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United Nations
Educational, Scientific
and Cultural Organization
منظمة الامم المتحدة
للتربية والعلم والثقافة

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Pan-African Workshop on

Formative Assessment

2-4 July 2019, Jupiter Hotel, Addis Ababa

Context and Rationale

- **SDG4: enhancing learning outcomes**
- **Alignment (curriculum, teacher policy and practice, and assessment)**
- **Policy and practice**
- **Capacity development**

THERE ARE TWO GIFTS WE SHOULD GIVE OUR CHILDREN; ONE IS ROOTS, AND THE OTHER IS WINGS.


BASIC
HUMAN
NEEDS
SELF-
ACTUALIZATION
ESTEEM
SOCIAL NEEDS
SAFETY AND SECURITY
PHYSIOLOGICAL NEEDS (SURVIVAL)
Wi-Fi
BATTERY

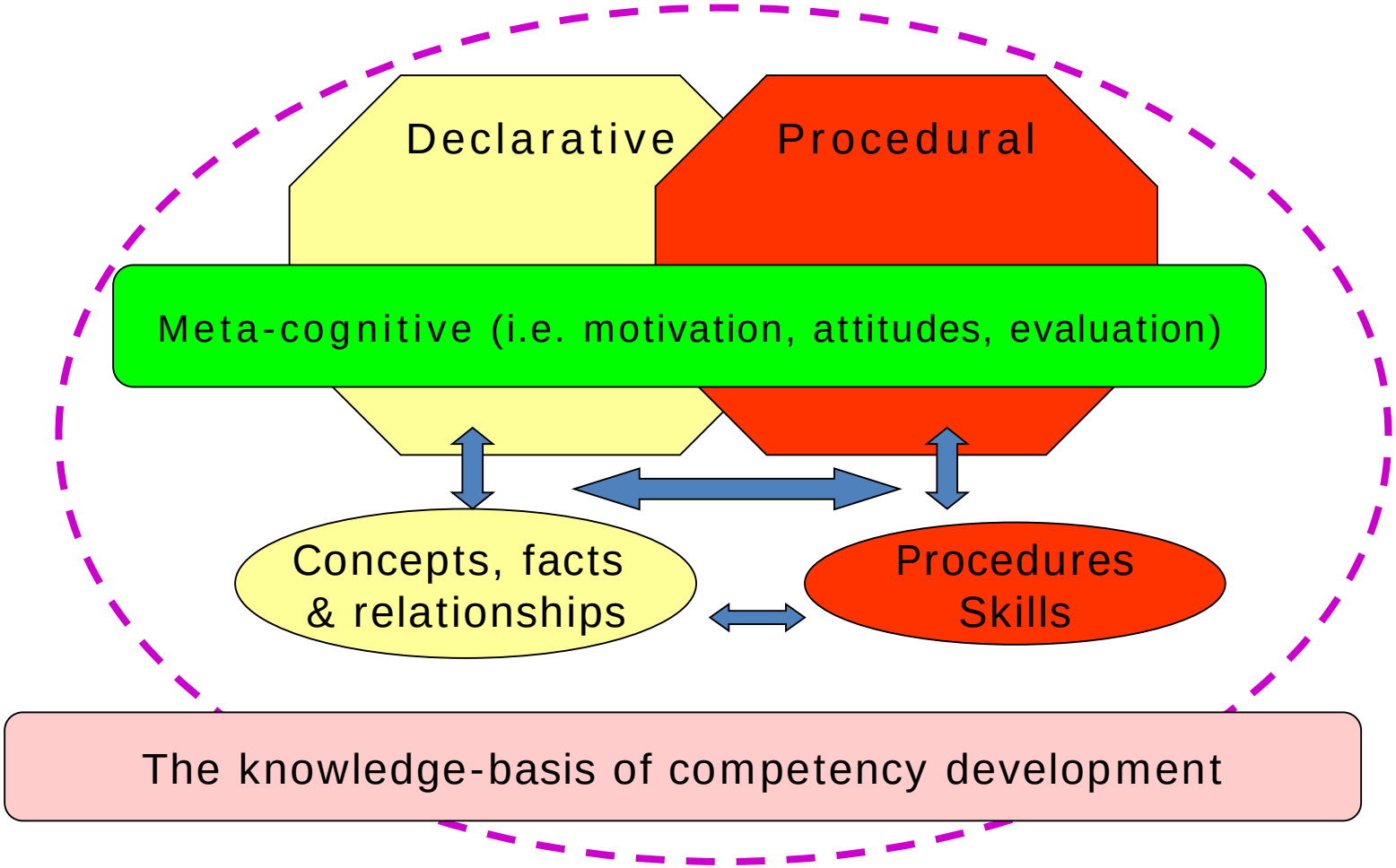
SDG4: Education – 10 targets

1. Learning

What	Domain	How
Knowledge	Cognitive	
Declarative (Concepts, facts)		
Procedural (Operations)	Metacognitive	
Skills	Cognitive Psycho-motor Affective	
Attitudes	Affective	

Values

What kind of knowledge?



Knowledge, skills and attitudes

- Hard skills
- Soft skills/21st Century skills/”Life skills” (UNICEF)
- Social and emotional learning/SEL

Learning content & methods:

Major influences of:

- **Constructivism**
- **Social-constructivism**
- **Brain research**
- **Post-modernist philosophies**
- **Critical philosophies**
- **Multiculturalism**

Learner-centredness

Participation
Interaction
Inquiry
Hands-on work
Problem solving
Assessment & self-assessment

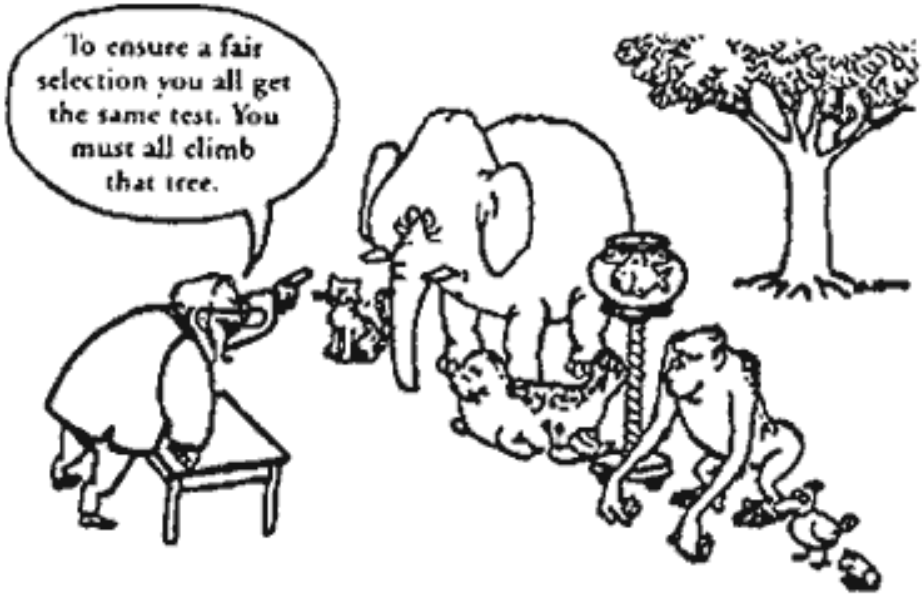
Curriculum dilemmas…

- Competency-based or competency driven?
- (Lack of)Balance of hard skills and soft skills…
- Basic/Foundational *versus* advanced/complex competencies/skills
- Humanistic & artistic tradition *versus* STEM focus
- Knowledge and theory of knowledge…
- Usage of new technologies, including AI
- Learning to learn

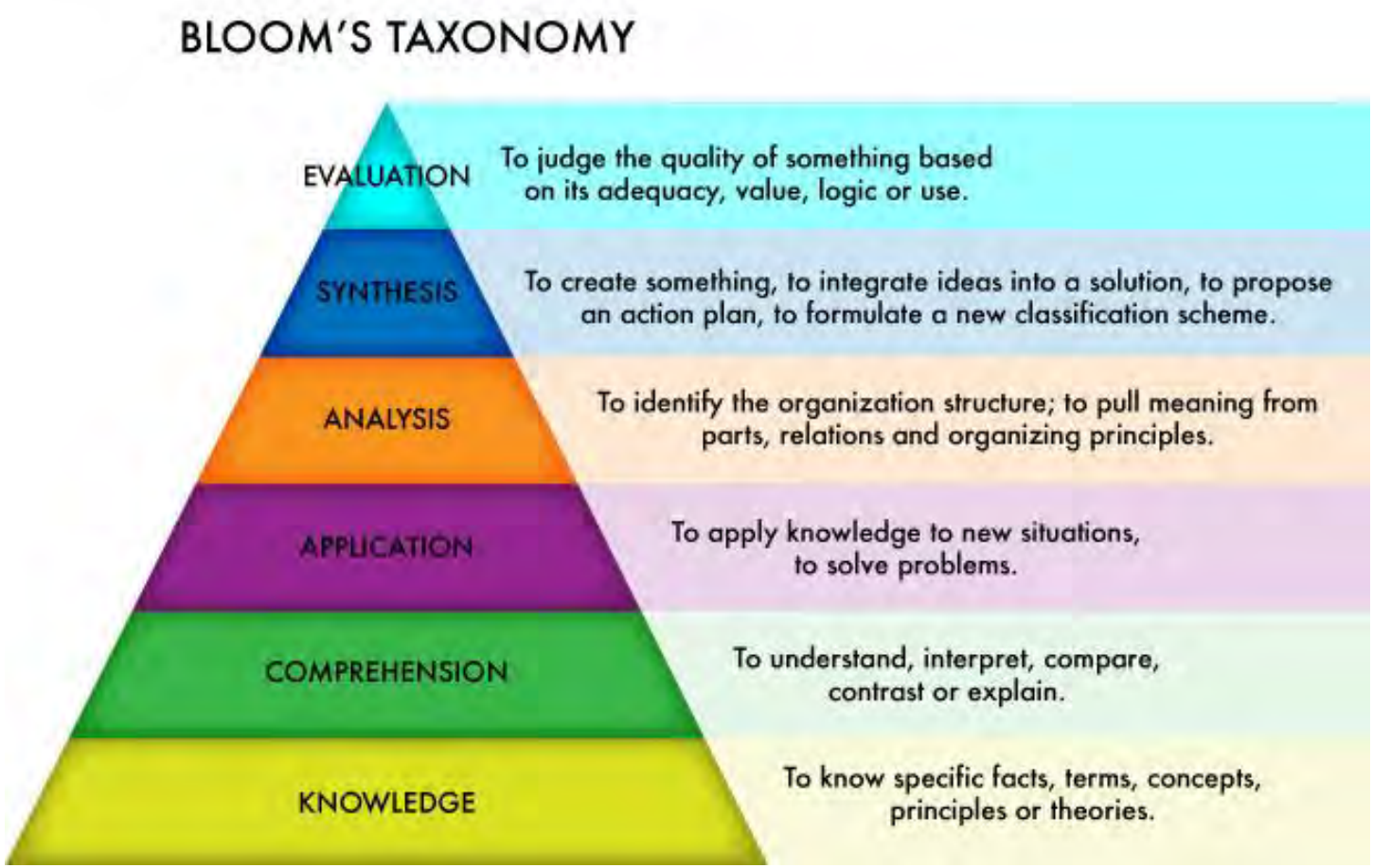
Assessment *as l*earning: balancing assessment *of* and *for learning*

Challenges:

- Clarity of purposes
- Measuring what is measurable
- Alternative means for assessing competencies



Learning: Cognitive Domain (1956)

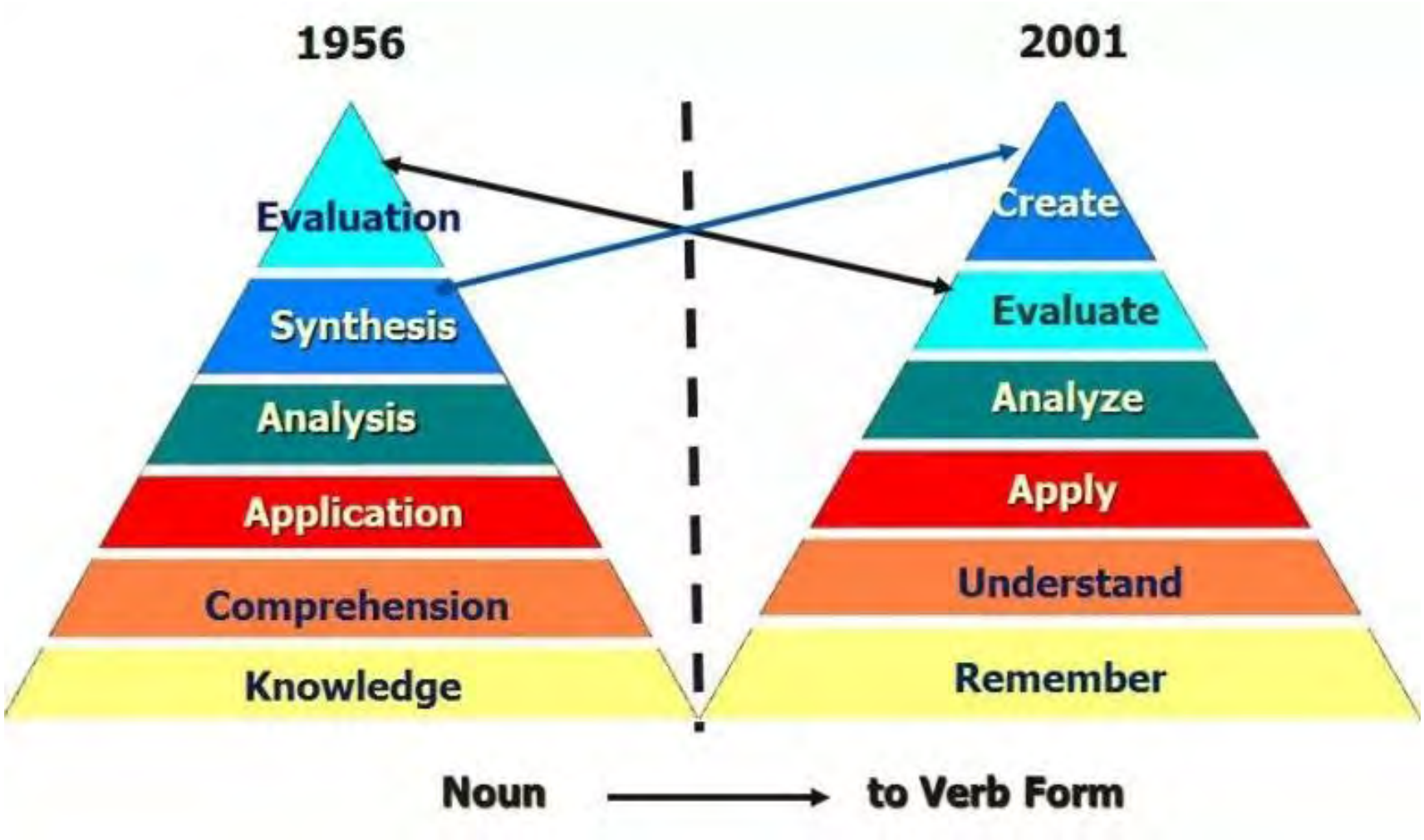


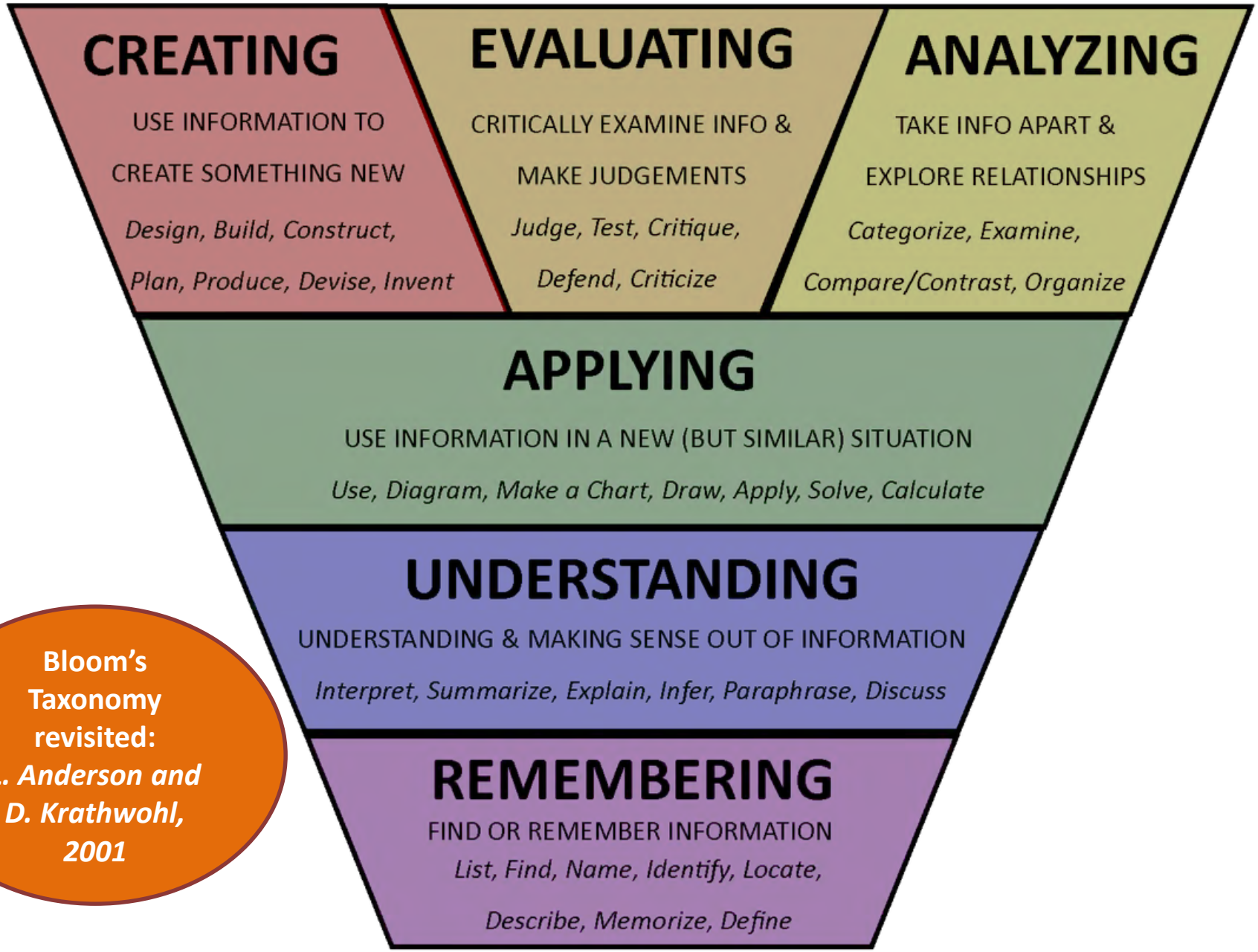
Verb Wheel Based on Bloom's Taxonomy

Domain

Appropriate verbs

Student products

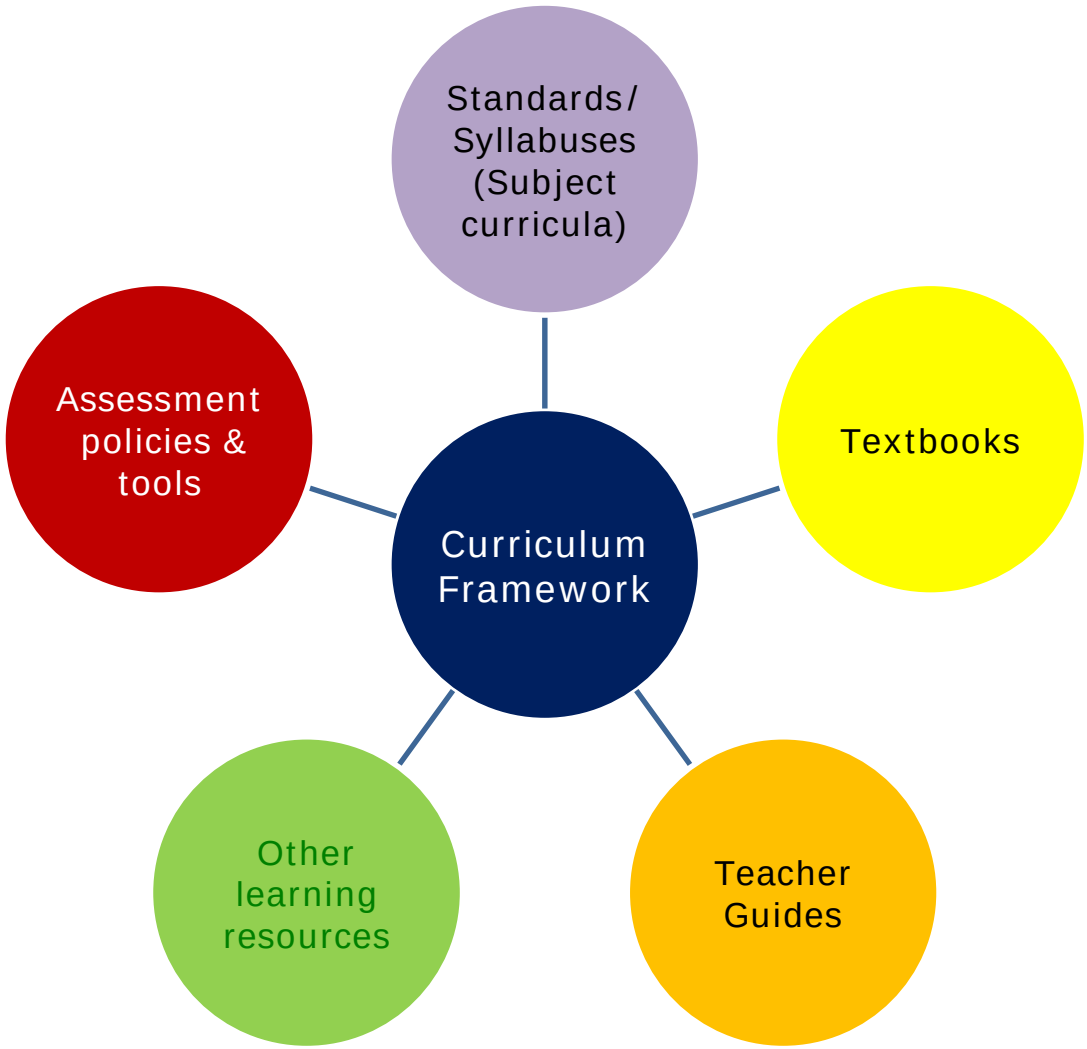

1956
2001
Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge
Create
Evaluate
Analyze
Apply
Understand
Remember
Noun
to Verb Form



Bloom's Taxonomy revisited:
L. Anderson and D. Krathwohl, 2001


Combining parts to make a new whole
Create
Judging the value of information or ideas
Evaluate
Breaking down information into component parts
Analyze
Applying the facts, rules, concepts, and ideas
Apply
Understanding what the facts mean
Understand
Recognizing and recalling facts
Remember
© tips.uark.edu

2. Curriculum and Curriculum Systems



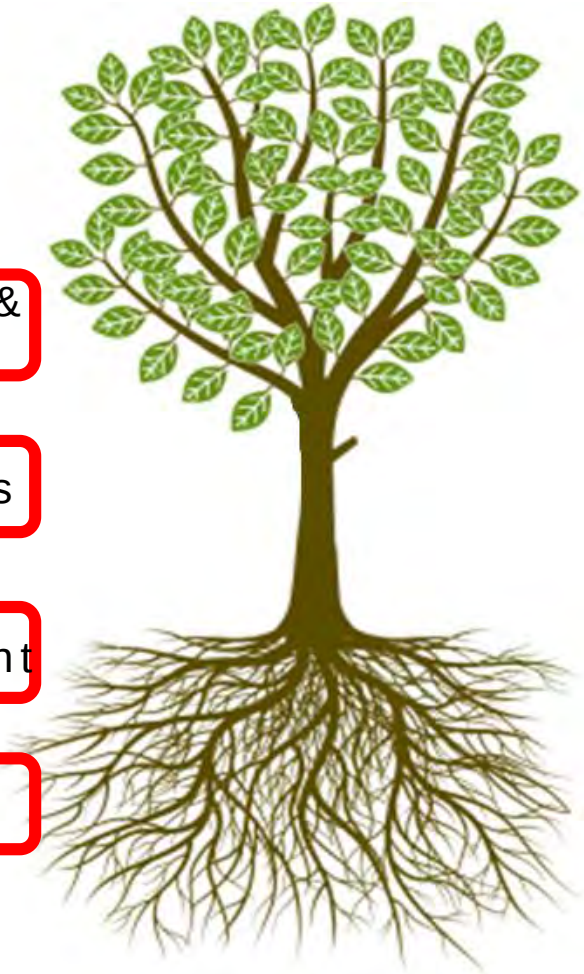
The "tree of learning" metaphor
(courtesy of Dr. Brian Male, IBE consultant for Iraq)

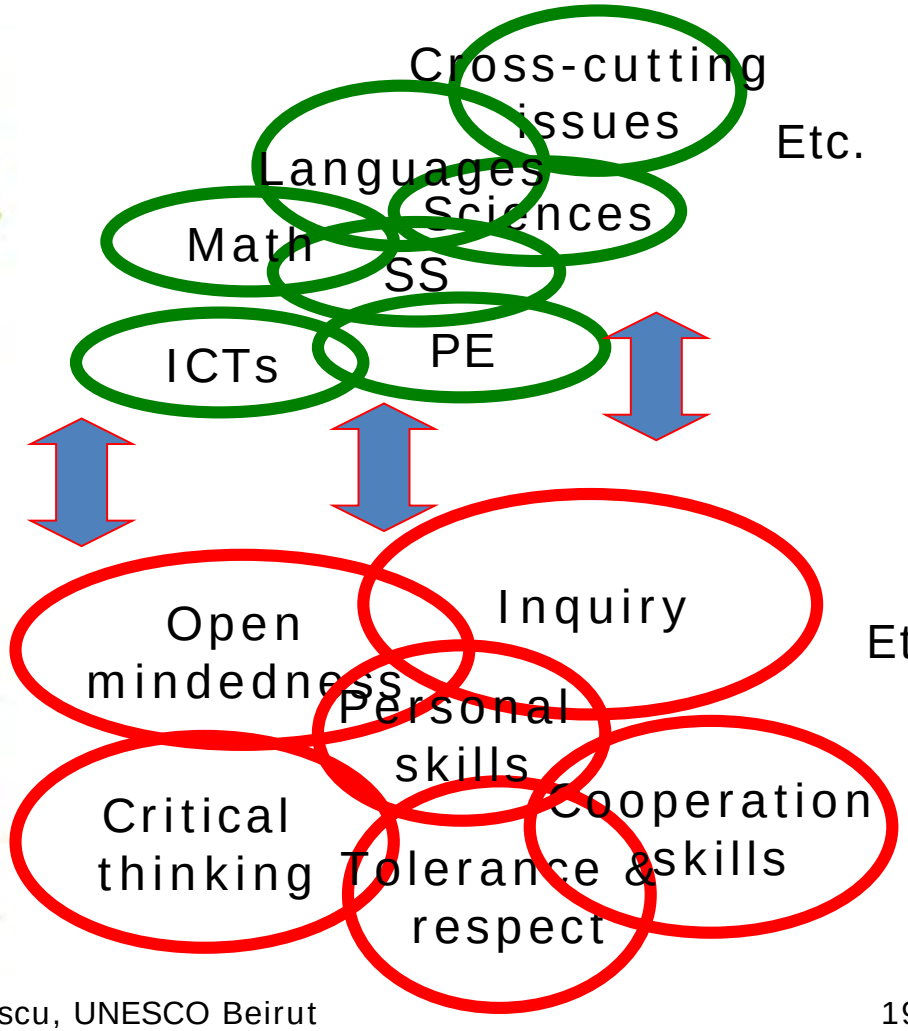
Teachers & teaching

Resources

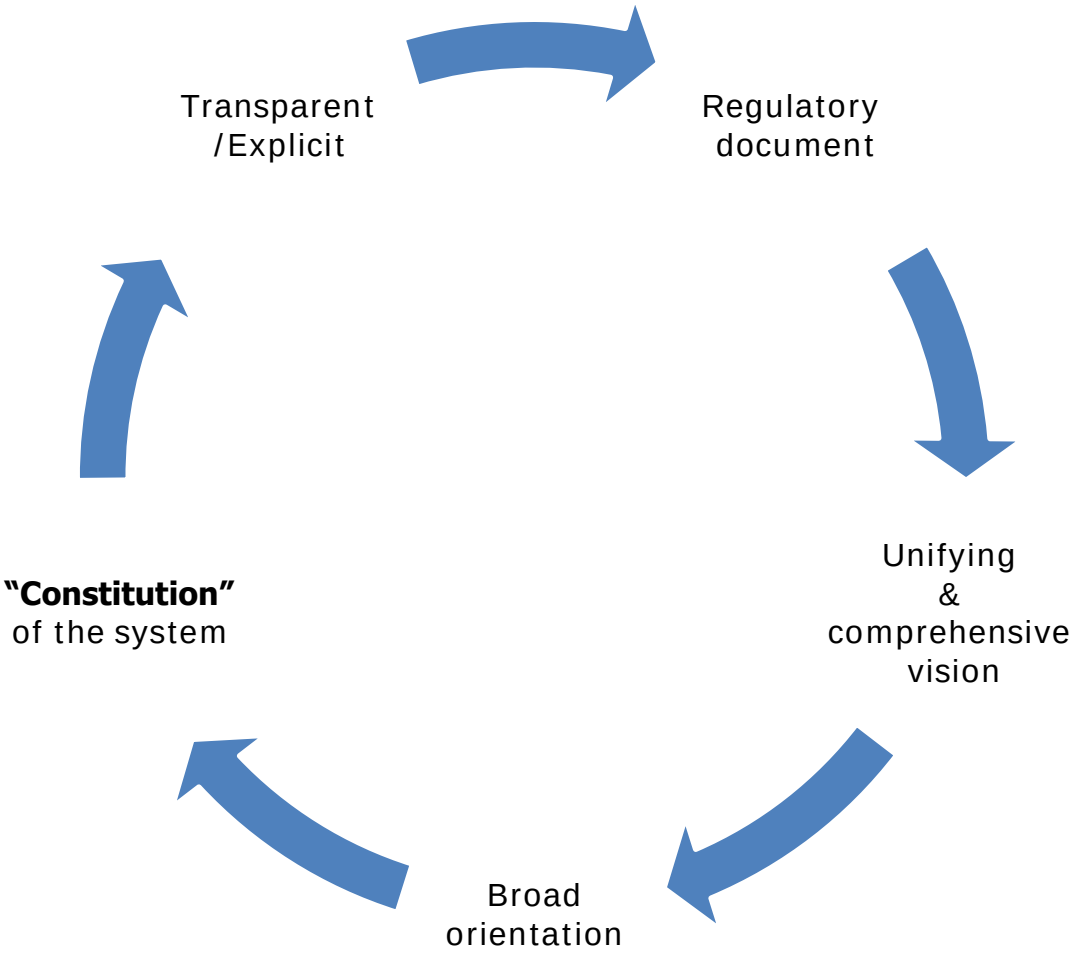
Assessment

TIME

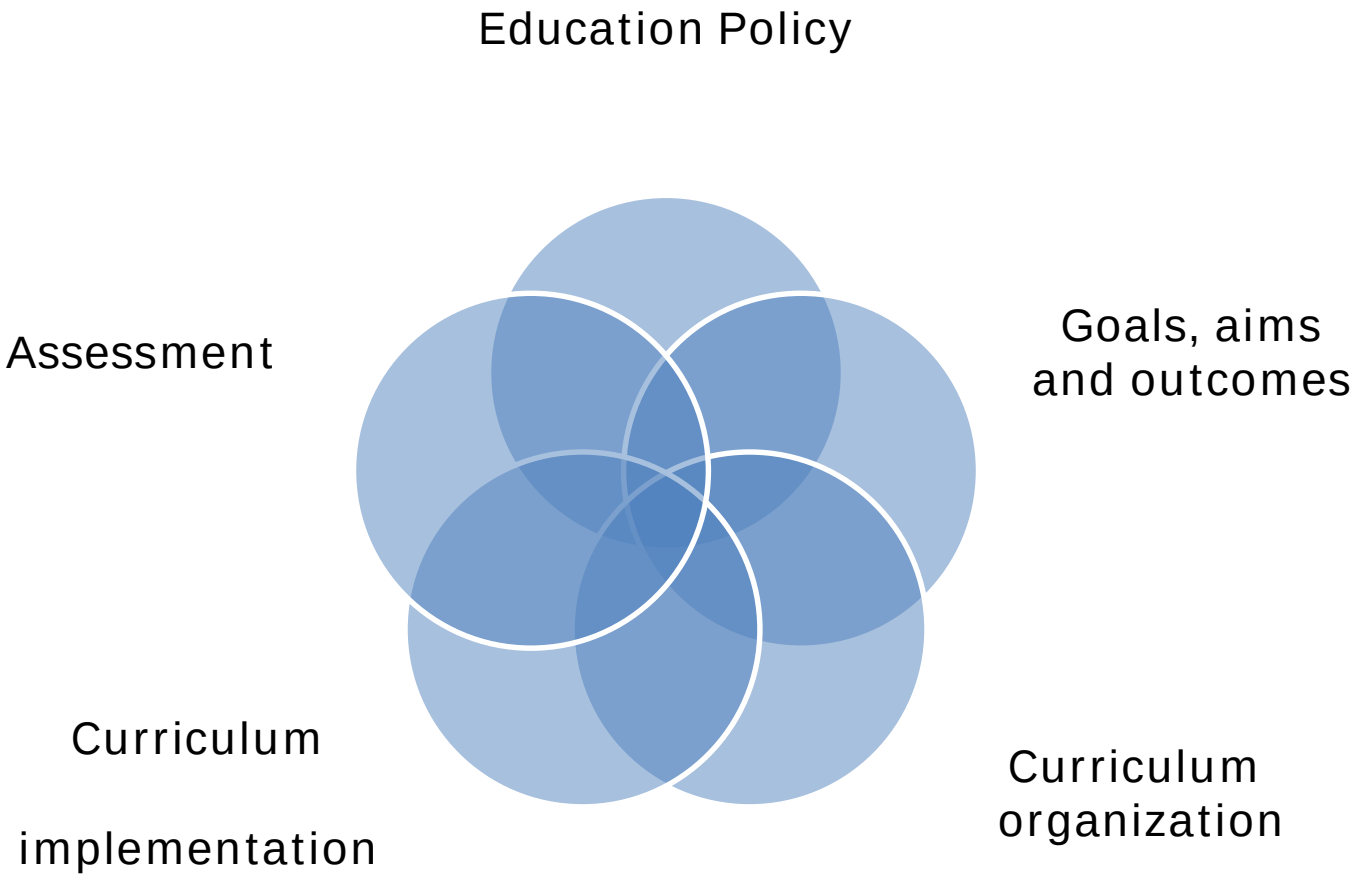




Curriculum Framework (CF)



Curriculum Framework: Main Issues



New Zealand CF: 1993-2007

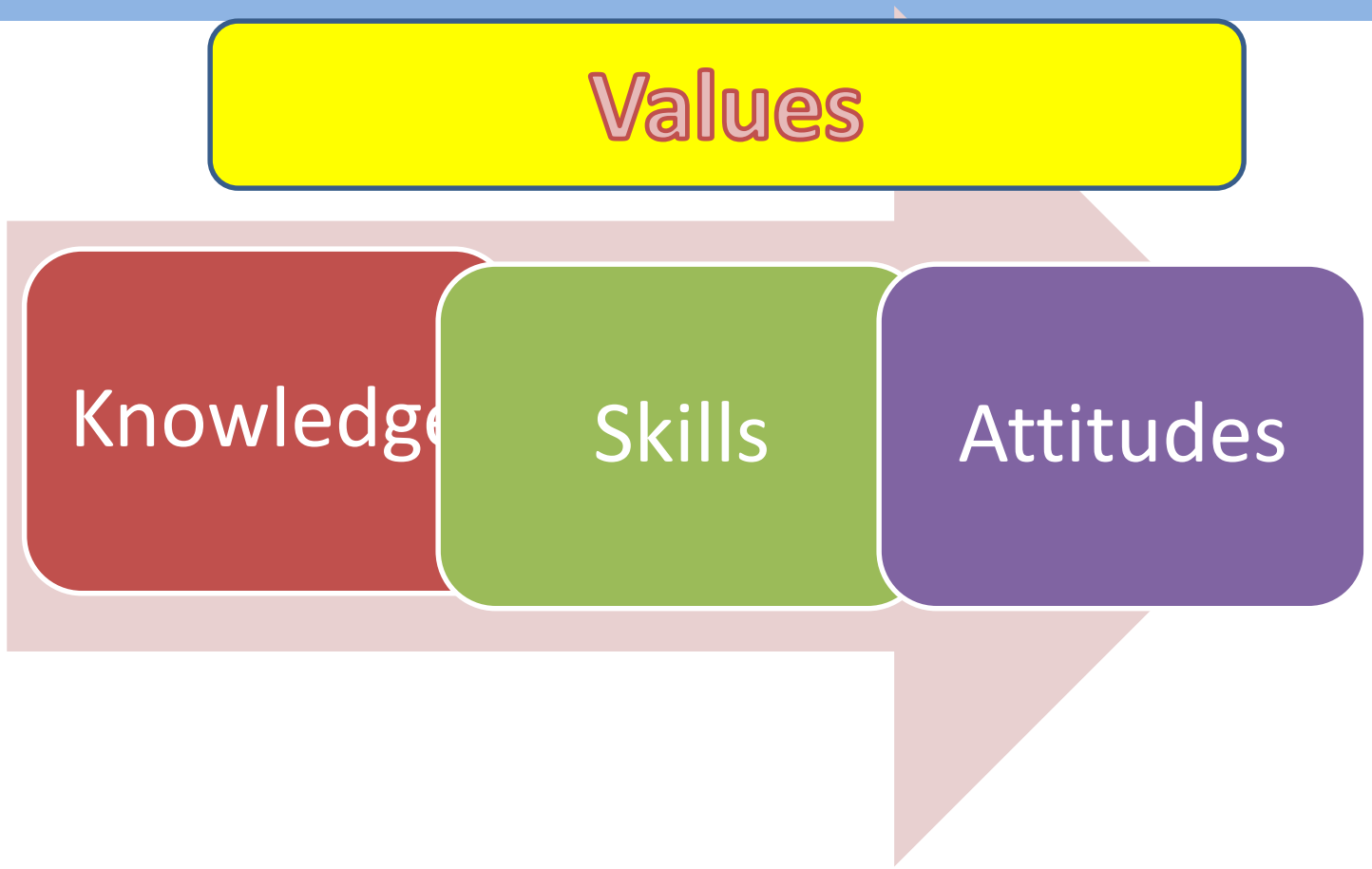
1993

- **Foreword**
- **The new Zealand Curriculum**
- **The principles**
- **The esssential learning areas**
- **The essential skills**
- **The values**
- **National Curriculum Statements**

2007

Contents

3. Key competencies




I SEE YOU DID WELL IN SCHOOL, BUT WHAT REAL-WORLD SKILLS DO YOU HAVE?
HUMAN RESOURCES
TESTS. I CAN TAKE TESTS.
WeKnowMemes

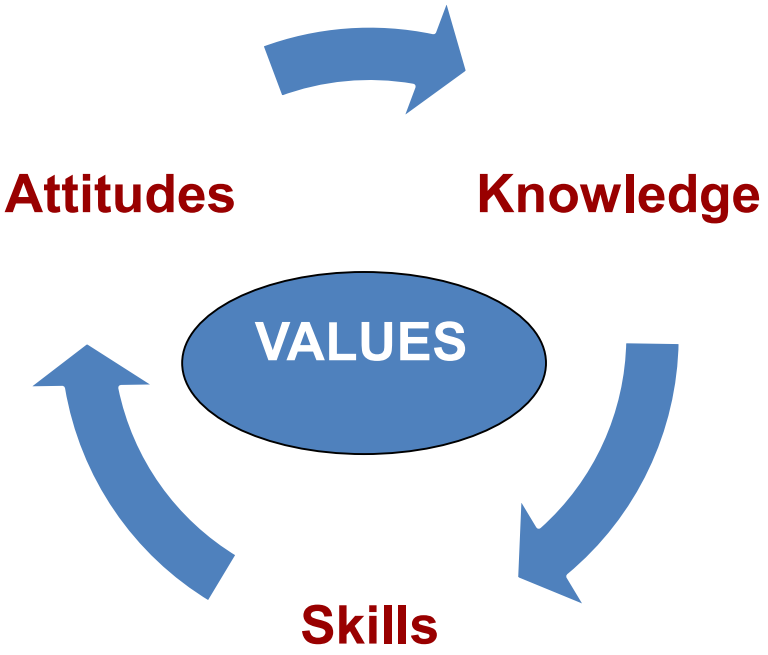
Interest in competencies: why?

Northern Ireland	Australia (Western Australia) – 10 capabilities
Communication Personal and interpersonal skills Managing information + *Thinking Skills and Personal Capabilities (TK&PC)*	Literacy; Thinking skills; Creativitiy; Self management; Teamwork; Intercultural understanding, Ethical behavior and social competence; Numeracy; ICT

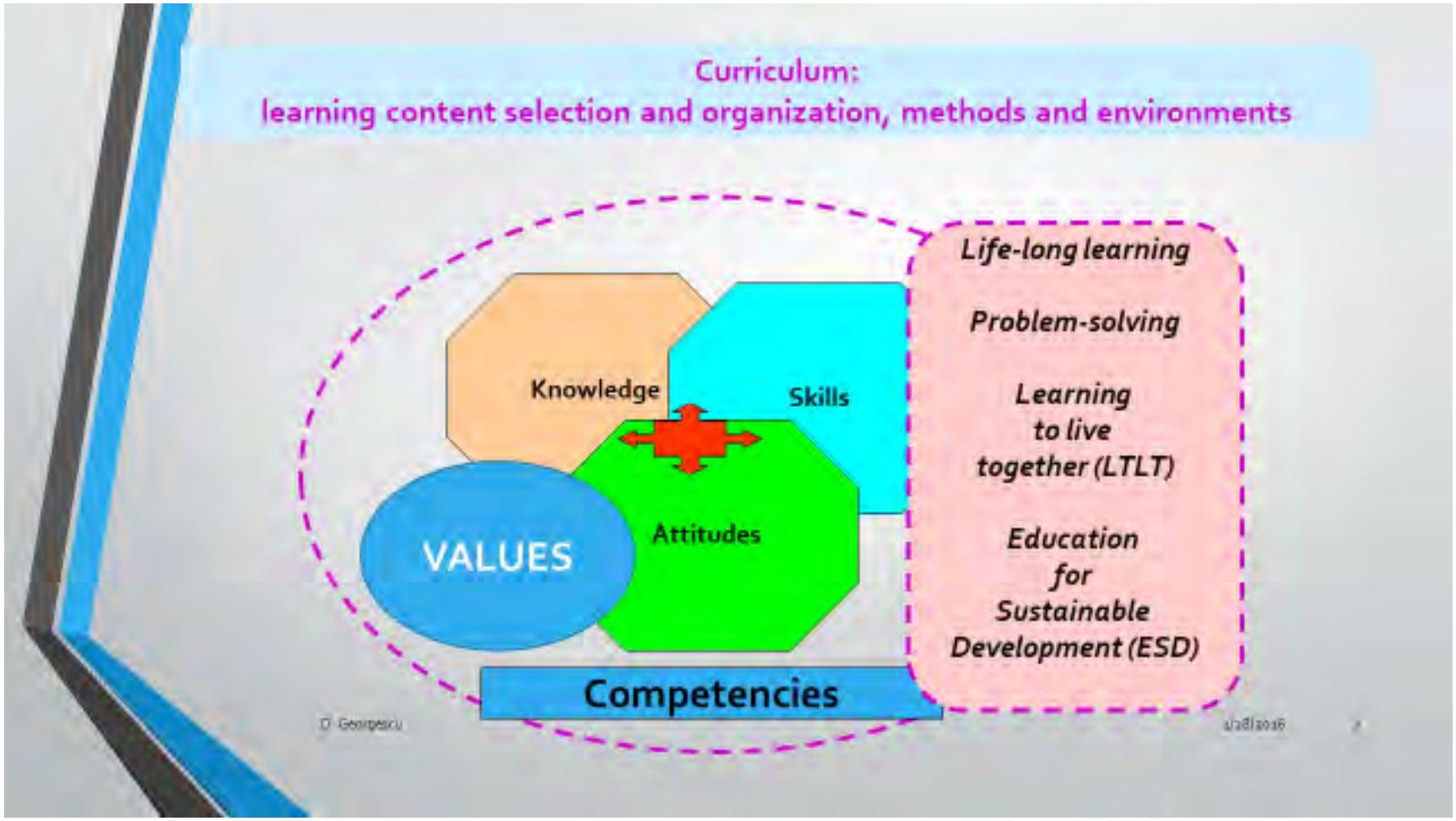
Competencies: some terminological issues

- **Competencies as articulation of knowledge, skills and attitudes**

- **Equivalent terms: « skills »; « capabilities »; skills and capabilities »**



Competencies – why do we need them?


Curriculum:
learning content selection and organization, methods and environments
Knowledge
Skills
Attitudes
VALUES
Competencies
Life-long learning
Problem-solving
Learning to live together (LTLT)
Education for Sustainable Development (ESD)

New Zealand (1997)

Communication Skills
Numeracy Skills
Information Skills
Problem-solving Skills
Self Management and Competitive Skills
Social and Cooperative Skills
Physical Skills
Work and Study Skills

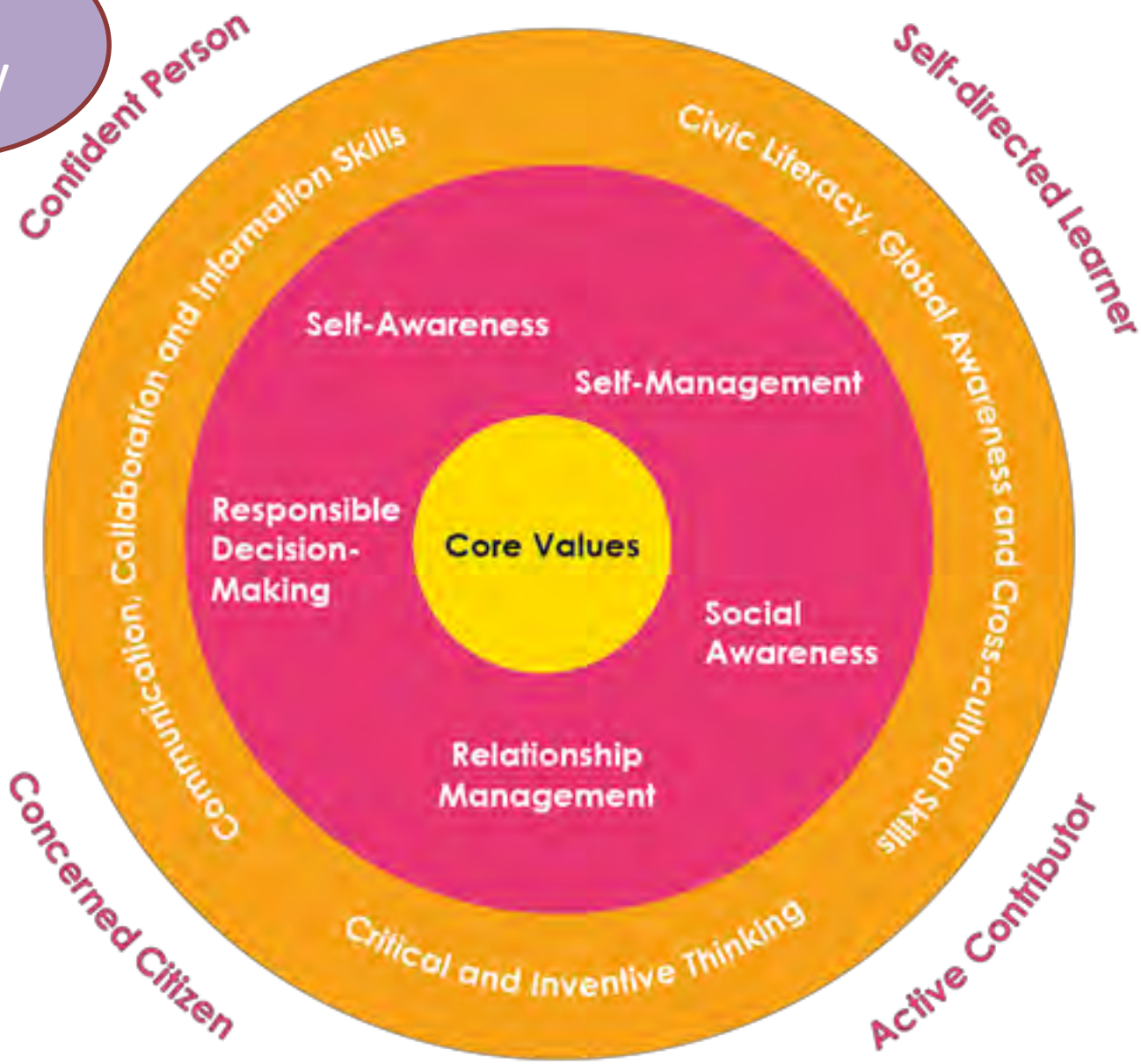
Singapore

1997

- Communication skills
- Character development
- Self management skills
- Social and cooperative skills
- Thinking skills and creativity
- Literacy and numeracy
- Information skills
- Knowledge application skills

D. Georgescu 1/18/2016 10

Singapore 21st Century Skills



Singapore Primary Sciences Curriculum

Singapore curriculum

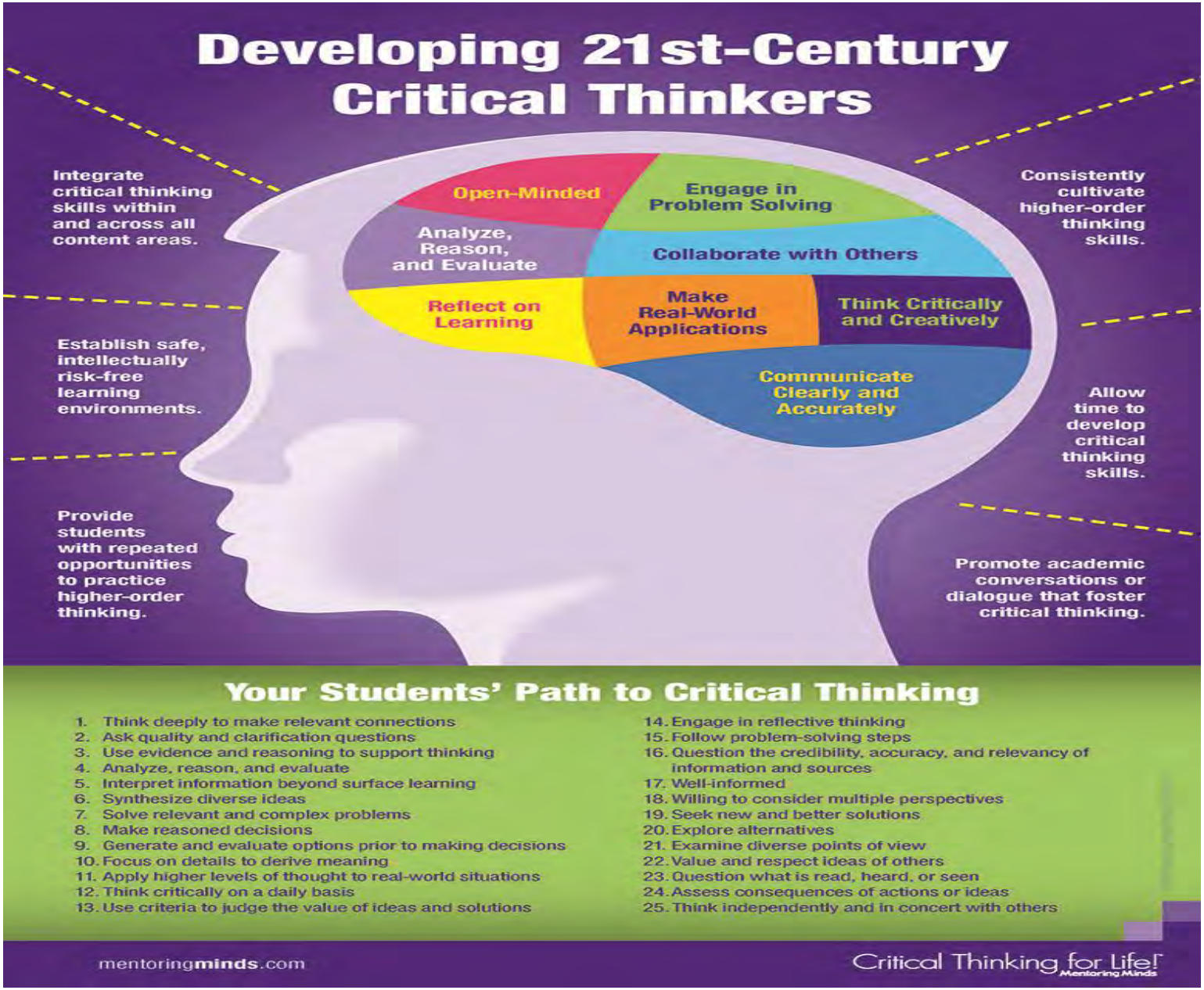
https://www.moe.gov.sg/syllabuses

Scotland: A curriculum for excellence key competencies

- Successful learners
- Confident individuals
- Responsible citizens
- Effective contributors

Syria Key Competencies (March 2018) compared to UNICEF LSCE core skills

Education pillars	UNICEF	Syria Curriculum Framework				Core Skills
Learning to LEARN	**Learning** Creativity Critical Thinking Problem-Solving	**Thinking Skills**	**Learning to Learn and Innovation Skills**	**Sustainable Development Skills**	**Communication Skills**	Basic Skills (Literacy, Numeracy, ITCs) Learning to Learn Problem solving Creativity Critical thinking
Learning to BE	**Personal Development** Communication Resilience Self-Management		**Life and Career Skills**			Self-respect Self-management Communication Conflict solving
Learning to DO	**Employability** Cooperation Negotiation Decision Making					Team work Cooperation Fair competition Decision making Entrepreneurship Respecting procedures and time keeping Innovating
Learning to LIVE TOGETHER	**Active Citizenship** Participation Empathy Respect for Diversity		**Local, National and Global Citizenship**			Participation & Leadership Empathy Rights and Responsibilities Inclusiveness

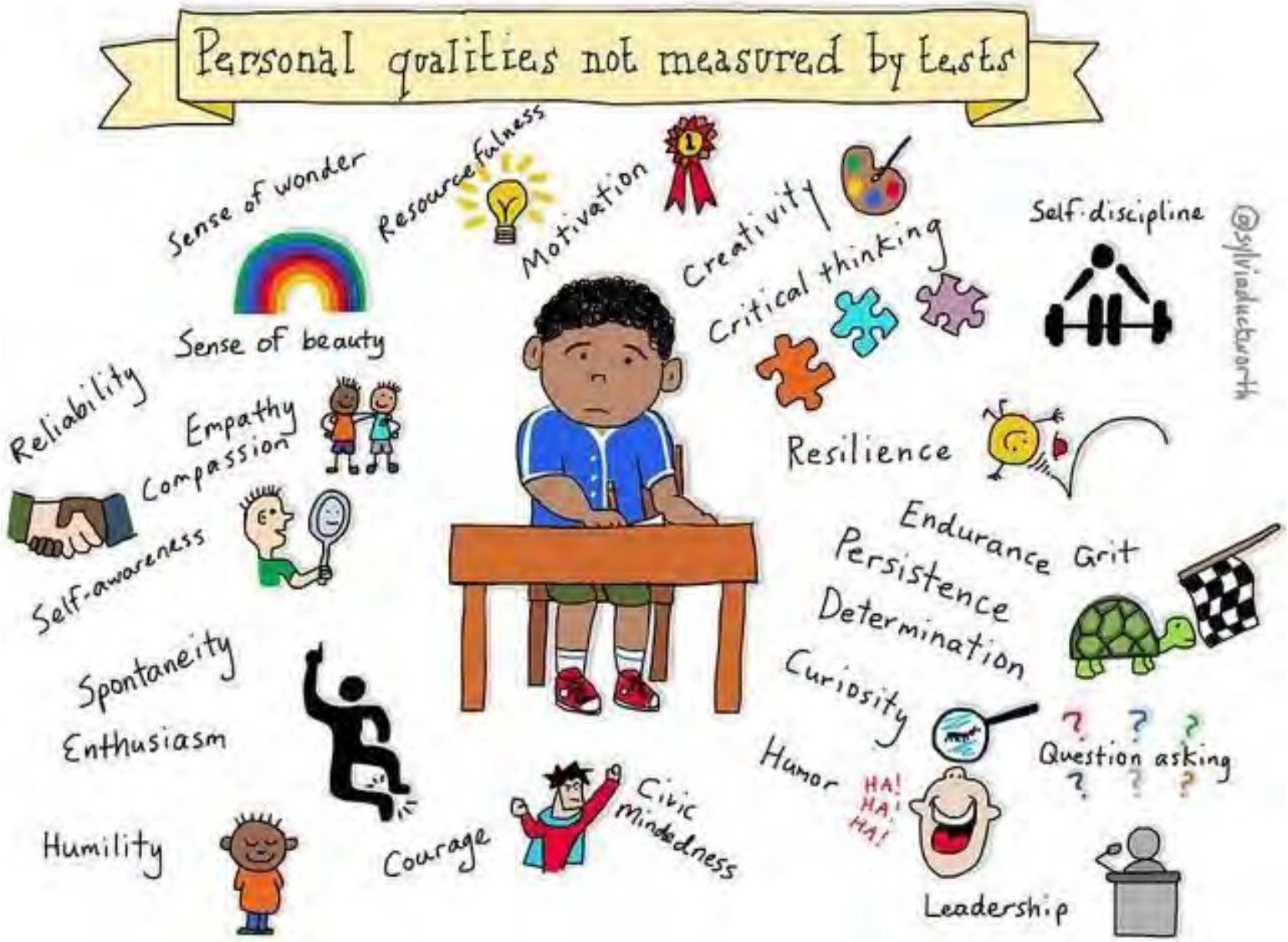

Developing 21st-Century Critical Thinkers
Integrate critical thinking skills within and across all content areas.
Establish safe, intellectually risk-free learning environments.
Provide students with repeated opportunities to practice higher-order thinking.
Open-Minded
Engage in Problem Solving
Analyze, Reason, and Evaluate
Collaborate with Others
Reflect on Learning
Make Real-World Applications
Think Critically and Creatively
Communicate Clearly and Accurately
Consistently cultivate higher-order thinking skills.
Allow time to develop critical thinking skills.
Promote academic conversations or dialogue that foster critical thinking.
Your Students' Path to Critical Thinking
1. Think deeply to make relevant connections
2. Ask quality and clarification questions
3. Use evidence and reasoning to support thinking
4. Analyze, reason, and evaluate
5. Interpret information beyond surface learning
6. Synthesize diverse ideas
7. Solve relevant and complex problems
8. Make reasoned decisions
9. Generate and evaluate options prior to making decisions
10. Focus on details to derive meaning
11. Apply higher levels of thought to real-world situations
12. Think critically on a daily basis
13. Use criteria to judge the value of ideas and solutions
14. Engage in reflective thinking
15. Follow problem-solving steps
16. Question the credibility, accuracy, and relevancy of information and sources
17. Well-informed
18. Willing to consider multiple perspectives
19. Seek new and better solutions
20. Explore alternatives
21. Examine diverse points of view
22. Value and respect ideas of others
23. Question what is read, heard, or seen
24. Assess consequences of actions or ideas
25. Think independently and in concert with others
mentoringminds.com
Critical Thinking for Life!
Mentoring Minds

Key competencies:

What do we want to achieve and how do we get there?

- Fulfilled & happy persons
- Knowledgeable people
- Productive agents
- Responsible (global) citizens
- Moral beings
- Spiritual beings
- Effective communicators
- Critical thinkers (HOTS)
- Problem solvers (HOTS)
- Creative minds (HOTS)


"Sometimes, the most brilliant and intelligent minds do not shine in standardized tests because they do not have standardized minds."
-Diane Ravitch


Personal qualities not measured by tests
Sense of wonder
Resourcefulness
Motivation
Creativity
Critical thinking
Self-discipline
@sylviaduckworth
Sense of beauty
Reliability
Empathy
Compassion
Resilience
Self-awareness
Endurance
Grit
Persistence
Determination
Spontaneity
Curiosity
Enthusiasm
Humor
HA! HA! HA!
Question asking
Humility
Courage
Civic Mindedness
Leadership

Why can key competencies help?

- Focus on relevant knowledge and meaningful learning
- Whole-child/learner approach
- Developing higher-order thinking skills
- Avoiding redundancy and overload
- Preparation for life and work
- Learning to learn

D. Georgescu

4. Curriculum review (and revision)

Curriculum review is one important component of "curriculum cycles" based on which curricula are being continuously adjusted/improved. It implies to examine the curriculum with an eye to (constructive) criticism or correction in order to determine the best possible links between curriculum vision and planning, on the one hand, and curriculum implementation on the other hand. While curriculum may be changed occasionally on an ad-hoc basis and through piecemeal approaches, carrying out a curriculum review sets the basis for a systematic process of development/change, based on informed decision making. Typically, curriculum review is performed as a starting point for curriculum revision and/or curriculum renewal.

According to curriculum theory, one should distinguish between different "types" of curriculum, namely:

1. **The written/intended/official curriculum** that is usually laid down in documents, such as curriculum frameworks, syllabuses (subject curricula), textbooks and other learning materials/resources, teacher guides, learner exercise books, assessment guides.

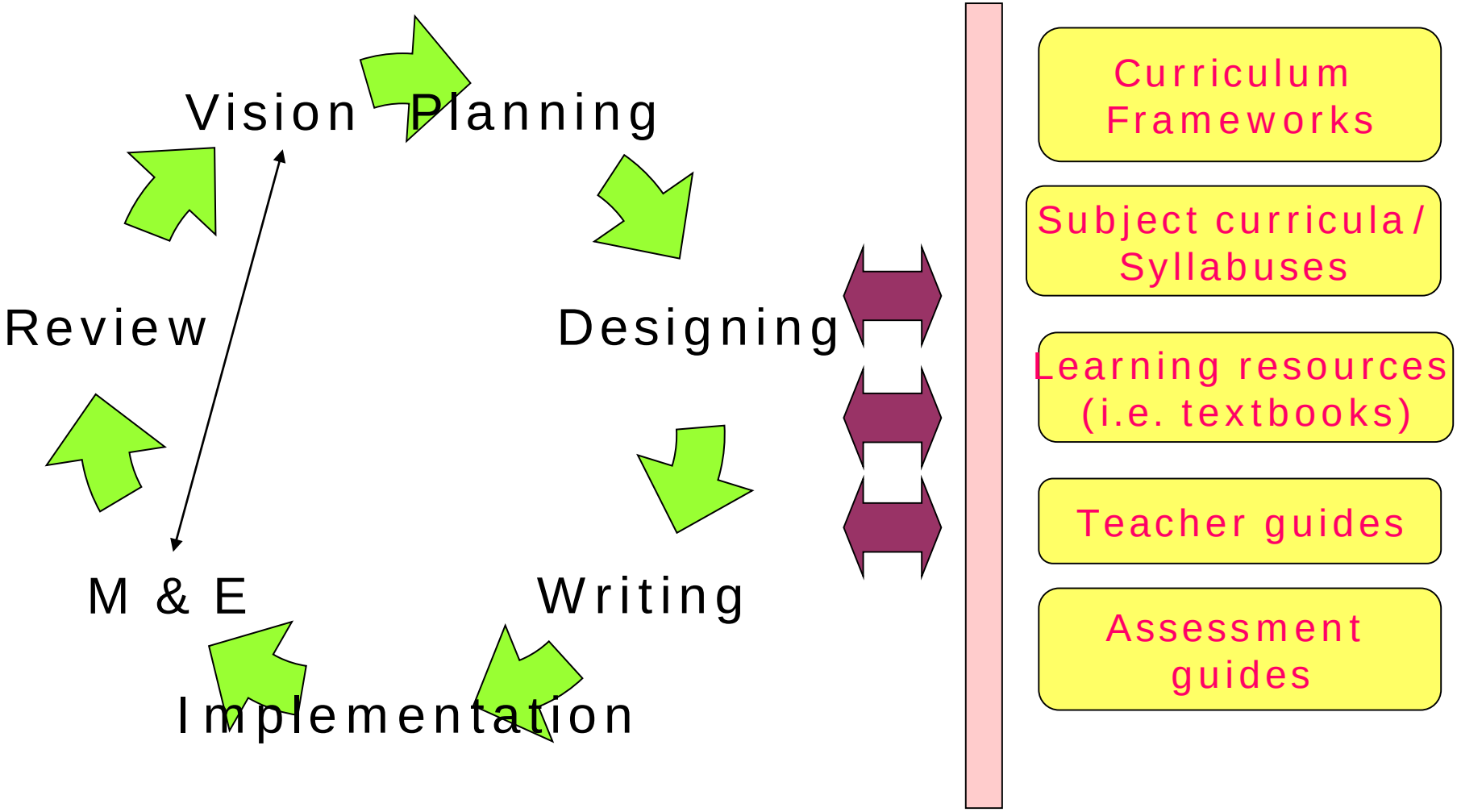
1. **The applied/implemented curriculum** that results from school- and classroom interactions, as well as from the interactions between learning environments and communities.

2. **The assessed curriculum** that results from assessment outcomes.

3. **The learned/effective curriculum** that constitutes the sheer learner acquisitions.

4. **The hidden curriculum** that may be based on different (even opposite) values and other assumptions than the "official" curriculum and/or may represent learning that was not intended.

Curriculum "Cycles"




Nu conteaza câte resurse ai...
Adrian Tamas
Dacă nu ştii să le foloseşti,
nu vor fi niciodată suficiente.

Curriculum ‘models’ can be classified as follows:

- **Content (i.e. subject; teacher; textbook)-based curriculum**. In this model, teaching and learning are focused on acquiring knowledge, which is also reflected in assessment practices. Traditional curricula are usually content-based.
- **Objectives-driven curriculum**. This model was merely influenced by educational taxonomies (such as Bloom’s taxonomy of educational objectives). It pays more attention to learning processes and skills, especially with regard to the cognitive dimension. Based on thoroughly-developed taxonomies of cognitive objectives, this model was at the origin of the standardized testing movement.
- **Process-based curriculum**. This model privileges social and emotional aspects of learning that are being explored and fostered based on interactive pedagogies (i.e. through group work, collaborative learning, including peer-coaching, project work).
- **Competency-based curriculum**. As the most recent of such ‘models’, the competency-based curriculum claims the need of fostering competencies, as a complex articulation of knowledge, attitudes and skills that are underpinned by values and expectations. In this model, knowledge has to be relevant through application in the context of problem solving through independent and creative thinking and action.

Among factors eliciting the need of curriculum review are the following:

- Expansion of our knowledge and changes to understanding our world;
- New developments in society and economy, including in the labor market;
- Increased dialogue, but also tensions, among cultures within local, national and international/Global contexts that are brought forward by globalization phenomena (especially via traveling, economic mobility, and the Media, including and moreover the new Media, such as social Media supported by Internet);
- Challenges of sustainability;
- Natural risks and disasters, as well as man-made situations of conflict, crisis and disasters;
- Changes in people's living conditions and aspirations;
- Changes in technology;
- New advances in fields like curriculum, assessment, learning psychology, education sociology, educational sciences (including and moreover with regard to teaching and learning).

Phases in curriculum review

Preparing

- Start Discussions
- Set the vision
- Research/Analyse curriculum trends

Carrying out curriculum review

- Assess the curriculum against identified trends & quality criteria
- Set the vision
- Consult stakeholders
- Prepare Report/Recommendations

Taking action

- Upgrade the curriculum
- Align Curriculum, Assessment and TT
- Train teachers, headmasters, inspectors, teacher trainers, etc.
- Monitoring

The **visionary elements** of the education/curriculum policy, such as:

1. The country's aspirations and development prospects

2. The main education aims that are aligned with those aspirations and development prospects

3. The values and principles that underpin education and the curriculum (i.e. what kind of learner is envisaged; what kind of learning; how should the curriculum be constructed so as to meet the expected education aims)

1. Expected learning outcomes (i.e. learner competencies = knowledge, skills and attitudes) for different education stages and/or learning areas.

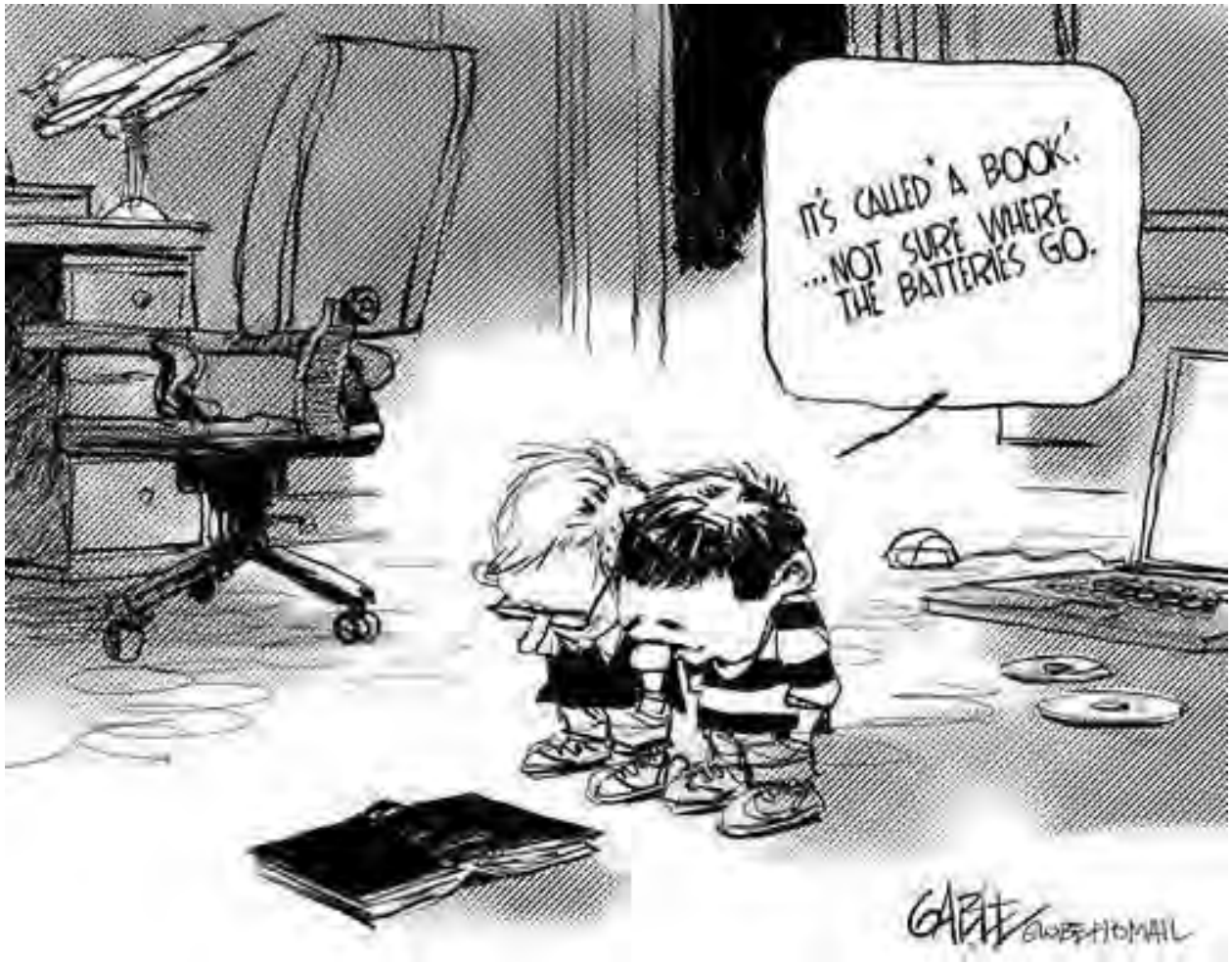
Among the **quality criteria** to be possibly considered are the following:

(a) How well does the curriculum respond to learner needs

- Is it up-to-date?
- Is it well balanced?
- Does is cater for diversity and inclusiveness?
- Does it foster competencies (i.e. knowledge, skills and attitudes, such as openness and critical thinking; tolerance and respect) and (holistic) personal development?
- Is it relevant?
- Is it feasible?
- Is it assessable?

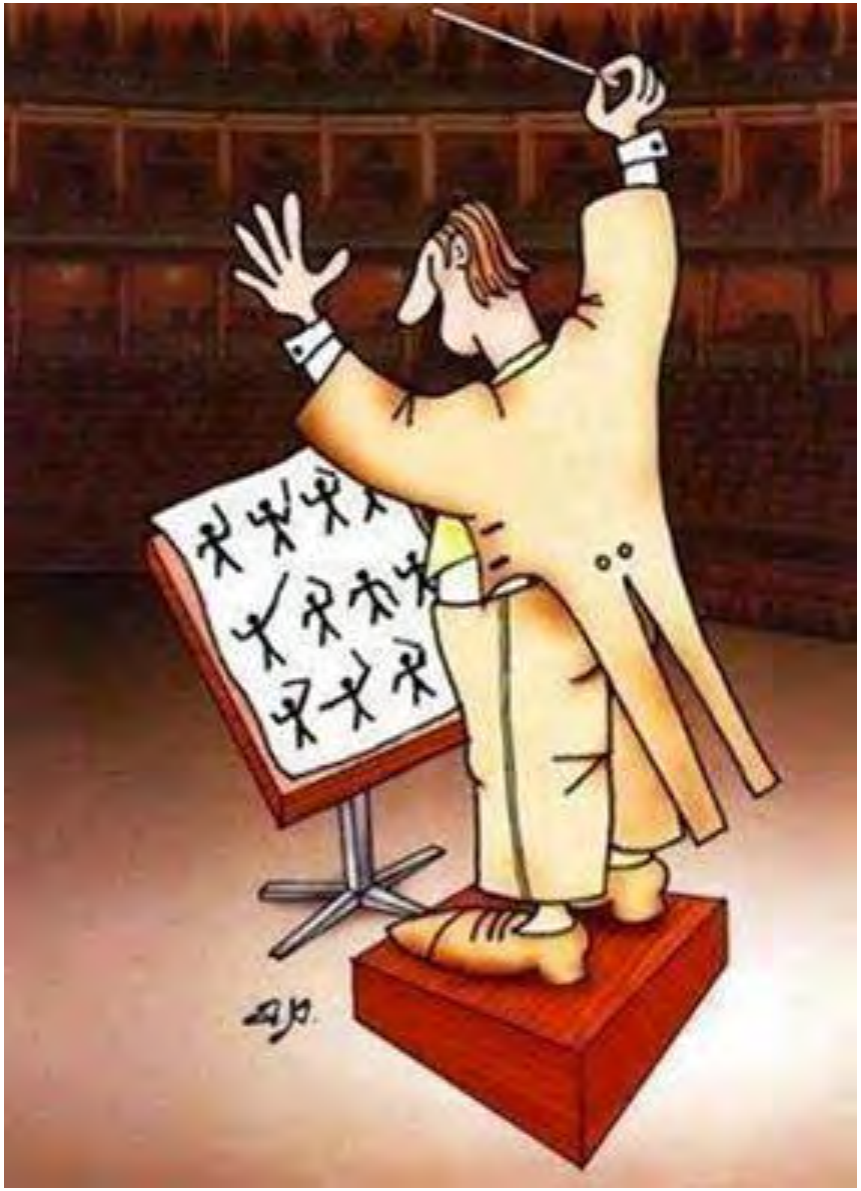
Question By A STUDENT !!

If A Single Teacher Can't Teach Us All The Subjects, Then..
How Could You Expect A Single Student To Learn All Subjects??


IT'S CALLED 'A BOOK'.
...NOT SURE WHERE THE BATTERIES GO.

(b) How does the curriculum foster **school-community links and the integration of learners in life and the labor market?**

- Is the curriculum practically- and problem-solving oriented?
- Is the curriculum challenging and motivating?
- Does it integrate stakeholder views?
- Does it encourage the involvement of stakeholders?
- Does it foster school-community links (i.e. community service; project work; counseling and orientation)
- Does it prepare learners for life and work?



3. How does the curriculum contribute to **equity and inclusiveness**?

- languages of instruction close to the children's experience, especially in early years;
- diversified curriculum that takes into account the learner needs, including special needs;
- diversified curriculum that takes into account local conditions and needs (i.e. local, school-based curriculum);
- absence of biases, as well as of messages promoting discrimination, hatred and violence in whatever form (for instance, gender biases);
- teaching and learning strategies, including assessment that take into account the diversity of learner styles and environments, as well as the "whole child" approach (i.e. all aspects of learner's personality and personal development);
- effective support systems for learners to cope with learning difficulties and/or develop their talents and interests by being challenged in an appropriate way;
- appropriate incentives for students and teachers to enhance their motivation and performances.

4. How does the **curriculum integrate new, emerging issues and cross-cutting objectives?**

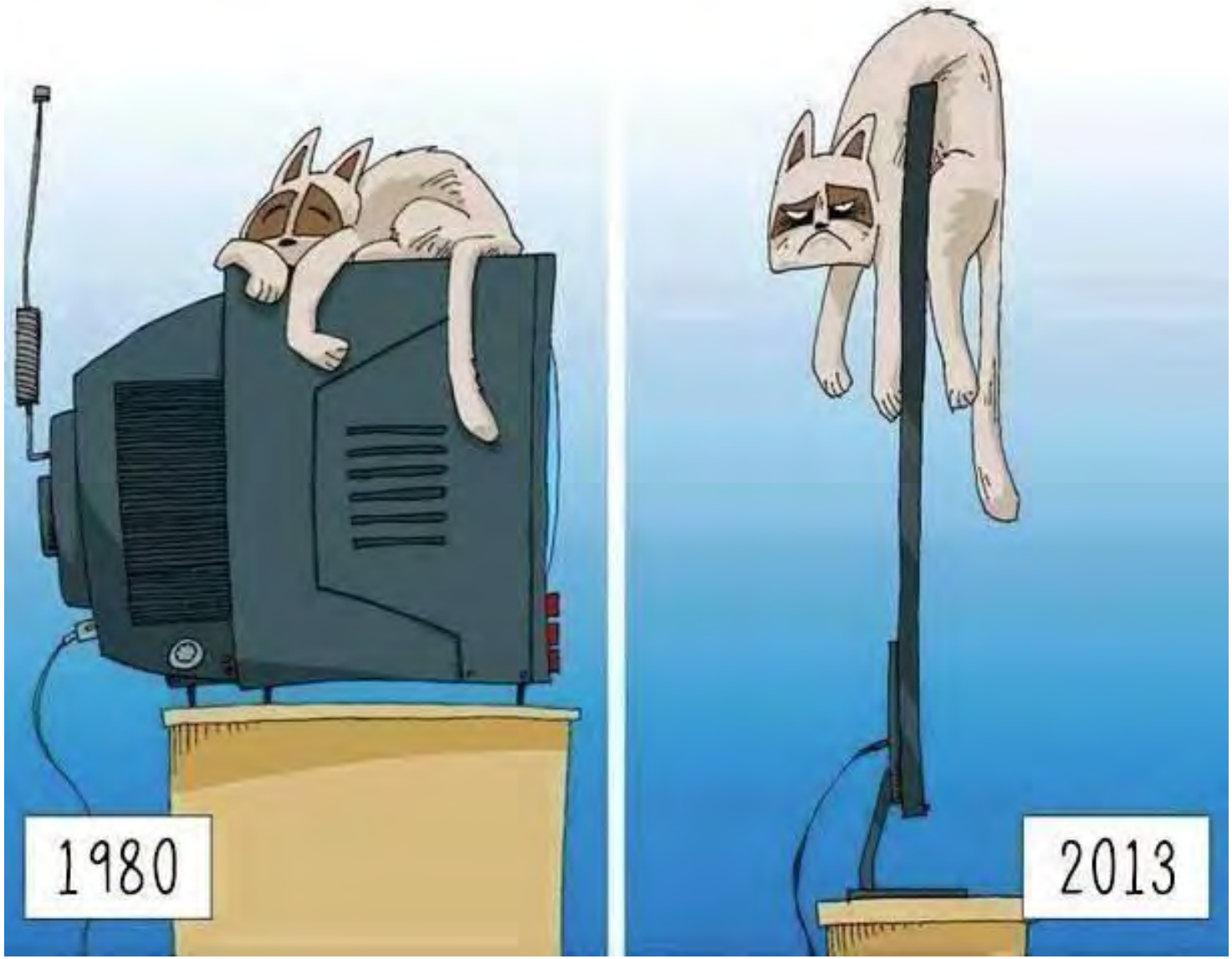
- Whether (relevant) emerging and cross-cutting issues are integrated in the curriculum and how (i.e. HIV and AIDS; intercultural education; citizenship and Human Rights; sustainable development; climate change; Disaster Risk Reduction/DRR; peace education and conflict solving);

- What (relevant) emerging and cross-cutting issues are missing from the curriculum and how may they be integrated (for instance, Media education; entrepreneurial education, gender equality)?

- What are achievements of, and challenges faced by schools in dealing with such emerging and cross-cutting issues?

- What is the effectiveness of their presence in the curriculum (i.e. have they contribute to competency development, such as changes in awareness, attitudes and behaviors?);

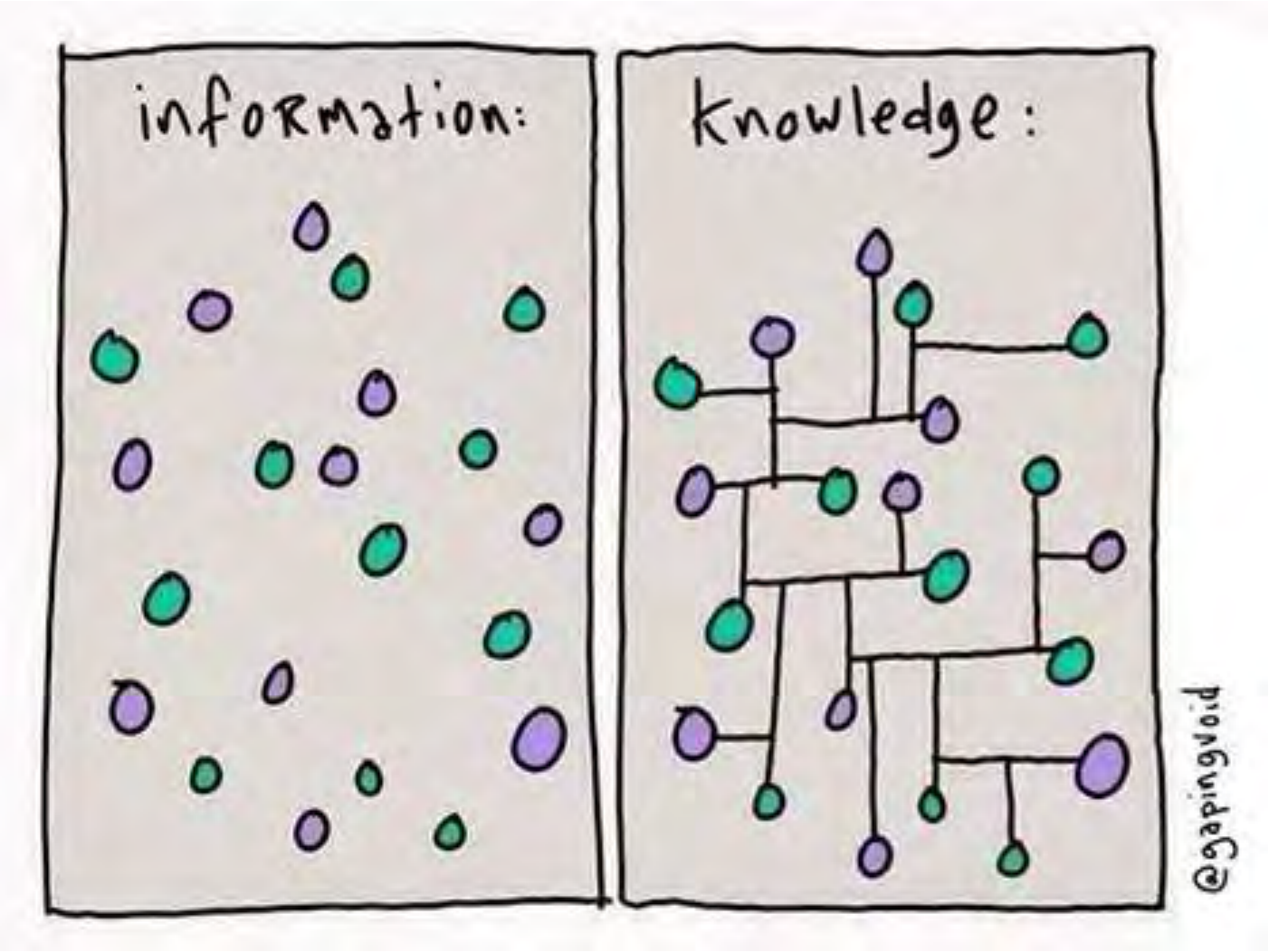
- How are learning process and outcomes assessed?


1980
2013


Attitude is a little thing that makes a big difference.
- Author Unknown

5. How does the curriculum overall **contribute to quality learning**

- Is the clustering of the curriculum into learning areas and subjects appropriate?
- Does it reflect international trends of reducing the number of discrete subjects while treating learning content through broader learning areas;
- Are the learning areas and subjects defined flexibly so as to allow the integration of emerging/cross-cutting issues?;
- Is time allocation appropriate (i.e. Is it sufficient for the development of tangible and sustainable competencies; Does it allow more flexible solutions, such as block teaching and/or project work; Does it encourage interactive pedagogies, such as group work; Does it encourage diversified learning and inclusiveness?);
- Is the curriculum balanced?
- Are curriculum provisions equitable and inclusive?
- Is the curriculum deliverable? (i.e. Can it be taught; What are the main teaching and learning strategies used; What are achievements and gaps in delivering the curriculum);
- Is the curriculum assessable?
- Are curriculum, teaching and learning, and assessment aligned?
- Do curriculum documents orient teachers and other stakeholders in an effective way?
- Are monitoring and evaluation strategies in place


information:
knowledge:
@gapingvoid

بيئة التعلم المستقبلية


2018: Apple releases a Blender.

Curriculum "architecture"

Teacher standards

Curriculum Framework
Learning standards

Assessment standards

Syllabuses/
Subject curricula/
Standards

Learning resources

Implementation

Developing the Curriculum Framework (discussion/position paper)

- **WHO?**
- **HOW?**
- **Resources needed**
- **Timing**

Developing the CF

WHO?

- Technical group (curriculum core team)
- Supervising committee (i.e. Steering committee)
- Consultative groups
- Decision makers

HOW?

- **Technical work**

Situational and needs analysis

International and regional references

Defining new directions

Defining key competencies

Drafting

- **Policy issues and political aspects**
- **Public consultations**

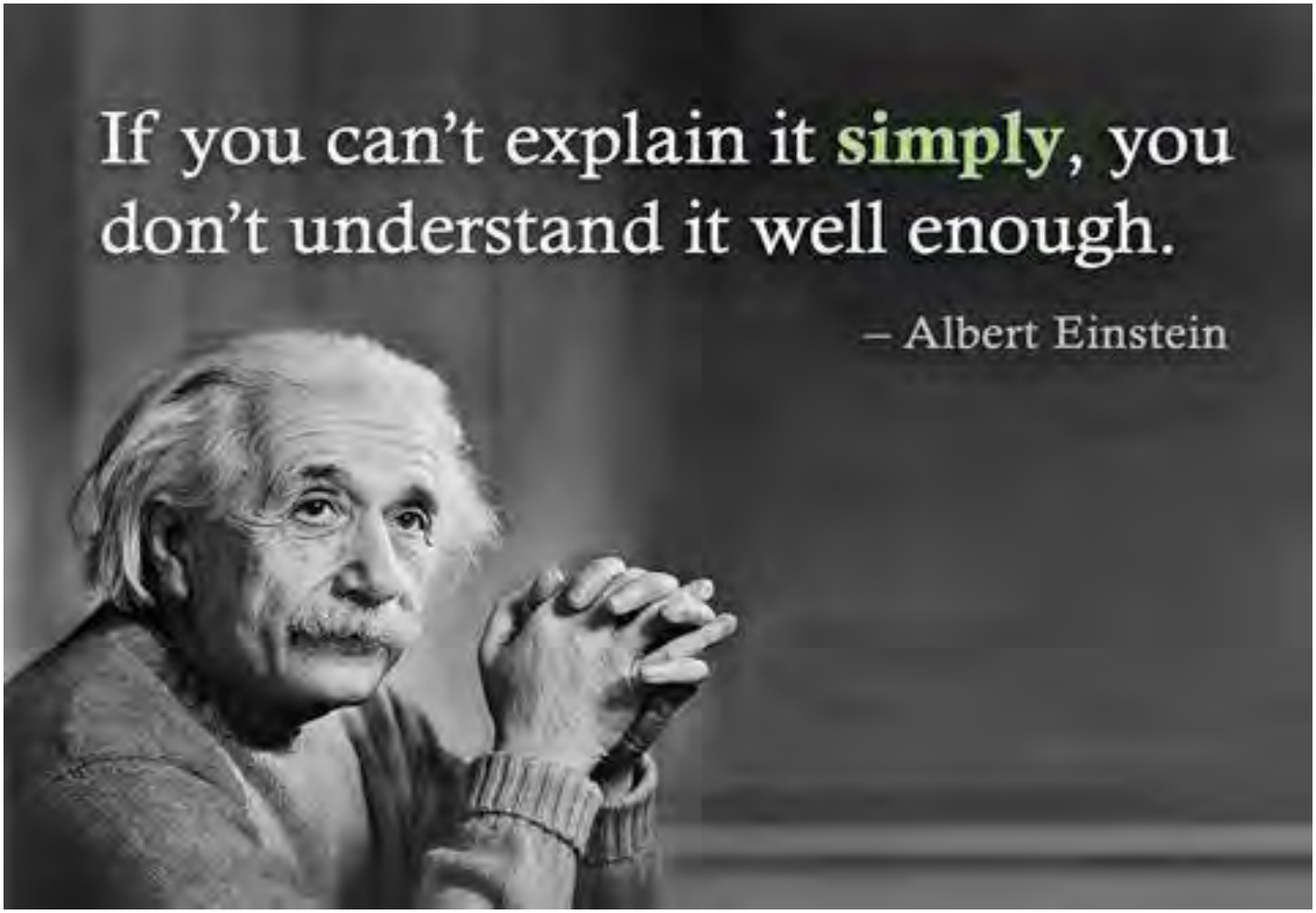
Developing the CF: Skills needed

- Knowledge of curriculum field
- Conceptual and terminological clarity
- Curriculum/Comprehensive perspective
- Writing & review skills
- Consultation skills & diplomacy
- Advocacy skills

Developing the CF: Timing and resources

- **CF Road MAP**

- ❑ **Vision**
- ❑ **Institutional structure, responsibilities and legitimacy**
- ❑ **Capacity development**
- ❑ **Drafting phase**
- ❑ **Public consultations**
- ❑ **Successive reviews**
- ❑ **Approval**
- ❑ **Implementation (effects on syllabuses, textbooks, teachers, assessment, learning environments, communities)**
- ❑ **M+E**


If you can't explain it simply, you don't understand it well enough.
– Albert Einstein

5. **Alignment of curriculum/learning, teacher policies and practices, and assessment**

Alignment…

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Is alignment always good?

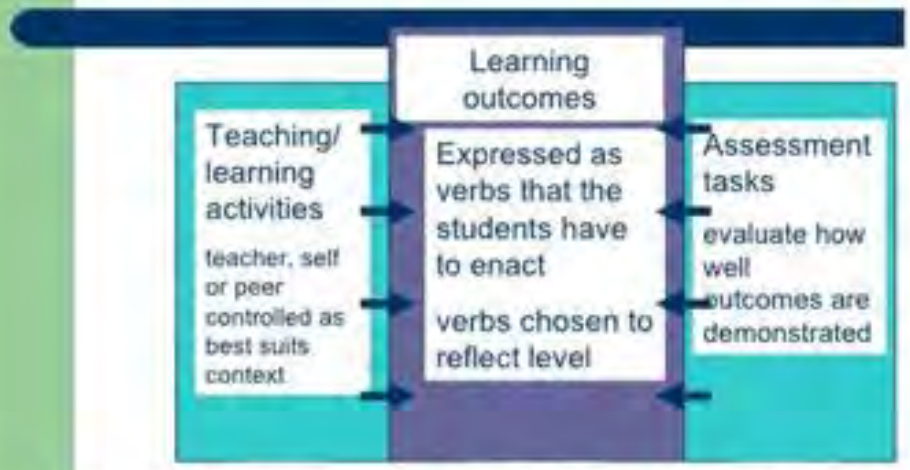

Learning Objectives
Context
Process
Content
Teaching
& Learning
Activities
Feedback
& Assessment
Methods

Definition

Curriculum alignment is . . .

. . . how teachers organize and present content in the classroom. This includes what they teach, how they teach it, and how they assess learning. It is the way in which written content, instruction, and assessment work together to facilitate student achievement as defined by standards.

Diagram of Constructive Alignment



Chapter 4 in Biggs, J & Tan, C. (2007) *Teaching for quality learning at University (3rd Ed)* OU Press; http://www.youtube.com/watch?v=iMZA80XpP6Y is also useful

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HEPP7001

11/4/2015

D. Georgescu, UNESCO Beirut

Questions

- What do we understand by alignment?

Proper positioning…

Adjustment…

Arrangement…

Matching…

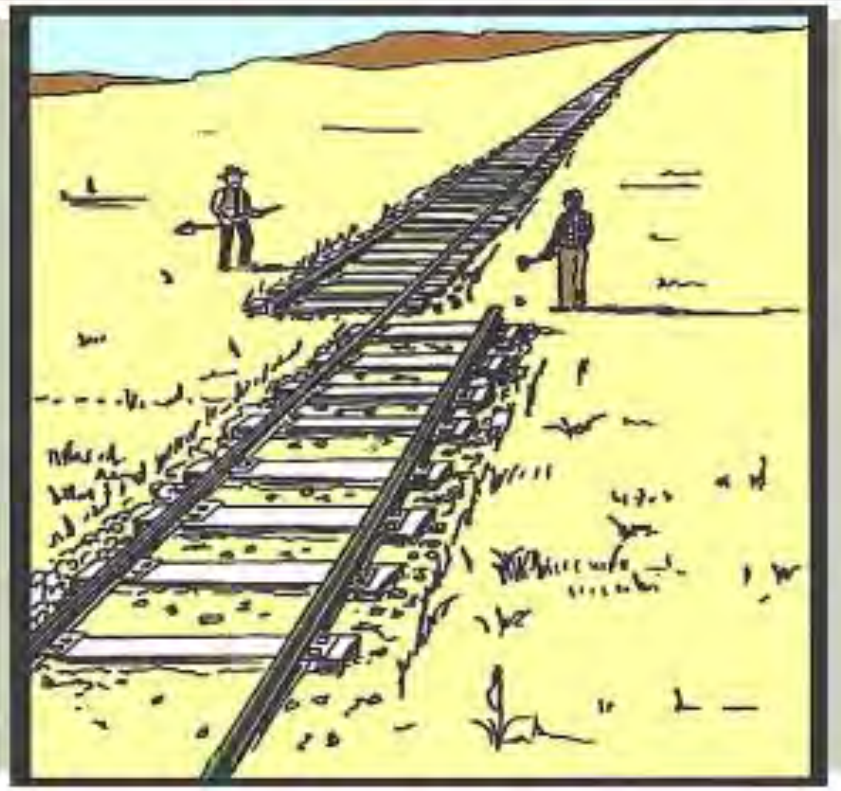
Cohesiveness…

- Why is it important?
- What kind of alignment?
- How can we get on the same page?
- How can we work together towards shared education vision & goals?

Lack of alignment…

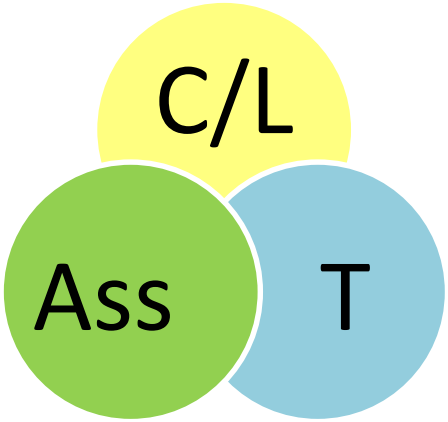
There may be some results, BUT…

LACK OF ALIGNMENT BETWEEN DAILY LESSON AND LONG-TERM GOALS



(Degrees of) Alignment

- **Strong**
- **Average**
- **Loose**
- **Non-existent**



?????

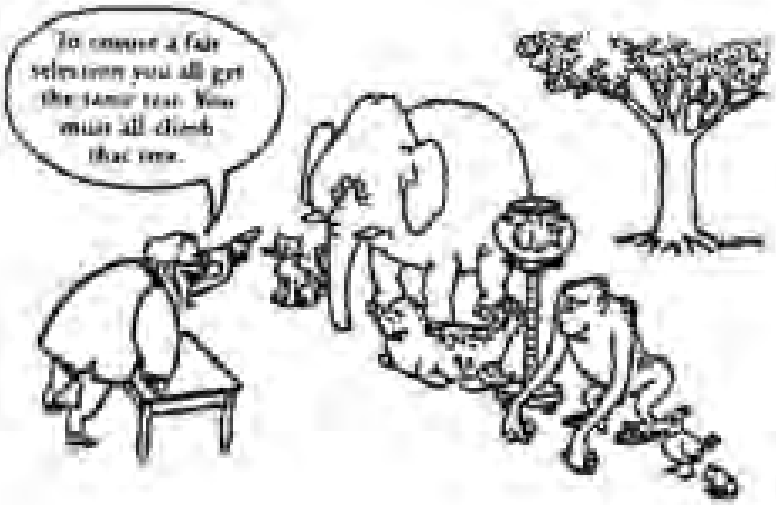
Criteria & indicators to determine the existence of alignment (and its different degrees)

- How do we tell there is alignment?
- How do we recognize the lack of alignment?

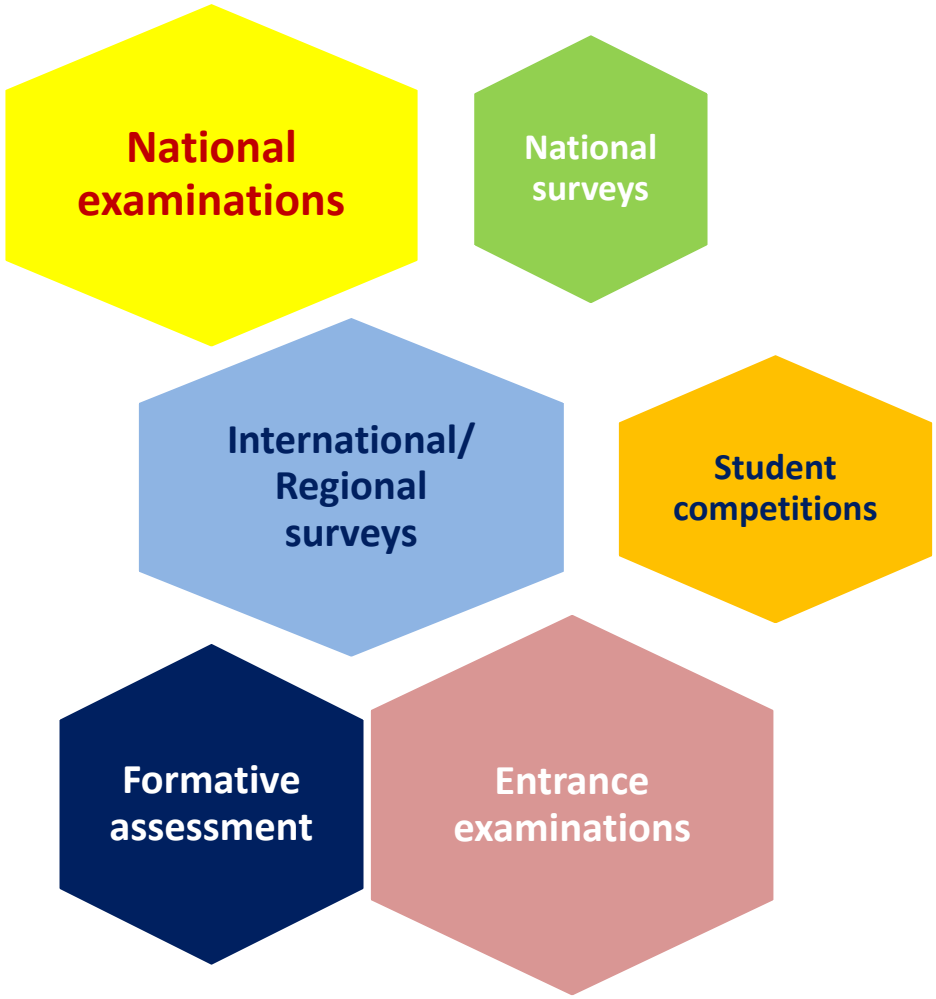
Assessment *as* learning: balancing assessment *of* and *for learning*

Challenges:

- Clarity of purposes
- Measuring what is measurable
- Alternative means for assessing competencies

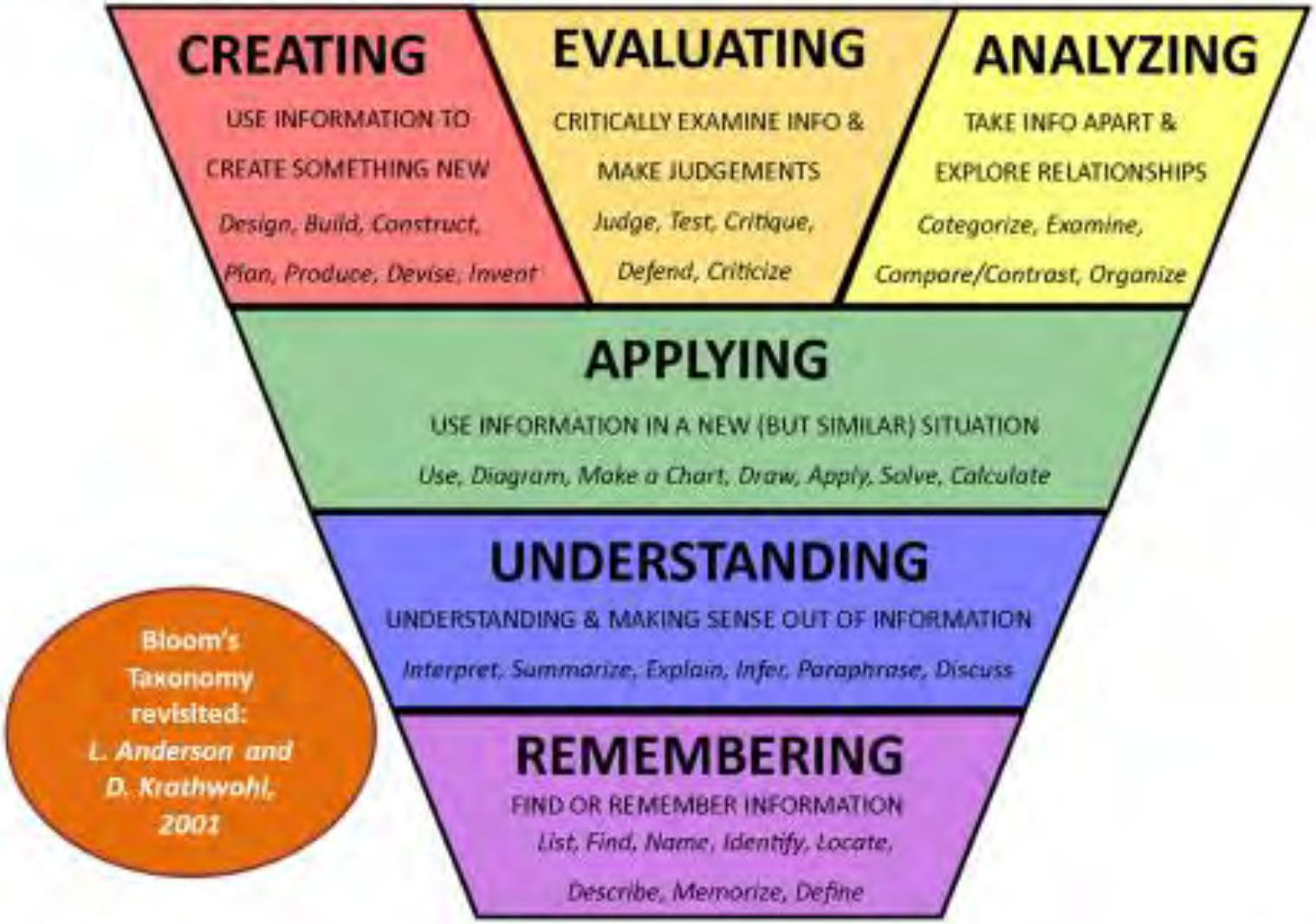


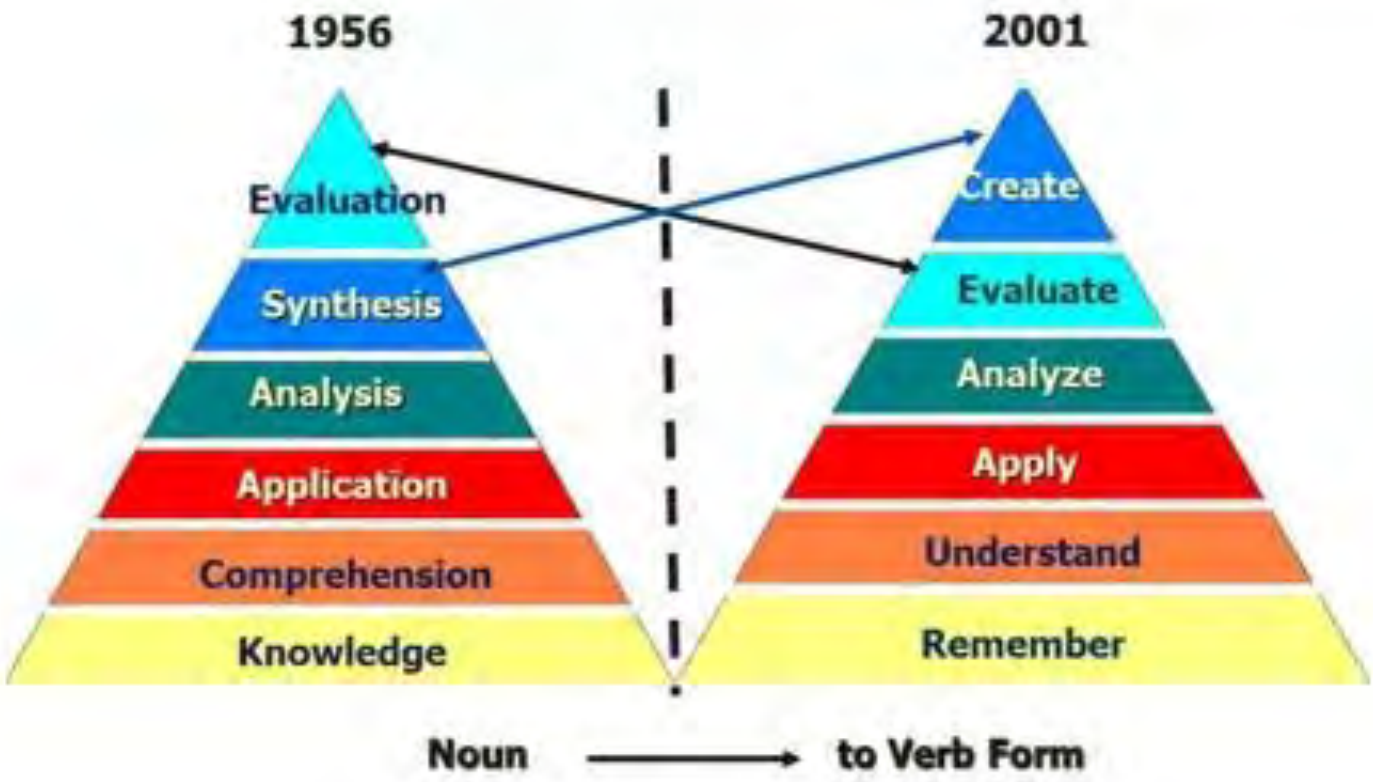
National Assessment Systems

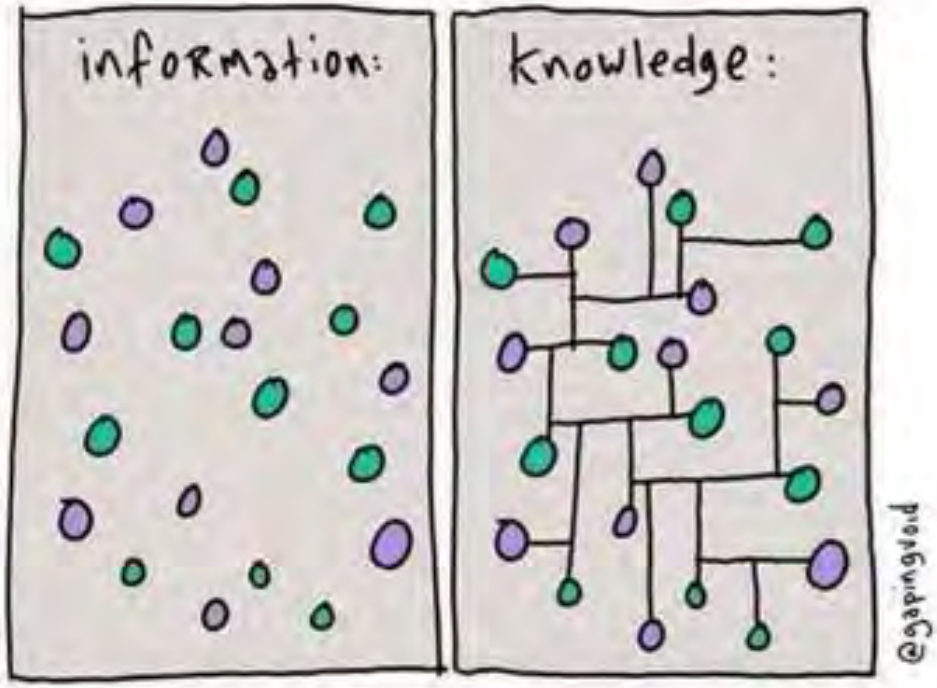


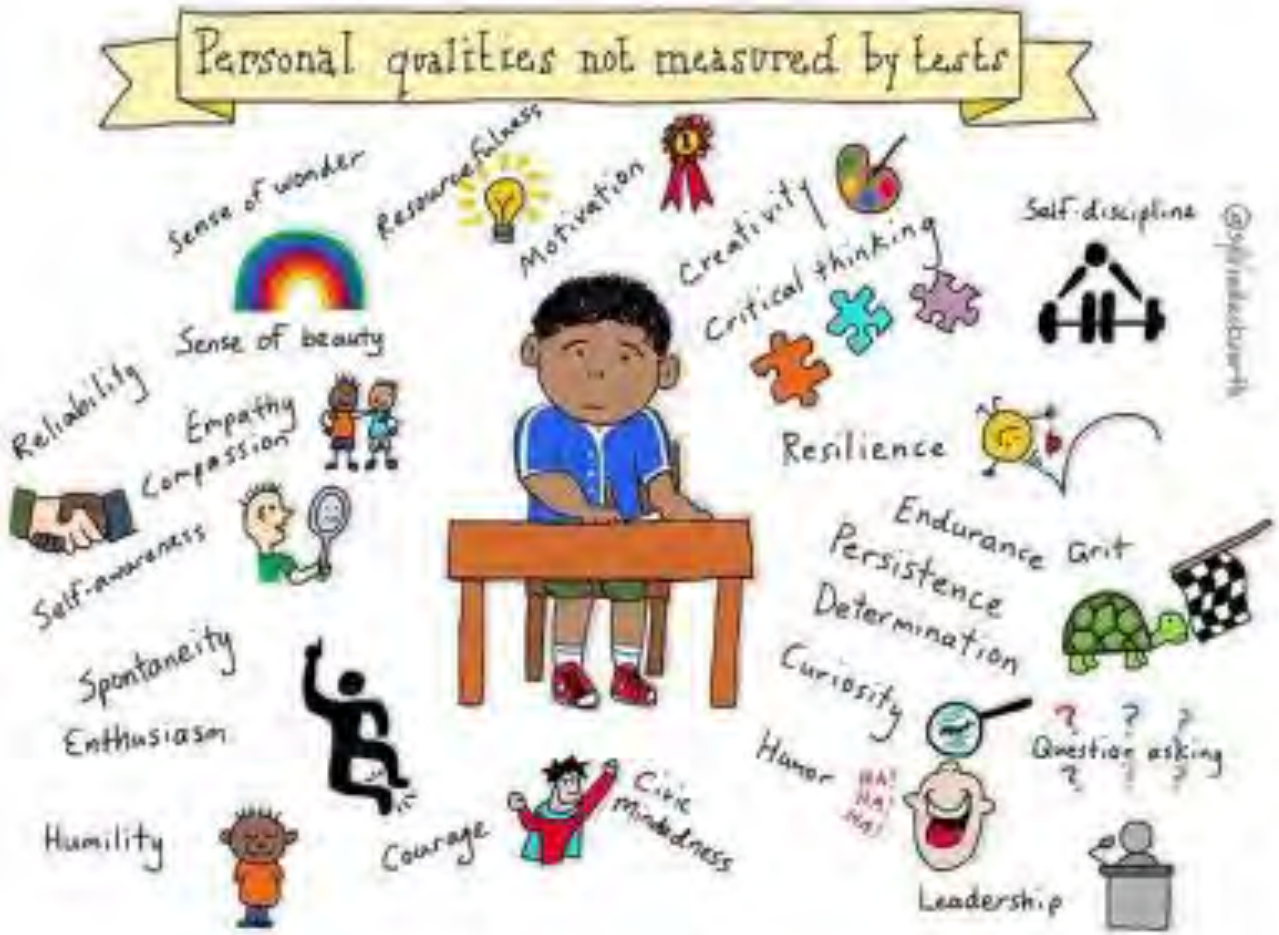
Errors in assessment

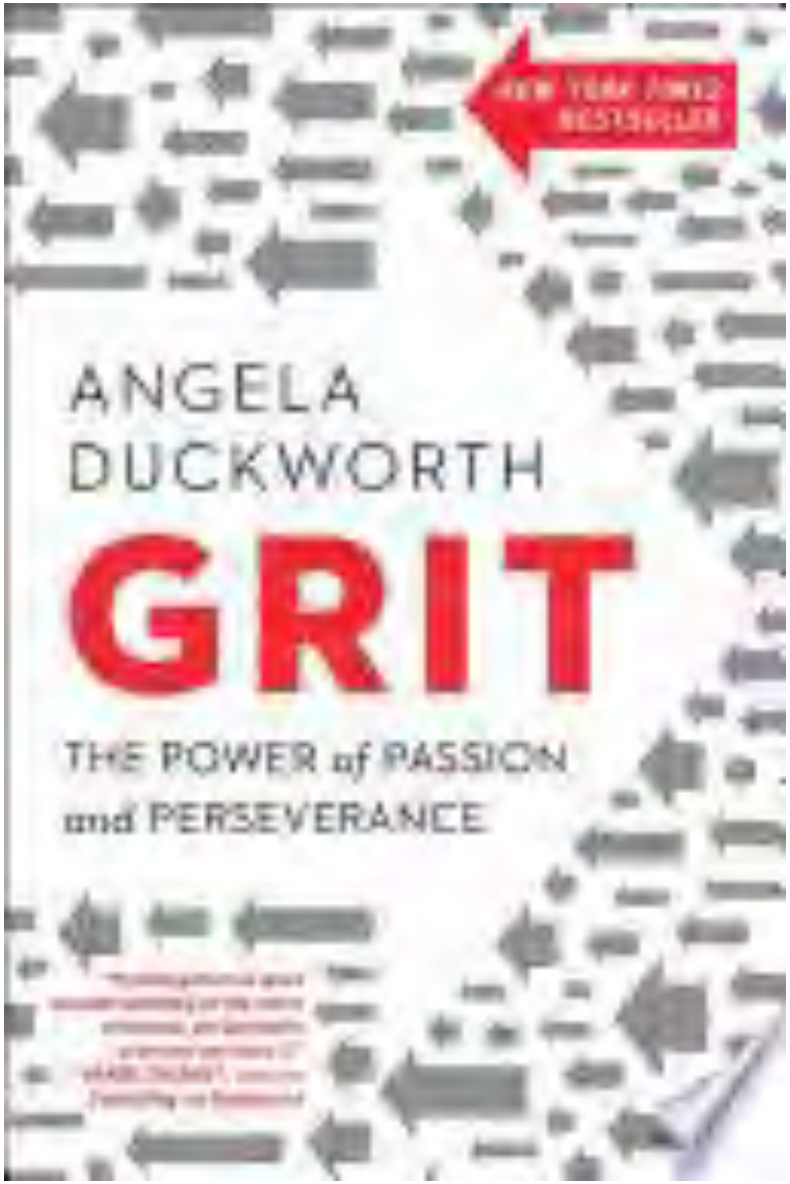
- Knowledge and skills: focusing only on basic/lower levels
- Knowledge and skills: Poor items
- Values and attitudes: applying knowledge criteria (i.e. right and wrong)
- Ignoring learning progression and individual paces


CREATING
USE INFORMATION TO CREATE SOMETHING NEW
Design, Build, Construct, Plan, Produce, Devise, Invent
EVALUATING
CRITICALLY EXAMINE INFO & MAKE JUDGEMENTS
Judge, Test, Critique, Defend, Criticize
ANALYZING
TAKE INFO APART & EXPLORE RELATIONSHIPS
Categorize, Examine, Compare/Contrast, Organize
APPLYING
USE INFORMATION IN A NEW (BUT SIMILAR) SITUATION
Use, Diagram, Make a Chart, Draw, Apply, Solve, Calculate
UNDERSTANDING
UNDERSTANDING & MAKING SENSE OUT OF INFORMATION
Interpret, Summarize, Explain, Infer, Paraphrase, Discuss
REMEMBERING
FIND OR REMEMBER INFORMATION
List, Find, Name, Identify, Locate, Describe, Memorize, Define
Bloom's Taxonomy revisited:
L. Anderson and D. Krathwohl, 2001


1956
2001
Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge
Create
Evaluate
Analyze
Apply
Understand
Remember
Noun
to Verb Form


information:
knowledge:
@gapingvoid


Personal qualities not measured by tests
Sense of wonder
Resourcefulness
Motivation
Creativity
Critical thinking
Self-discipline
Sense of beauty
Reliability
Empathy
Compassion
Resilience
Self-awareness
Endurance
Grit
Persistence
Determination
Spontaneity
Enthusiasm
Curiosity
Humor
Question asking
Humility
Courage
Civic mindedness
Leadership


ANGELA
DUCKWORTH
GRIT
THE POWER of PASSION
and PERSEVERANCE

Key competencies:

What do we want to achieve and how do we get there?

- Fulfilled & happy persons
- Knowledgeable people
- Productive agents
- Responsible (global) citizens
- Moral beings
- Spiritual beings
- Effective communicators
- Critical thinkers (HOTS)
- Problem solvers (HOTS)
- Creative minds (HOTS)

(1) What are for you the main takeaways from this workshop?

(2) How can TALENT help countries enhance CBFA?