative

I can  
communicate!

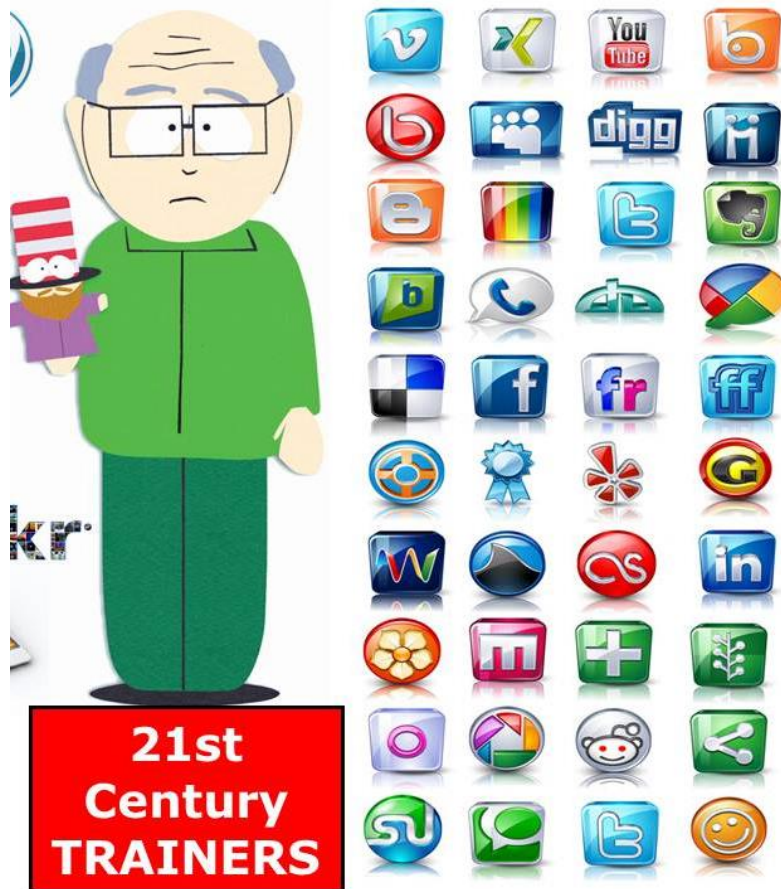
I am a  
collaborator







# I am a 21<sup>st</sup> century teacher...

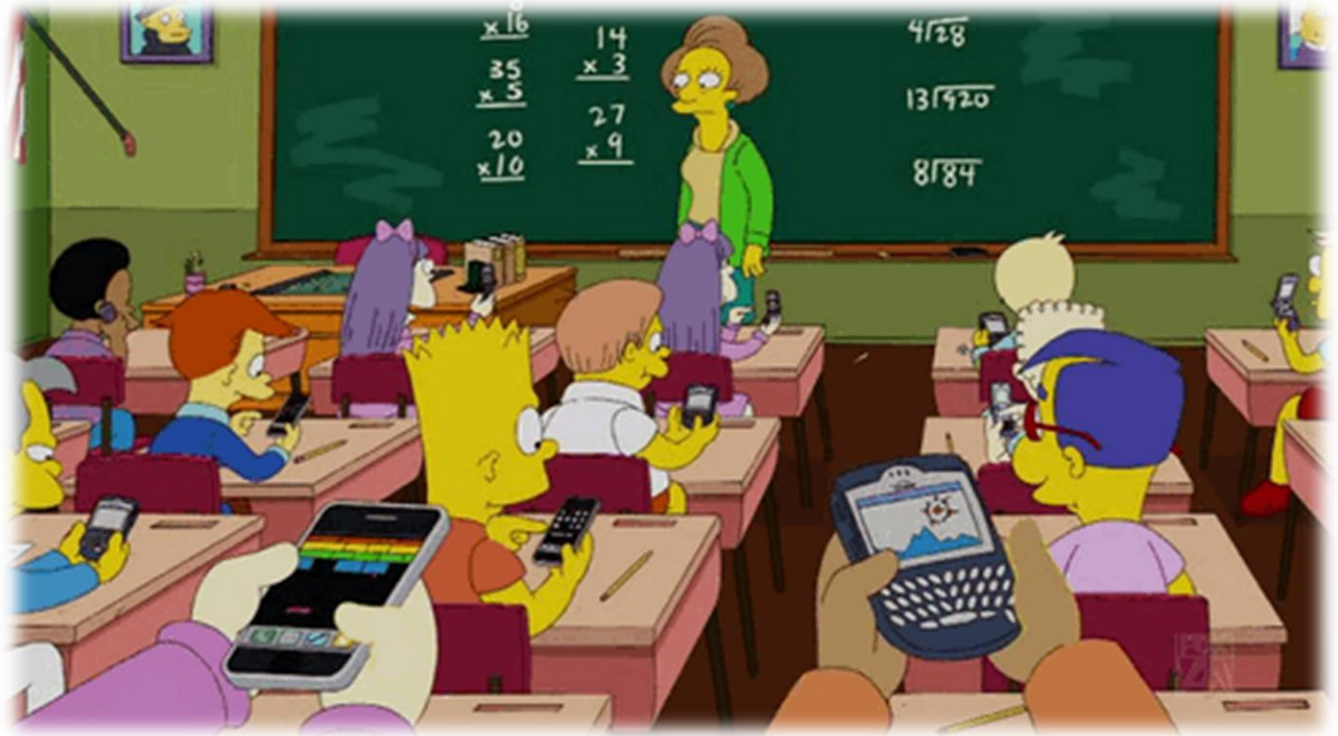


To be an effective 21st-century teacher, a teacher must first possess the very same 21st-century skills that their ***students are expected to have.***

And, in addition to those skills, they must be able to ***help all of their students obtain and develop 21st-century skills.***

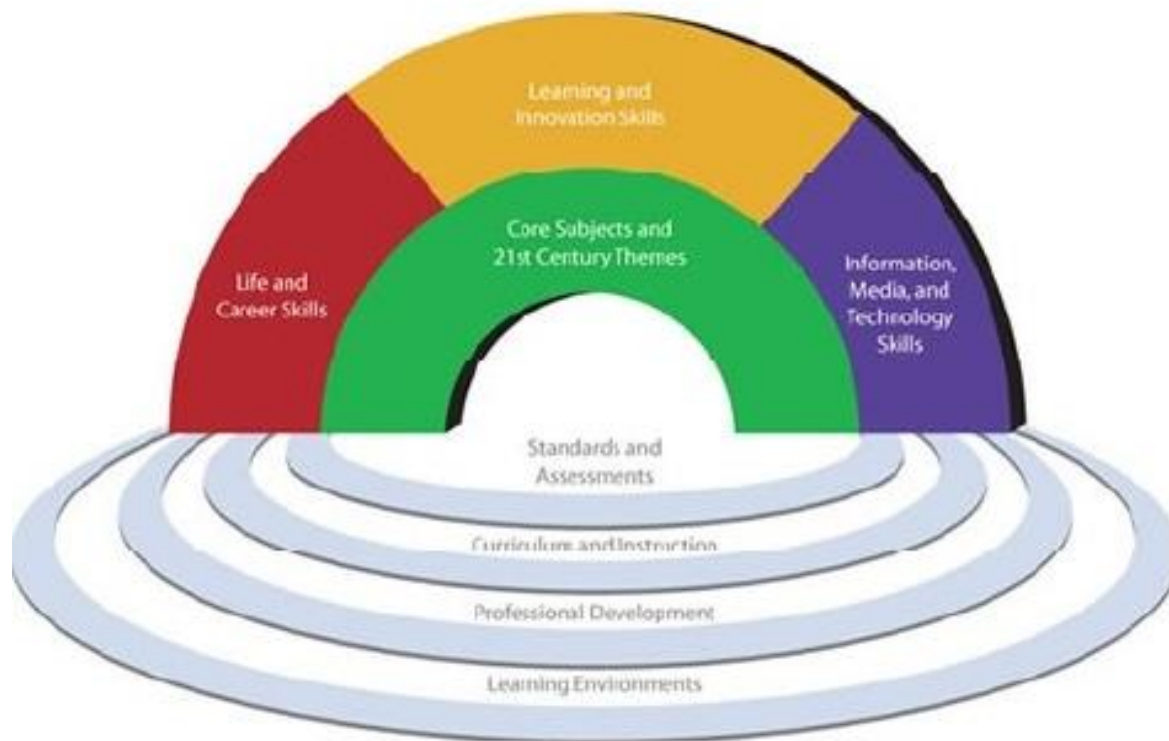
Mamzelle Adolphine

...and together we can adapt to changes



....using new literacies and skills of the 21<sup>st</sup> century in the school and in the classroom!

# Framework for 21st Century Learning



Core Subjects and  
21st Century  
Themes

Life and Career  
Skills

Learning and  
Innovation Skills

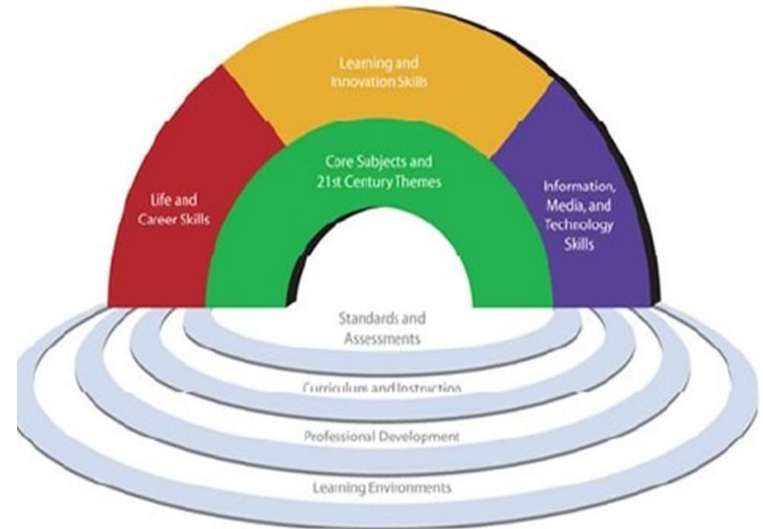
Information, Media  
and Technology  
Skills

AIM TO DEVELOP

Higher-Order Thinking  
Collaborative Environments  
Local and Global Connections  
GLOCAL Impacts

# Content Knowledge and 21st Century Themes

- ☐ English, reading or language arts
- ☐ World languages
- ☐ Arts
- ☐ Mathematics
- ☐ Economics
- ☐ Science
- ☐ Geography
- ☐ History
- ☐ Government and Civics



- ☐ Global awareness
- ☐ Financial, economic, business  
and entrepreneurial literacy
- ☐ Civic literacy
- ☐ Health literacy
- ☐ Environmental literacy



# + 21<sup>ST</sup> CENTURY NEW LITERACIES



Heidi Hayes Jacobs' New Literacies

Communication  
Numerical

Digital

Media

Global



**TEACHER**



**FLIPPED TEACHING:  
EXPLAIN EVERYTHING APP**



**VIDEO CONTENT & SKILLS**



**BIG  
THINKING**



**CREATIVE THINKING**



**INDEPENDENT  
TEAMWORK  
PROJECTS RESEARCH  
SHARING - FORUMS  
BLOGS**

**WORLD**



**EXPERTS**



**WEB**



# Understanding New Contexts

## New Contexts

### WAYS OF BEING

- Self-expression and self-actualization
- Personalization and choice

### WAYS OF LIVING TOGETHER

- Social networking
- New definition of communities
- Personal, local, and global spaces

### WAYS OF DOING

- Content creation and self-publishing
- Personal, local, global; physical or virtual
- Receives immediate feedback

### WAYS OF WORKING

- Innovation
- Entrepreneurial mindset
- Many jobs in a lifetime
- Unknown jobs, tools, problems

### WAYS OF KNOWING/ DOING

- Just-in-time versus just-in-case learning
- Multi-media, including interactive, formats
- Vast amounts of information to be filtered and curated
- Data analysis and visualization
- Collective intelligence



How do today's young  
students prefer to  
learn?

*What is the difference?*

Methods

Approaches

Techniques

Strategies



# “21<sup>st</sup> Century Teaching Approaches Across Levels and Disciplines”

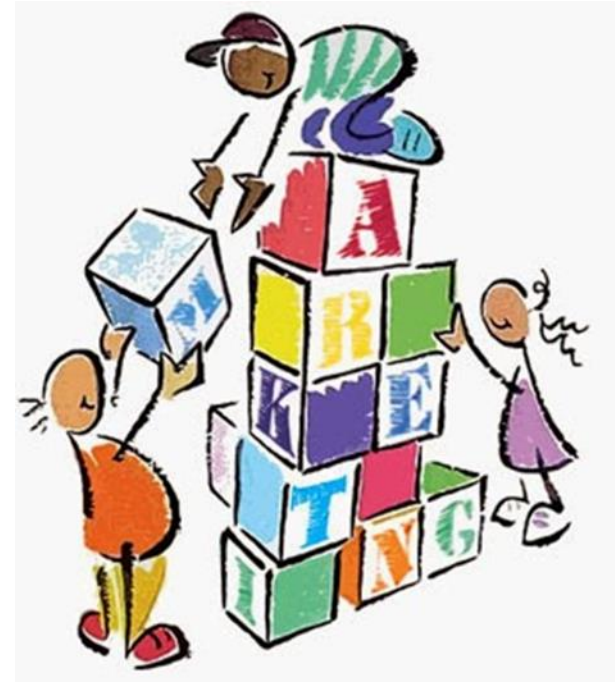
**Prepared by:**

**JOEL DIOQUINO ESPEDIDO, PhD**  
**Principal, Colegio de San Francisco**  
**City of General Trias, Cavite**  
**Graduate Faculty, Western Colleges, Inc.**  
**Naic, Cavite**



## Sec. 5 (e) RA 10533

The curriculum shall use pedagogical approaches such as **constructivism, inquiry based, reflective, collaborative, and integrative.**



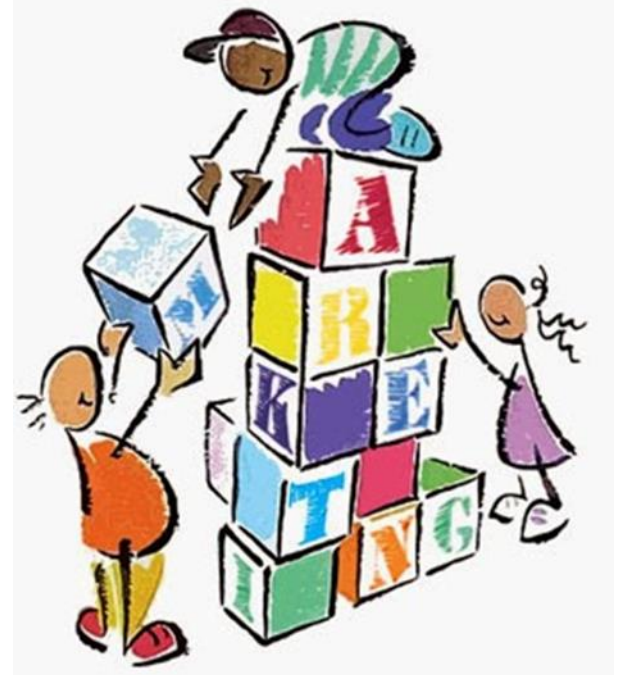
# Some Features of 21<sup>st</sup> Century Curriculum

- stronger integration of competencies and values within and across the learning areas to master learning standards (content and performance standards)
- we are molding “integrated” learners, or well rounded individuals.
- two main sources of reliable and meaningful knowledge for basic and higher education: expert systems of knowledge and the learners’ experience in his/her context





- **Definition** of Constructivism
- **Key Players** of Constructivism
- **Characteristics** of a Constructivist classroom
- **Roles of teachers** in a Constructivist teaching-learning environment







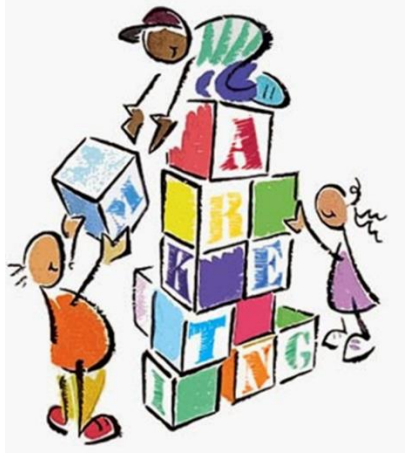
# ➤ CONSTRUCTIVISM Defined

- ❑ Today's students do not learn by passively receiving and then remembering what were taught, but by **actively constructing own meanings based on their prior knowledge/ experience** (schema).
- ❑ This “meaning-making” theory of learning is called **‘Constructivism’**.



## ➤ CONSTRUCTIVISM Defined

*“People **construct** their own understanding and knowledge of the world, through **experiencing** things and **reflecting** on those experiences”*



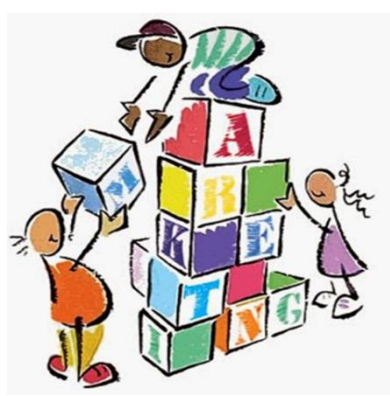
## ➤ **Basic Principle CONSTRUCTIVISM**

- ✓ **Learners construct understanding/ meaning based on their prior knowledge/ experience.**



# ➤ Key Players of **CONSTRUCTIVISM**

- **Jean Piaget**
  - Children think differently from adult thus he believed children were active learners and did not need motivation from adults to learn.
  - Children interpret knowledge differently as they progress through different stages.



# ➤ Key Players of **CONSTRUCTIVISM**

- **Jerome Bruner**
  - Learning is an active process in which the learner constructs new ideas or concepts based on his or her current and past knowledge.
  - Children are constructivist learners are participatory learners and are actively engaged in the learning process.



# ➤ Key Players of **CONSTRUCTIVISM**

- **Lev Vygotsky**
  - Learning was influenced significantly by social development and learning took place of a child's social development and culture (Social cognition)



# ➤ Key Players of **CONSTRUCTIVISM**

- **John Dewey**
  - Education was a social process therefore learning should engage and expand the experiences of the learners.



# Characteristics of CONSTRUCTIVIST CLASSROOM

TRADITIONAL	CONSTRUCTIVIST
<b>Curriculum begins with the parts of the whole. Emphasizes basic skills.</b>	Curriculum emphasizes big concepts, beginning with the whole and expanding to include the parts.
<b>Strict adherence to fixed curriculum is highly valued.</b>	Pursuit of student questions and interests is valued.
<b>Materials are primarily textbooks and workbooks.</b>	Materials include primary sources of material and manipulative materials.
<b>Learning is based on repetition.</b>	Learning is interactive, building on what the student already knows.





# ➤ Characteristics of CONSTRUCTIVIST CLASSROOM

TRADITIONAL	CONSTRUCTIVIST
<b>Teachers disseminate information to students; students are recipients of knowledge.</b>	Teachers have a dialogue with students, helping students construct their own knowledge.
<b>Teacher's role is directive, rooted in authority.</b>	Teacher's role is interactive, rooted in negotiation.
<b>Assessment is through testing, correct answers.</b>	Assessment includes student works, observations, and points of view, as well as tests. Process is as important as product.
<b>Knowledge is seen as inert.</b>	Knowledge is seen as dynamic, ever changing with our experiences.
<b>Students work primarily alone.</b>	Students work primarily in groups.



# ➤ Characteristics of **CONSTRUCTIVIST CLASSROOM**

*In a constructivist classroom,  
learning is...*

**Constructed / active**  
**Inquiry-based**  
**Reflective**  
**Collaborative**  
**Integrative**



# ➤ Roles of Teachers in **CONSTRUCTIVIST Teaching and Learning Environment**

- ✓ Prompt and facilitate discussion
- ✓ Guide students by asking questions that will lead them to develop their own conclusions on the subject
- ✓ Allow wait time after posing a question
- ✓ Engage students in experiences that might engender contradictions to their initial hypotheses and then encourage discussion



## ➤ **Roles of Teachers in CONSTRUCTIVIST Teaching and Learning Environment**

- ✓ prompt students to formulate their own questions (inquiry)
- ✓ allow multiple interpretations and expressions of learning (multiple intelligences)
- ✓ encourage group work and the use of peers as resources (collaborative learning)



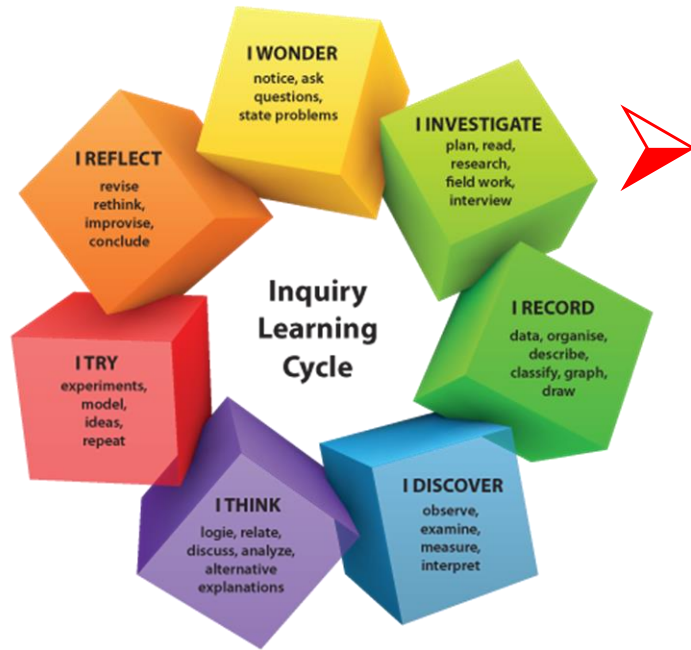
## ➤ Roles of Teachers in **CONSTRUCTIVIST Teaching and Learning Environment**

- ✓ Provide time for students to construct relationships
- ✓ Inquire about students' understandings of concepts before sharing their own understanding about the concepts



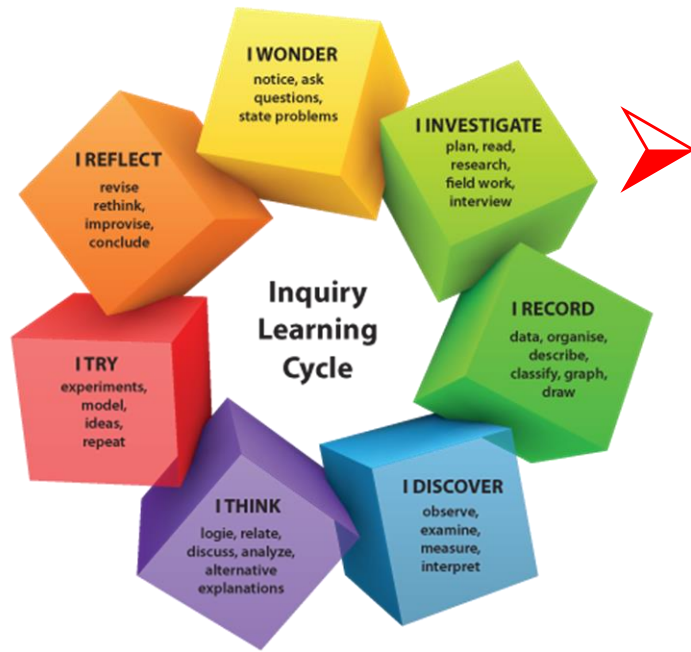
## ➤ Roles of Teachers in **CONSTRUCTIVIST Teaching and Learning Environment**

- ✓ Encourage students to engage in dialogue, both with the teacher and with one another
- ✓ Encourage student inquiry by asking thoughtful, open-ended questions and encouraging students to ask questions of each other
- ✓ Seek elaboration of students' initial responses



# INQUIRY-BASED APPROACH

□ solving problems is the main activity



# INQUIRY-BASED APPROACH

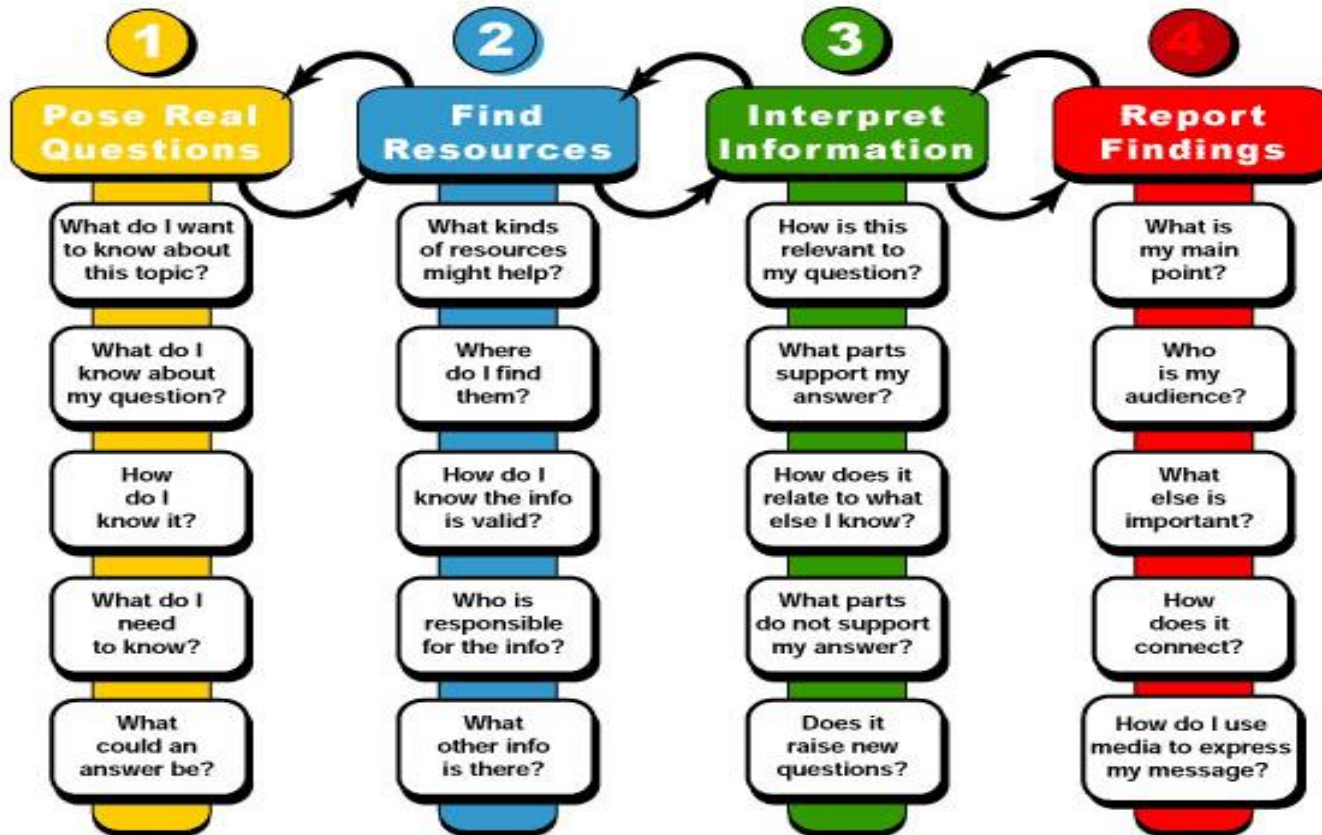
## Role of the teacher

*Let students:*

- ☐ ask questions, investigate a topic, and use a variety of resources to find solutions and answers
- ☐ Consider the inquiry process or the 4-embedded stages and 20-helpful-questions.



# The Inquiry Process



Source: [http://www.teachthought.com/critical-thinking/inquiry/20-questions-guide-inquiry-based-learning/?utm\\_content=bufferd5fd4&utm\\_medium=social&utm\\_source=facebook.com&utm\\_campaign=buffer](http://www.teachthought.com/critical-thinking/inquiry/20-questions-guide-inquiry-based-learning/?utm_content=bufferd5fd4&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer), retrieved, May 17, 2017.



# INQUIRY-BASED APPROACH

## Role of students:

- ☐ *They explore the topic, they draw conclusions, and, as exploration continues, they revisit those conclusions.*
- ☐ **Exploration of questions leads to more questions.**



# reflective teaching APPROACH

- Makes students as **experts of their own learning**
- Talks about what was learned and how it was learned is really important



# reflective teaching APPROACH

❑ In terms of sequence, the process of learning might go something like this:

1. Awareness leads to thoughts.
2. Thoughts both reflect and create knowledge.
3. Knowledge lead to emotions.
4. Emotions lead to behavior.

*Let's watch the video. "Teens react."*





# reflective teaching APPROACH

## Role of the teacher

- ☐ Create situations where the students feel safe questioning and reflecting on their own processes, either privately or in group discussions.
- ☐ Create activities that lead the student to reflect on his or her prior knowledge and experiences.



# reflective teaching APPROACH

## 8 Reflective Questions To Help Any Student Think About Their Learning:

1. What surprised you today, and why?
2. What's the most important thing you learned today? Why do you think so?
3. What do you want to learn more about, and why?
4. When were you the most creative, and why do you think that is?
5. What made you curious today? How does learning feel different when you're curious?
6. When were you at your best today, and why?
7. (Assuming we were studying the same thing and you could decide and have access to anything), where would you start tomorrow? Why?
8. What can/should you do with what you know?



# reflective teaching APPROACH

## Role of students

- They control their own learning process, and they lead the way by reflecting on their experiences.





# ➤ COLLABORATIVE APPROACH

- ❑ “Two heads are better than one”.
- ❑ Groups tend to learn through “discussion, clarification of ideas, and evaluation of other’s ideas.”
- ❑ Learning teams are said to attain higher level thinking and preserve information for longer times than students working individually.



# ➤ **COLLABORATIVE APPROACH**

## **Role of the teacher**

- ☐ Make sure that students learn about learning not only from themselves, but also from their peers.



# ➤ COLLABORATIVE APPROACH

## Role of the Teacher

- ☐ Establish group goals and individual accountability.
- ☐ Keep groups midsized
- ☐ For larger tasks, create group roles
- ☐ Establish group interactions.
  - ✓ Task functions include:
    - Initiating Discussions, clarifying points, summarizing, challenging assumptions/devil's advocate, providing or researching information and reaching a consensus



# ➤ COLLABORATIVE APPROACH

## Role of students

- ❑ Review and reflect on learning processes together, and pick up strategies and methods from one another.

*Maintenance of collaboration involves the **harmony and emotional well-being of a group**. Maintenance includes roles such as sensing group feelings, harmonizing, compromising and encouraging, time-keeping, relieving tension, bringing people into discussion, and ore.*



## ➤ INTEGRATIVE APPROACH

- ❑ Integrative learning is linked to the classical tradition of **educating the "whole" person**: encouraging "breadth of outlook, a capacity to see connections and hence an ability to make fundamental decisions and judgments" (Rothblatt 1993:28).
- ❑ **In its simplest conception, it is about making connections.**



## ➤ INTEGRATIVE APPROACH

- ❑ Requires the teaching of intentional learning (taking a deliberative and reflexive stance towards knowledge acquisition)
- ❑ Taking into account different dimensions of a problem, seeing it from different perspectives, and making conceptual links among the dimensions and perspectives



## ➤ INTEGRATIVE

### Role of the Teacher

- ☐ Incorporate multiple subjects, which are usually taught separately, in an interdisciplinary method of teaching.
- ☐ Help students to become life long learners and allows efficient coverage and delivery of curriculum in terms of expertise, resources and time.
- ☐ Engage students in meaningful and relative topics.





## ➤ INTEGRATIVE APPROACH

### Role of Students

- ❑ Learn naturally and in a learner-centered and in a learner-interest context.
- ❑ Synthesize their learning from a wide array of sources, learn from experience, and make significant and productive connections between theory and practice.

*This approach exists when a curriculum is created based on the learners' interests and is comfortable, fun and flexible.*

discovery learning

Rorty

Vico

# constructivism

cognitive apprenticeship inquiry

personal experiences

dialogical process

Vygotsky

scaffolding

learning as experience

zone of proximal development

Bruner anchored instruction

active contextualized

Piaget

Dewey

prior knowledge

problem based learning

process

mental representations

# Top 10 skills

## in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility



## in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity



The underlying thought process behind the decision to be a Constructivist teacher and to employ 21<sup>st</sup> century approaches in teaching might go like this:

“It is necessary for people to **know things, and how to do things related to what they know.** Teaching is one important way to support this. Teaching, then, is **work worth doing.** I am going to **decide how to teach,** and then over the years **learn to teach well.**”



# THANK YOU!!!

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