







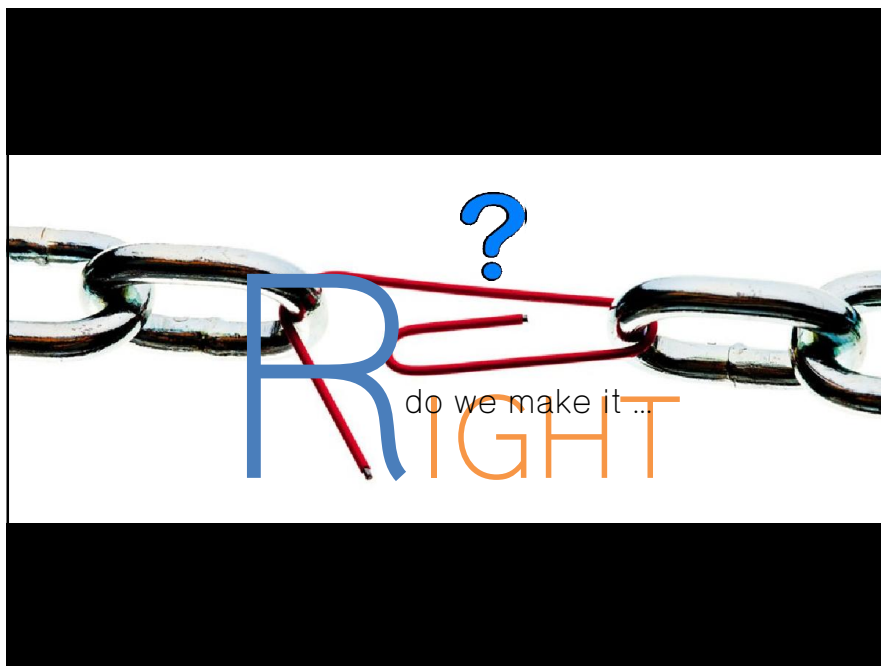


are we having the **RIGHT**  
**EDUCATION** system

?



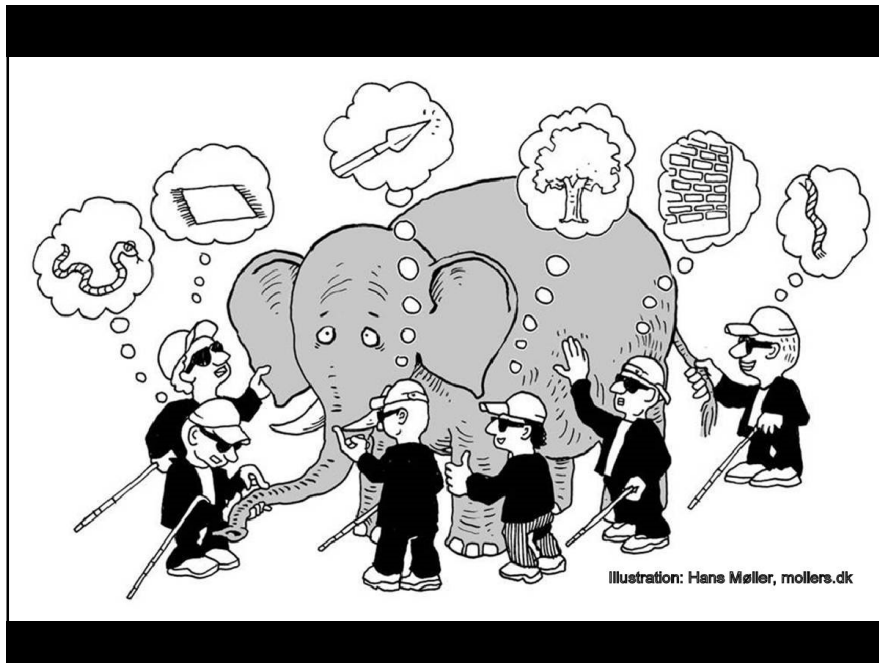
**YES NO MAYBE™**





**YES NO MAYBE™**

AND THE ANSWER IS...



PURPOSE  
depends on the  
of the EDUCATION

...

# Achievement

of the EDUCATION

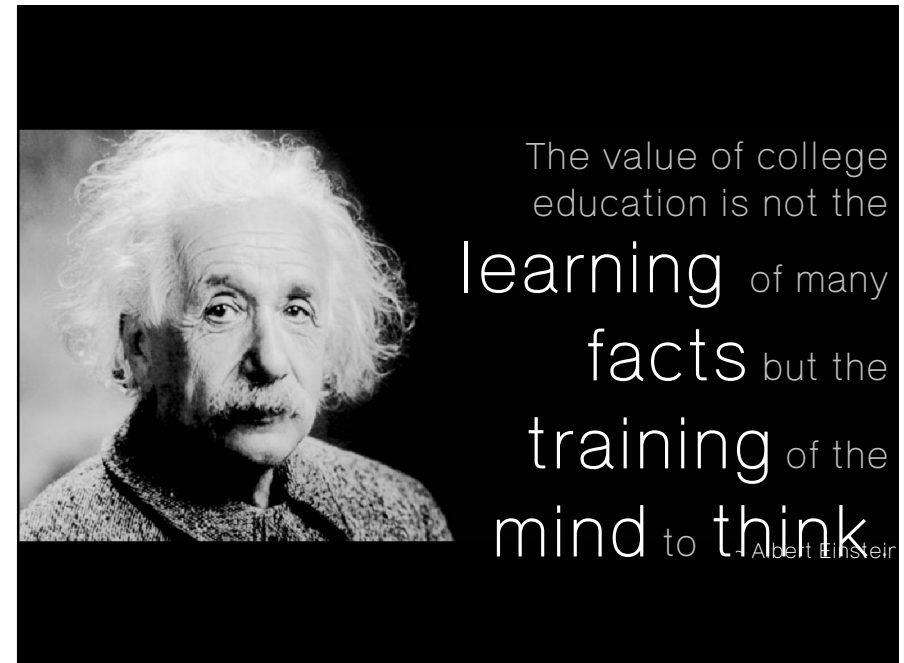
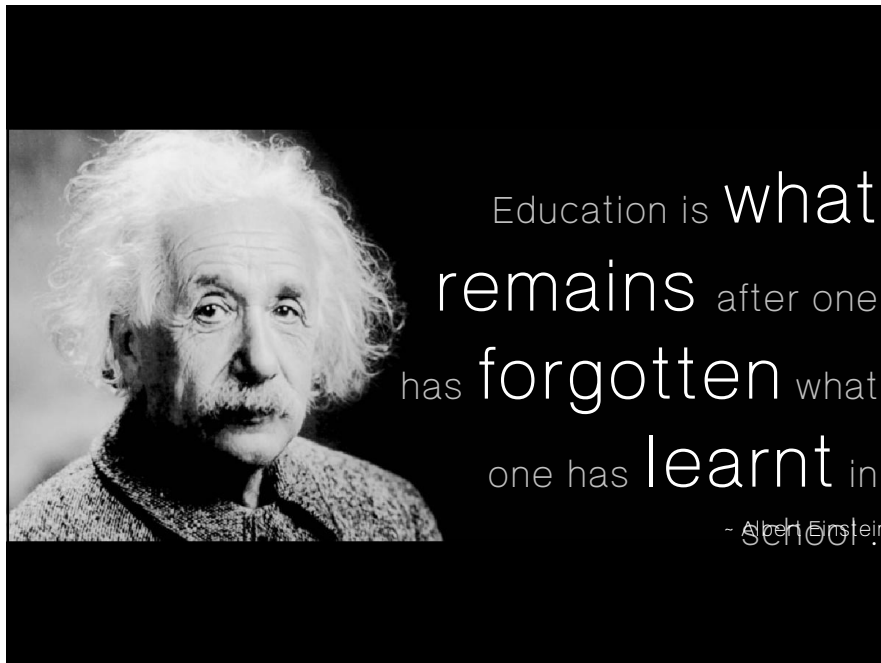
we are expected at each crucial stage...

Fostering the graduates  
for the customers  
in the market  
by the design  
and the team  
at the time ...

with the right amount of luck ....







The principle goal of education in the schools should be creating men and women who are capable of doing new things, not simply repeating what other generations have done. -- Jean Piaget, 1896-1980, Swiss developmental psychologist, philosopher

An education isn't how much you have committed to memory, or even how much you know. It's being able to differentiate between what you know and what you don't. -- Anatole France, 1844-1924, French poet, novelist

Education is the most powerful weapon which you can use to change the world. -- Nelson Mandela, 1918-2013, South African President, philanthropist

Education is not preparation for life; education is life itself. -- John Dewey, 1859-1952, philosopher, psychologist, education reformer

The object of education is to teach us to love beauty. -- Plato, 424 – 348 BC, philosopher mathematician

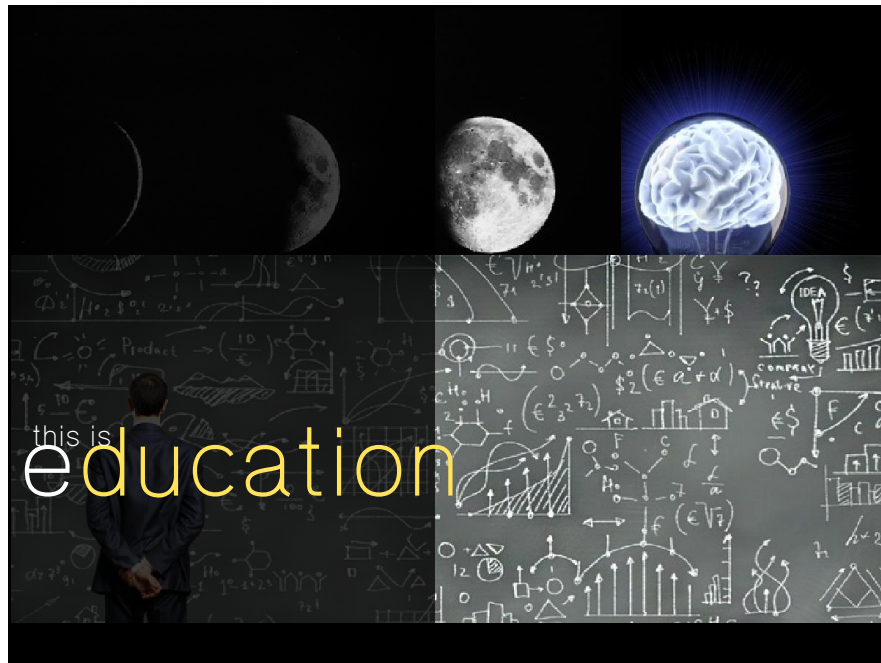
■ which following pictures should be the **PRODUCT** of education











LEARN <sup>THEY</sup>



education<sub>is</sub> "an end in  
itself"...











A BLACK AND WHITE TRANSCRIPT IS NOT OFFICIAL

THE WORLD VOID APPEARS WHEN PHOTOCOPIED

TRANSCRIPT OF ACADEMIC RECORD

Elizabeth City State University  
Office of the University Registrar  
Elizabeth City, North Carolina 27909

Level:

Record of: Karen Larier Trink Student ID: 97C-C3629 Date of Birth: 16-FEB-1986

Course Level: Undergraduate  
Only Adm't: Fall 2004

Current Program:  
Bachelor of Science  
Program: BS in Computer Information Systems  
College: School of Math, Sci Tech  
Major: Computer Information Science  
Minor: GIS/Remote Sensing

Institution Information continued:

Fall 2005  
CSC 215 COMPUTER SCIENCE II 3.00 B 9.00  
GE 118 PRE-CALCULUS 3.00 A 12.00  
GE 180 ROSSLING 1.00 A 4.00  
GE 201 WORLD LITERATURE I 3.00 B 9.00  
GEOG 201 WORLD GEOGRAPHY 3.00 A 12.00  
PSY 101 GENERAL PSYCHOLOGY 3.00 B 9.00  
Ehrs: 15.00 GPA Hrs: 15.00 Qpts: 46.00 GPA: 3.07  
Good Standing

Spring 2006  
CSC 216 DATA STRUCTURES & ALGORITHMS 3.00 C 9.00  
CSC 215 COMPUTER ORG & ARCHITECTURE 3.00 C 9.00  
GE 202 WORLD LITERATURE II 3.00 A 12.00  
GEOG 340 INTRODUCTION TO GIS 4.00 A 16.00  
MATH 157 CALCULUS & ANALYTIC GEOM I 3.00 C 9.00  
MATH 157L CALCULUS & ANALYTIC GEOM I LAB 0.00 S 0.00  
Ehrs: 15.00 GPA Hrs: 15.00 Qpts: 46.00 GPA: 2.87  
Good Standing

Summer 2006  
GEOG 315 ADV GEOGRAPHIC INFOR SYSTEM 4.00 A 16.00  
PSY 102 GENERAL PSYCHOLOGY 3.00 A 12.00  
Ehrs: 7.00 GPA Hrs: 7.00 Qpts: 28.00 GPA: 4.00  
Good Standing

Fall 2006  
CSC 315 PROGRAMMING LANGUAGES 3.00 B 9.00  
CSC 325 DATABASE CONCEPTS & FILE PROC 3.00 B 9.00  
GEOG 365 INTXO TO REMOTE SENSING 4.00 B 16.00  
MATH 158 CALCULUS & ANALYTIC GEOM II 3.00 C 9.00  
PHYS 101L GENERAL PHYSICS I LAB 1.00 A 4.00  
PHYS 101 UNIVERSITY PHYSICS I 3.00 B 9.00  
Ehrs: 17.00 GPA Hrs: 17.00 Qpts: 49.00 GPA: 2.86  
Good Standing

\*\*\*\*\* CONTINUED ON PAGE 2 \*\*\*\*\*

INSTITUTION CREDIT:

GE 200 COMPOSITION & LITERATURE I 3.00 B 9.00  
GE 201 COMPOSITION & LITERATURE II 3.00 B 9.00  
GE 105 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 106 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 107 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 108 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 109 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 110 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 111 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 112 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 113 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 114 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 115 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 116 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 117 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 118 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 119 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 120 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 121 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 122 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 123 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 124 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 125 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 126 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 127 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 128 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 129 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 130 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 131 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 132 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 133 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 134 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 135 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 136 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 137 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 138 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 139 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 140 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 141 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 142 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 143 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 144 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 145 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 146 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 147 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 148 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 149 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 150 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 151 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 152 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 153 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 154 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 155 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 156 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 157 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 158 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 159 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 160 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 161 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 162 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 163 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 164 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 165 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 166 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 167 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 168 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 169 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 170 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 171 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 172 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 173 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 174 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 175 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 176 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 177 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 178 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 179 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 180 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 181 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 182 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 183 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 184 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 185 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 186 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 187 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 188 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 189 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 190 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 191 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 192 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 193 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 194 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 195 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 196 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 197 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 198 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 199 JRN 2-TECH COLLEGE MATH 1.00 B 4.00  
GE 200 JRN 2-TECH COLLEGE MATH 1.00 B 4.00

149 West Cheltenham Ave  
Philadelphia, PA 19120  
United States of America

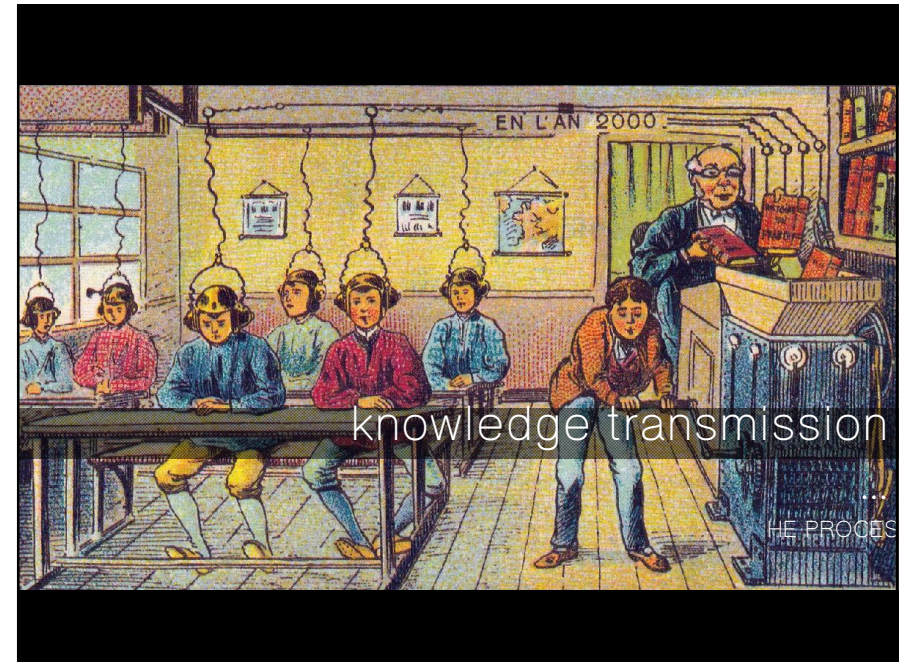
Date Issued: 05-MAY-2008 Page: 1

University Registrar

This official transcript is printed on blue and white security paper and does not require a raised seal.  
Elizabeth City State University is a constituent institution of the University of North Carolina

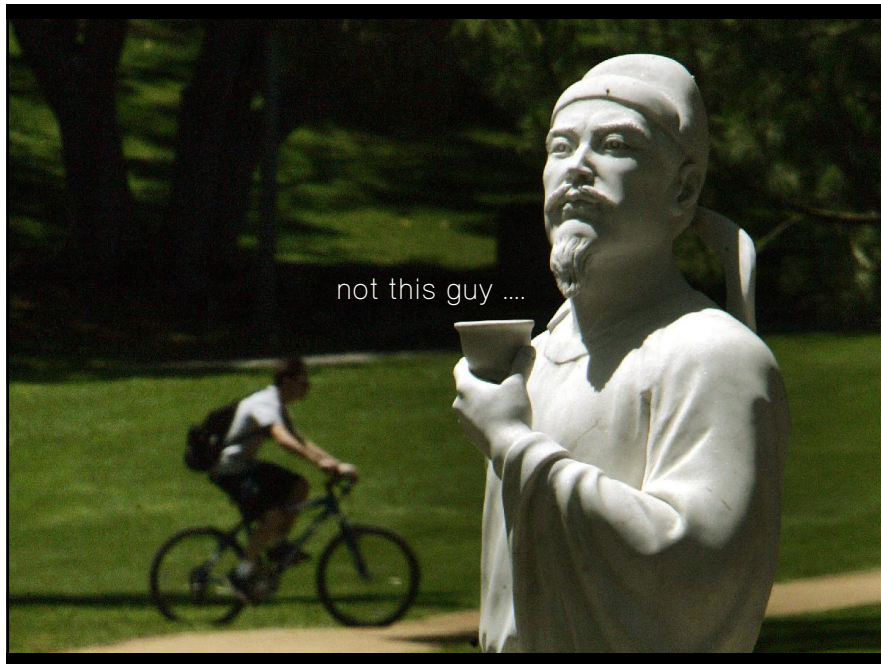
HE system in yestercentury is based on

OUTPUT









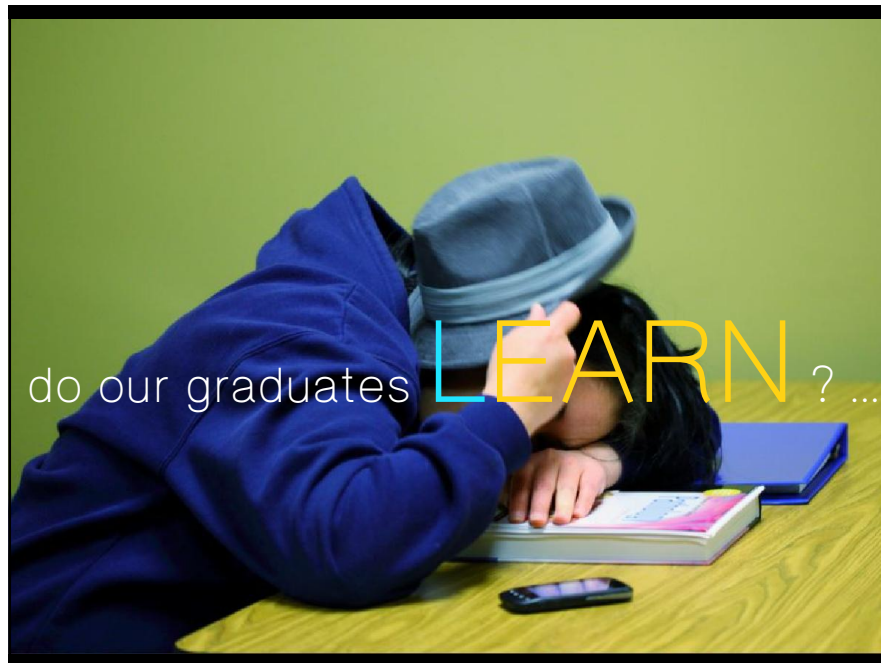
QUALITY  
BASED ON  
INPUTS

UP-TO-DATE  
FACTS &  
CONTENT







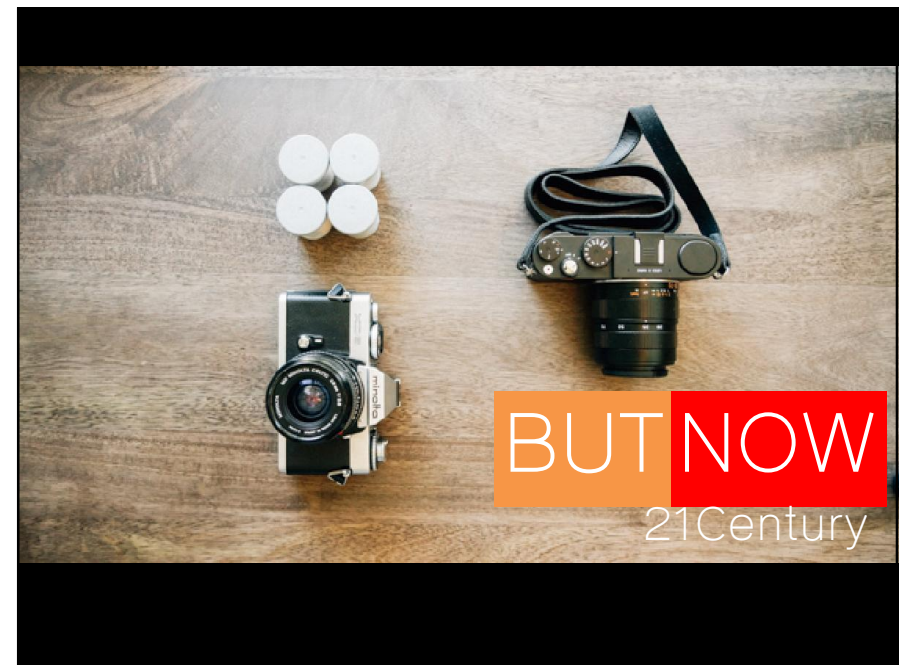
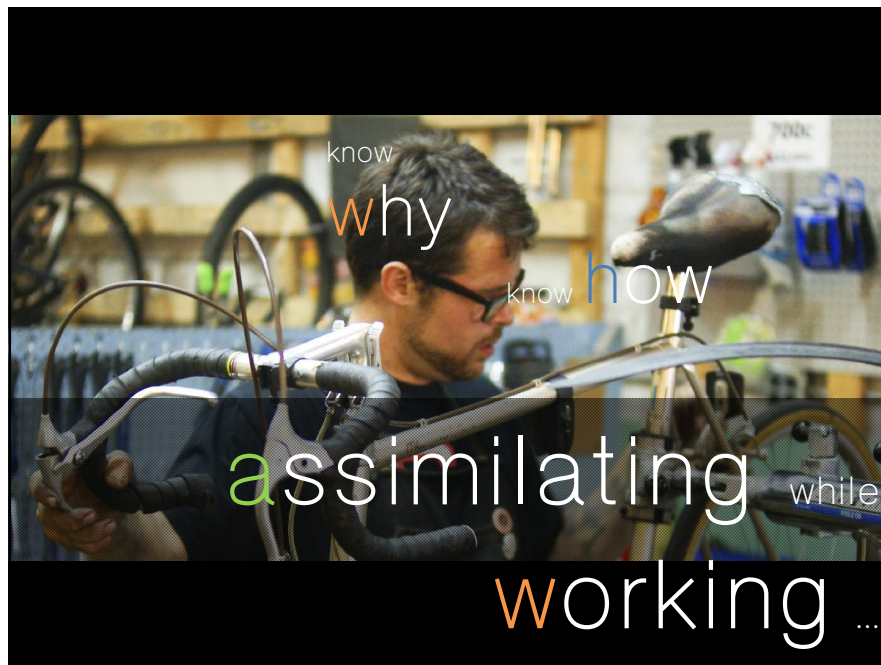


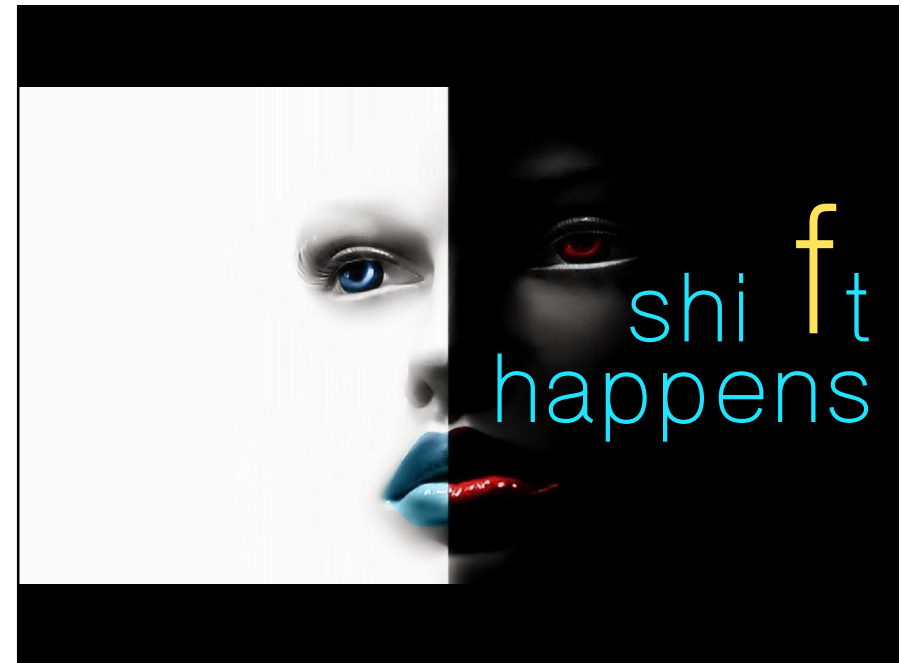
yestercentury world

IFNOT

so... it makes us  
here today !!









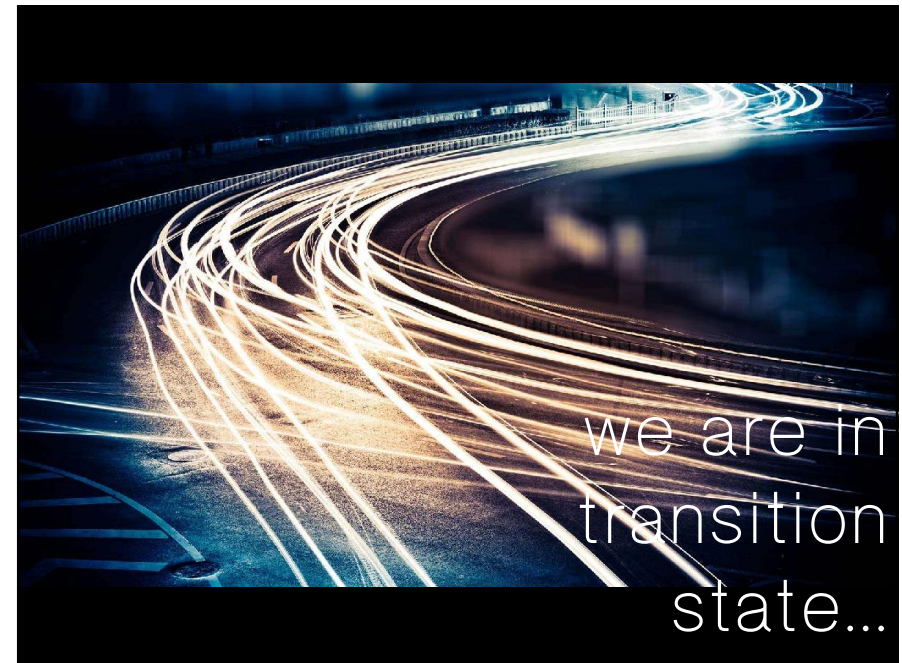
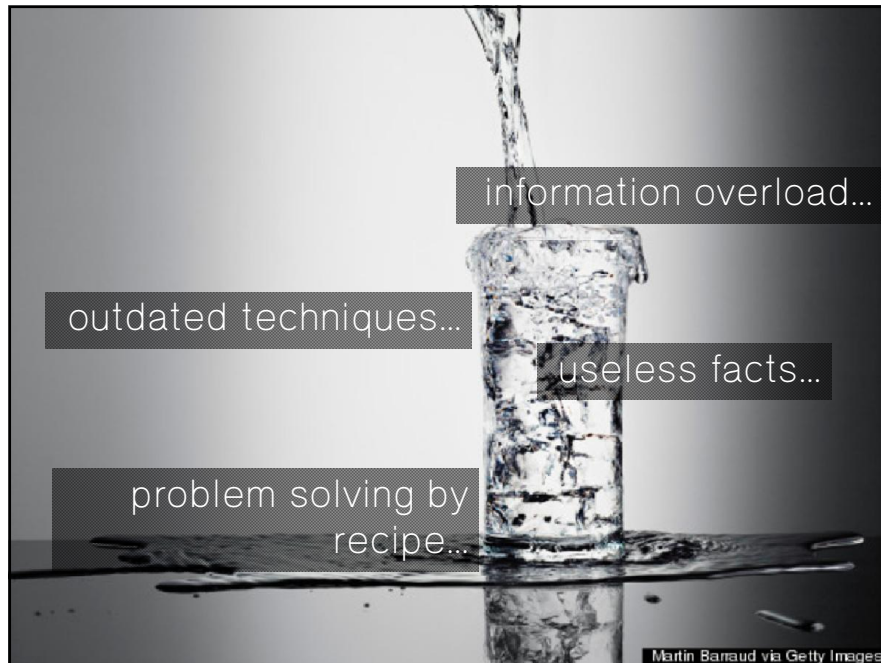




FACT  
does not  
LAST  
forever









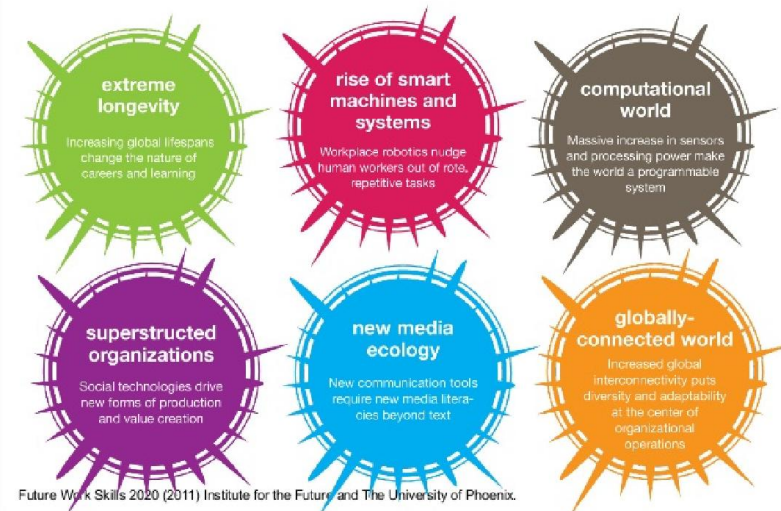
work as we know it is  
**DEAD**

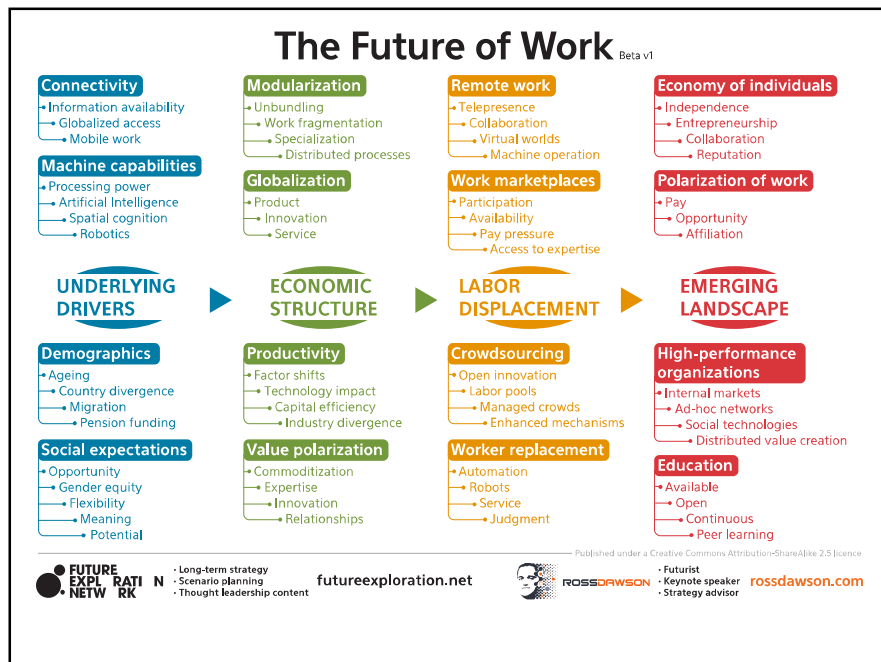
many of jobs  
students will have  
don't even exist yet...



many of **jobs**  
students will have  
**don't** even **exist** yet...

## Drivers of Change





believe it or not  
**IT HAPPENS!!**



sleepless data...





# MODERN DATA SCIENTIST

Data Scientist, the sexiest job of the 21st century, requires a mixture of multidisciplinary skills ranging from an intersection of mathematics, statistics, computer science, communication and business. Finding a data scientist is hard. Finding people who understand what a data scientist is, is equally hard. So here is a little cheat sheet on who the modern data scientist really is.

## MATH & STATISTICS

- Machine learning
- Statistical modeling
- Experimental design
- Bayesian inference
- Supervised learning: decision trees, random forests, logistic regression
- Unsupervised learning: clustering, dimensionality reduction
- Optimization: gradient descent and variants

## PROGRAMMING & DATABASE

- Computer science fundamentals
- Scripting language e.g. Python
- Statistical computing packages e.g. R
- Databases: SQL and NoSQL
- Relational algebra
- Parallel databases and parallel query processing
- MapReduce concepts
- Hadoop and Hive/Pig
- Custom reducers
- Experience with AWS like AWS

## DOMAIN KNOWLEDGE & SOFT SKILLS

- Passionate about the business
- Curious about data
- Influence without authority
- Hacker mindset
- Problem solver
- Strategic, proactive, creative, innovative and collaborative

## COMMUNICATION & VISUALIZATION

- Able to engage with stakeholder management
- Story telling skills
- Translate data-driven insights into decisions and actions
- Visual art design
- R packages like ggplot or lattice
- Knowledge of any of visualization tools e.g. Flare, D3.js, Tableau

Marketinglight is a group of practitioners in the area of business marketing. Our fields of expertise include: marketing strategy and activation, customer looking and on site analysis, predictive analytics and data science, data visualization and digital marketing. Marketinglight is a Part of: SHI Group / MOI Group

Marketinglight is a group of practitioners in the area of business marketing. Our fields of expertise include: marketing strategy and activation, customer looking and on site analysis, predictive analytics and data science, data visualization and digital marketing. Marketinglight is a Part of: SHI Group / MOI Group

# Data Scientist

Data Science allows front offices to better predict what and when consumers are likely to buy. The ability to write algorithms that find relationships in datasets is usable to provide actionable insight.

HELPING YOU REACH VELOCITY

## The Challenge

- Data Mining
- Analysis
- Communication

## Industry Niche Titles

- Financial Institutions/ Decision Scientist
- Retailers/Omni Channel Expert
- Marketing Agencies/Consumer Behaviour Analyst
- Ecommerce/Analytics Expert

## Urgent Need

Data Scientists - those with the technical savvy and analytical chops to derive meaning from all the information- are in high demand

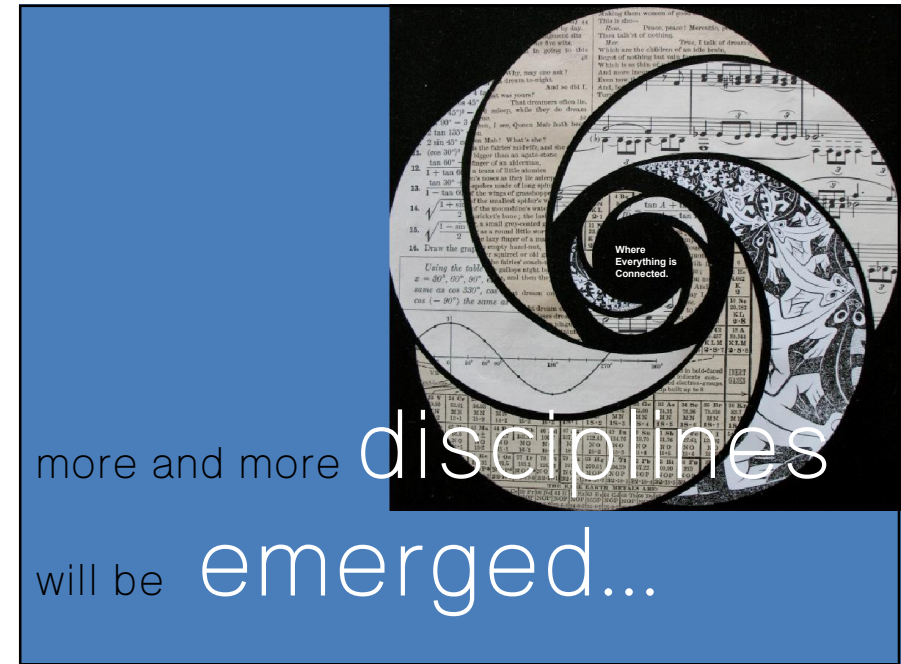
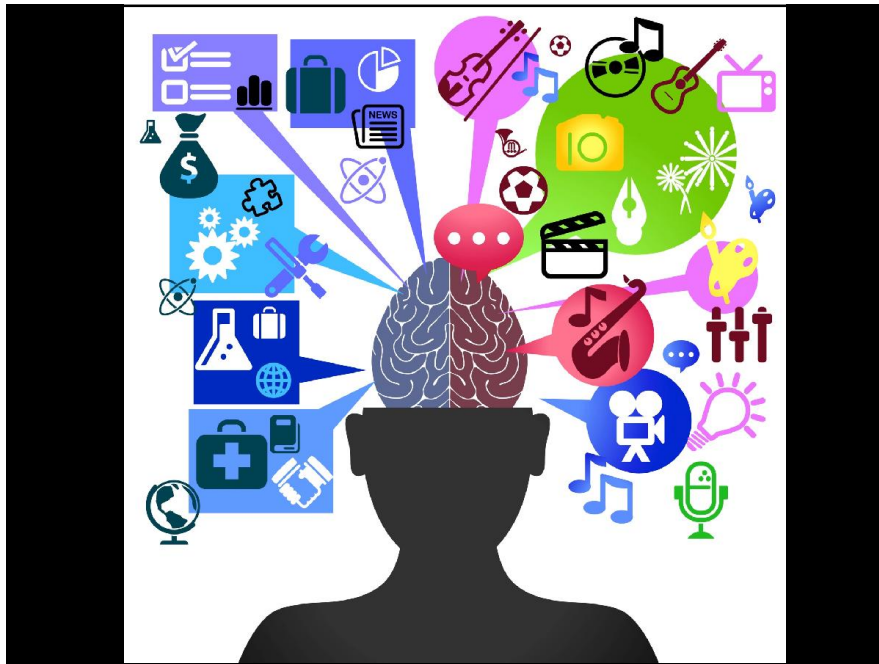
## Skills by the Numbers

The skills and talents that make a fantastic Data Scientist

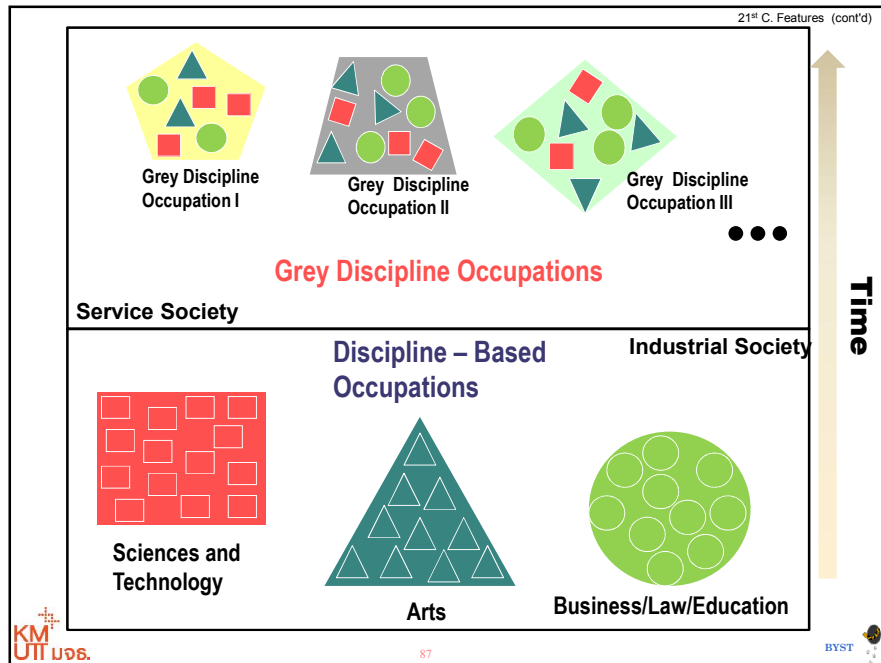
Complex Formulas	40%
Consumer Psychology	25%
Business Acumen	25%
Programming Languages	10%

## Did you Know?

Google's Eric Schmidt claims that every two days now we create as much information as we did from the dawn of civilization up until 2003

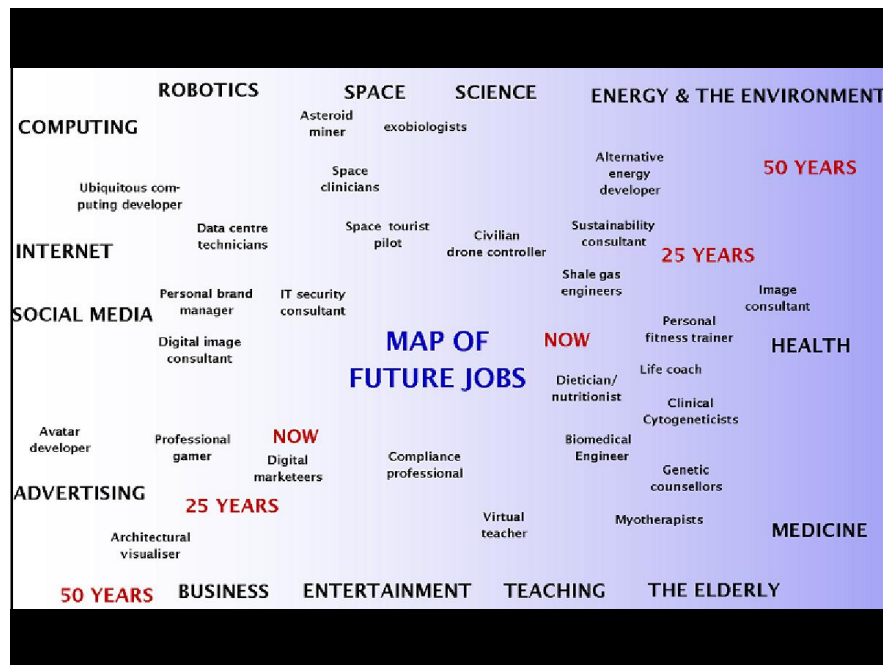


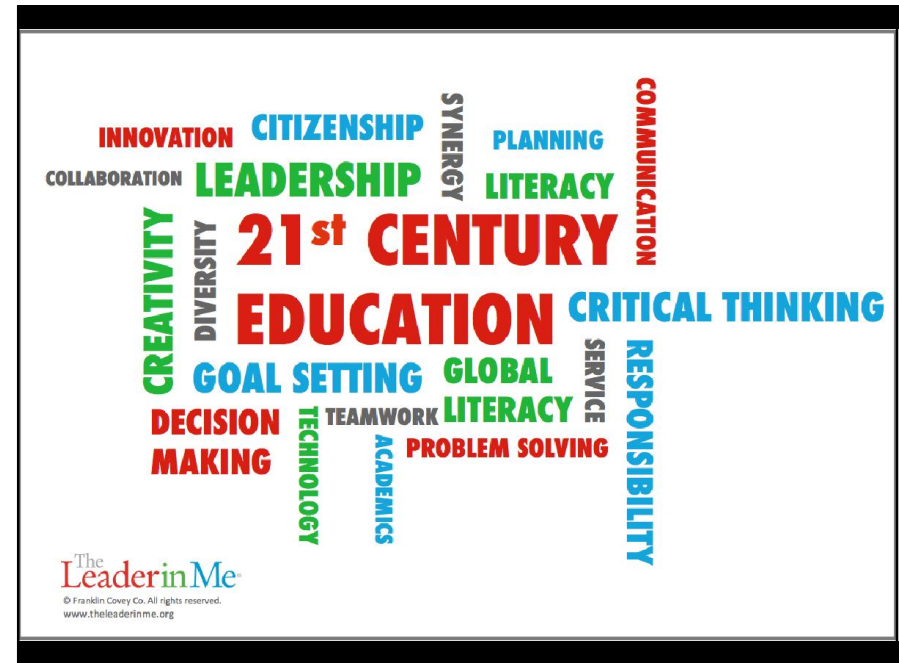
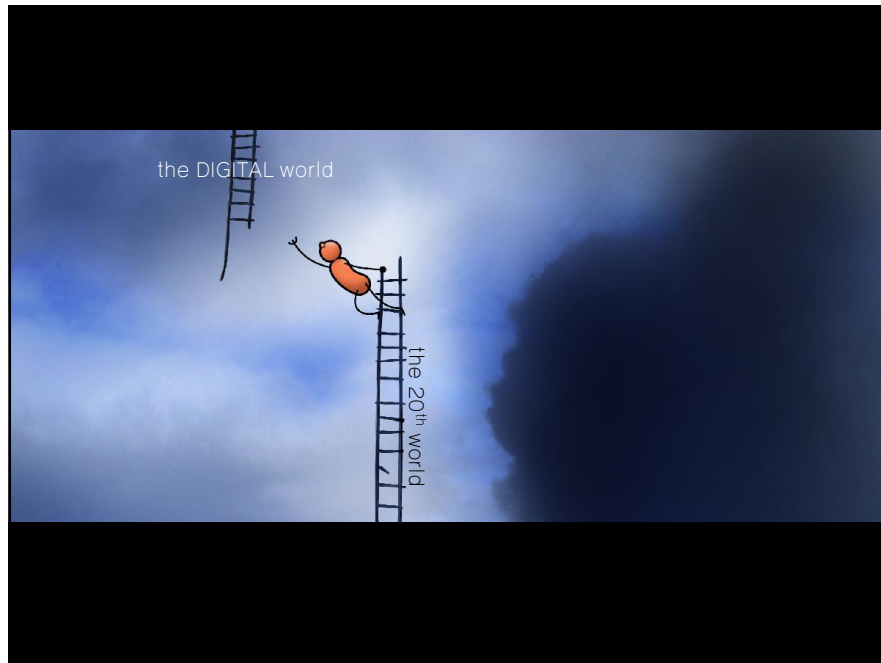




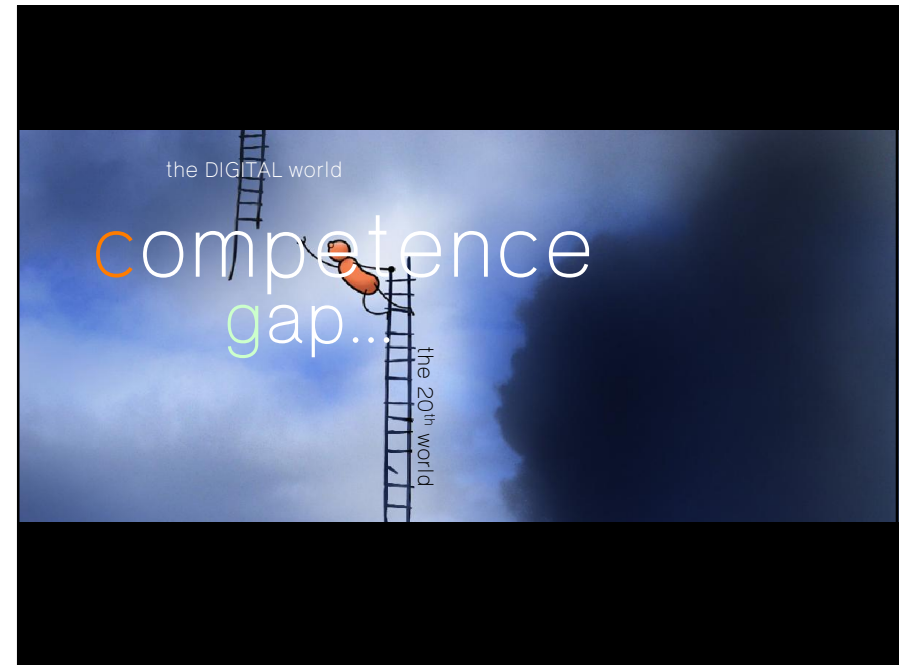
these jobs  
didn't exist in 2005:

social media strategist  
user experience specialist  
telework manager  
elder care coordinator  
sustainability manager

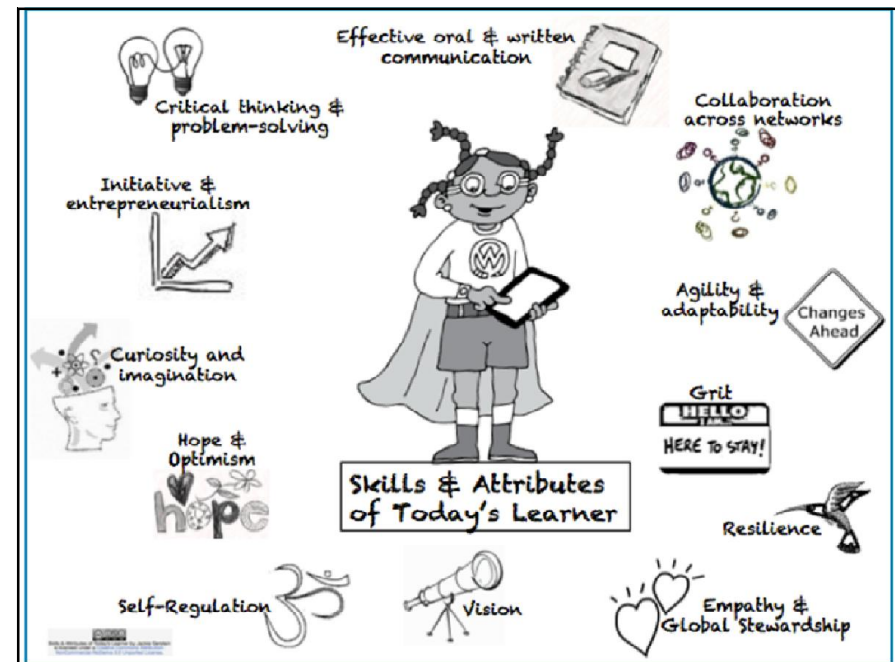




SKILLS  
NEW  
ATTITUDE  
KNOWLEDGE



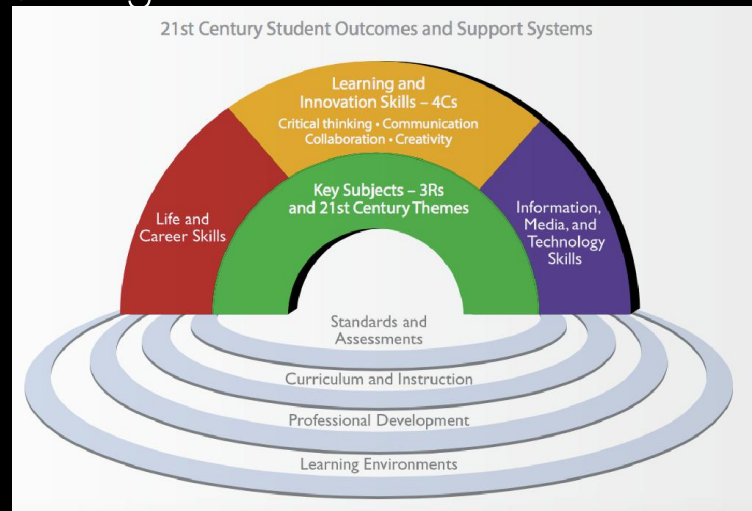
the  
**ABILITY**  
to do these following:





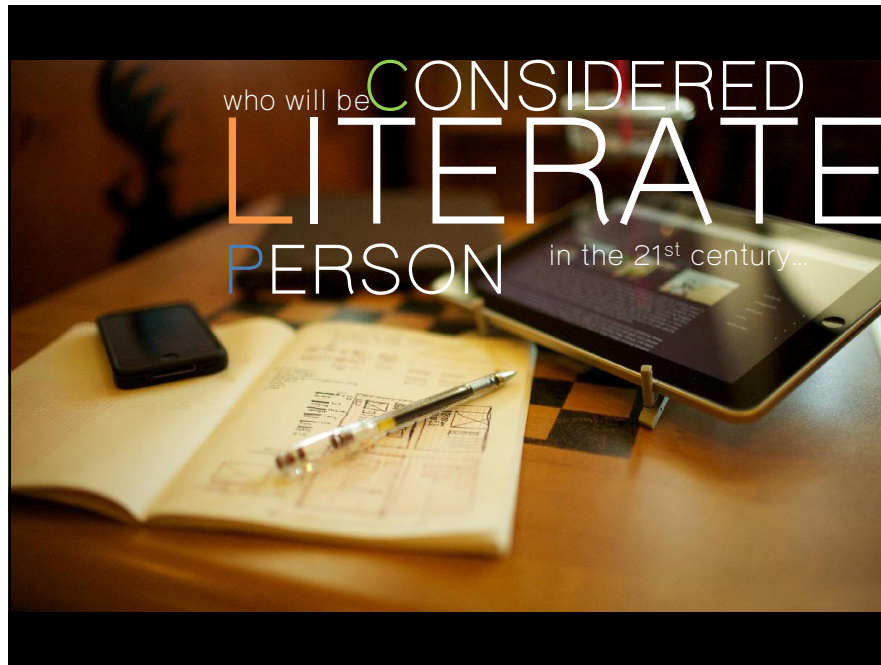
# Framework for 21st Century Learning

21st Century Student Outcomes and Support Systems



“ literacy skills...

- Validate Information?
- Synthesize Information?
- Communicate Information?
- Collaborate Information?
- Problem Solve with Information?

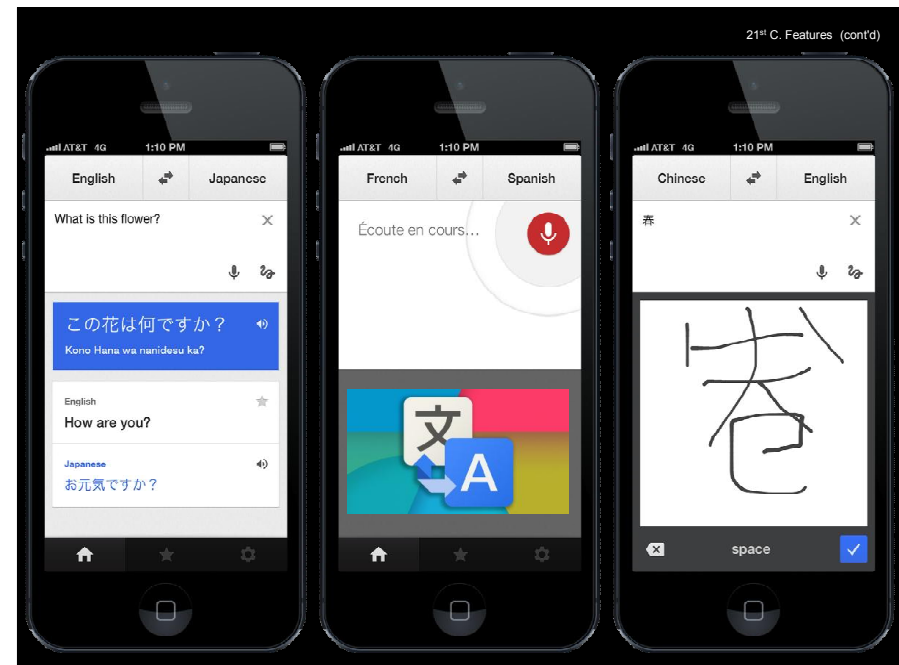


abc 114/1  
Had a gr8 time tnx  
4 ur present. C u  
2mrw :)

textism...

21<sup>st</sup> C. Features (cont'd)

cannot communicate in  
other country...



## TEN SKILLS FOR THE FUTURE WORKFORCE



### 1 SENSE-MAKING

**DEFINITION:** ability to determine the deeper meaning or significance of what is being expressed



### 3 NOVEL & ADAPTIVE THINKING

**DEFINITION:** proficiency at thinking and coming up with solutions and responses beyond that which is rote or rule-based



### 5 COMPUTATIONAL THINKING

**DEFINITION:** ability to translate vast amounts of data into abstract concepts and to understand data-based reasoning



### 7 TRANSDISCIPLINARITY

**DEFINITION:** literacy in and ability to understand concepts across multiple disciplines



### 9 COGNITIVE LOAD MANAGEMENT

**DEFINITION:** ability to discriminate and filter information for importance, and to understand how to maximize cognitive functioning using a variety of tools and techniques



### 2 SOCIAL INTELLIGENCE

**DEFINITION:** ability to connect to others in a deep and direct way, to sense and stimulate reactions and desired interactions



### 4 CROSS-CULTURAL COMPETENCY

**DEFINITION:** ability to operate in different cultural settings



### 6 NEW-MEDIA LITERACY

**DEFINITION:** ability to critically assess and develop content that uses new media forms, and to leverage these media for persuasive communication



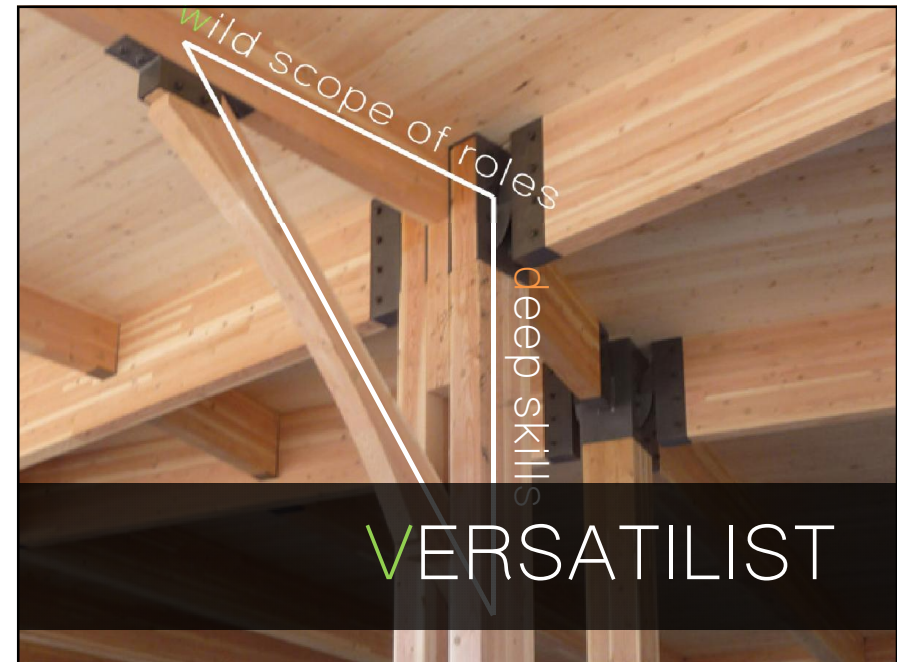
### 8 DESIGN MINDSET

**DEFINITION:** ability to represent and develop tasks and work processes for desired outcomes



### 10 VIRTUAL COLLABORATION

**DEFINITION:** ability to work productively, drive engagement, and demonstrate presence as a member of a virtual team.





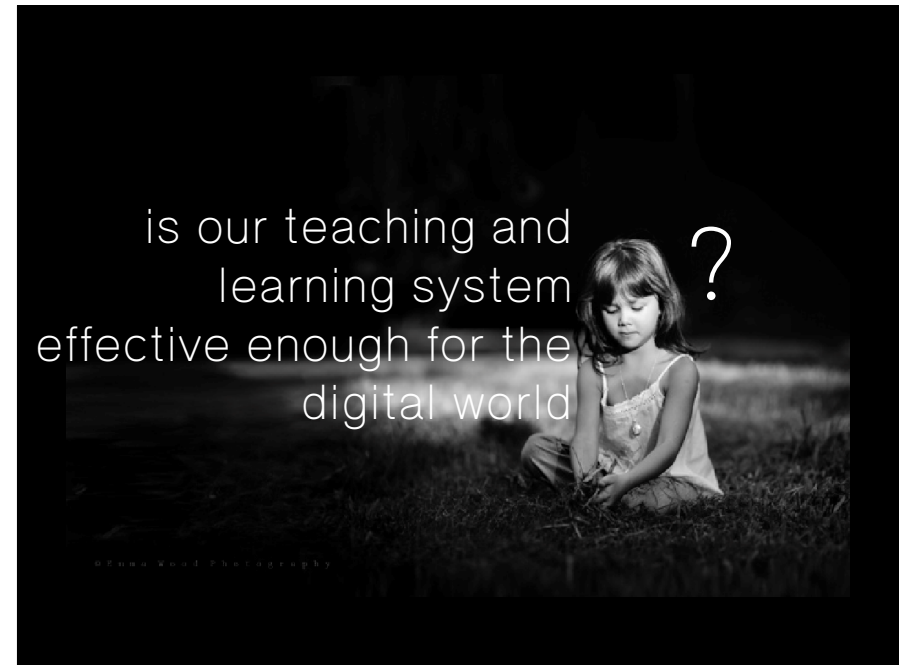
Literate = Learn, Unlearn, and Relearn



LIFELONG<sup>COMPETENCE</sup>  
LEARNING

OUR GRADUATES MUST HAVE

EMPLOYABILITY<sup>COMPETENCE</sup>  
MAKE STUDENT HAVE







Sir Ken Robinson says our education system works like a factory. It's based on models of mass production and conformity that actually prevent kids from finding their passions and succeeding, he said.

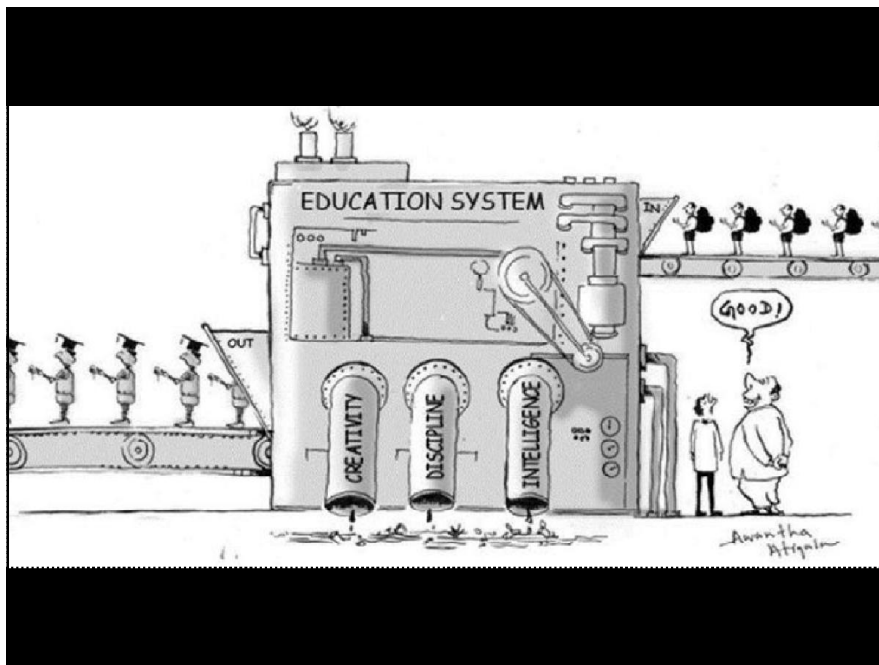






square peg in the round  
hole...





**TDRI**  
Thailand Development Research Institute

EDUCATION SYSTEM IS SETTING UP  
FUTURE FAILURE

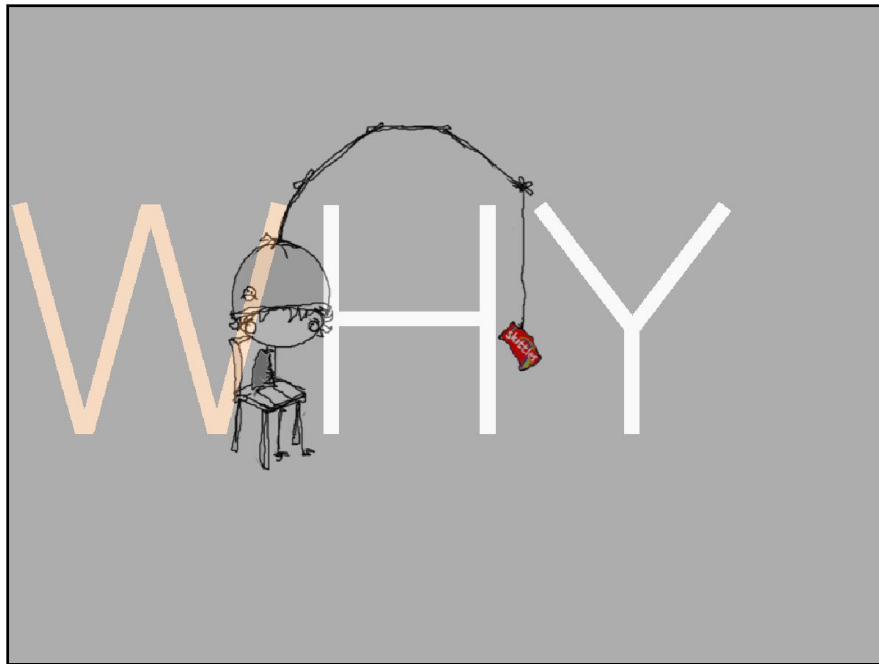
**ระบบการศึกษาไทย**  
ความล้มเหลวแห่งเอเชียตะวันออกเฉียงใต้  
Education System in Thailand  
: A Terrible Failure in S.E. Asia

WE TRY TO  
**IMPROVE**  
OUR **SYSTEM**  
SO MANY TIMES...



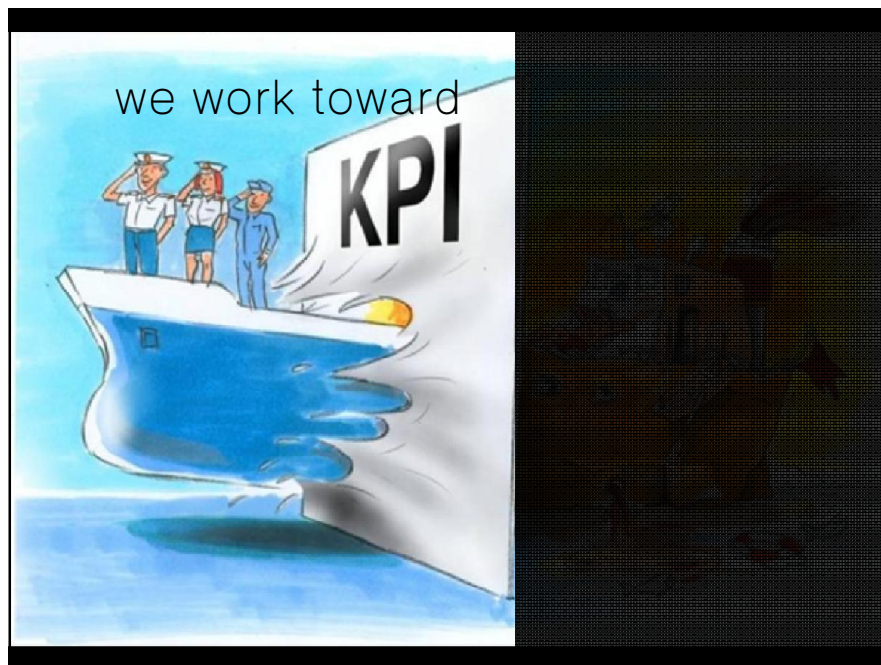
END  
UP WITH













MUCH  
HOW WELL  
STUDENT  
LEARN

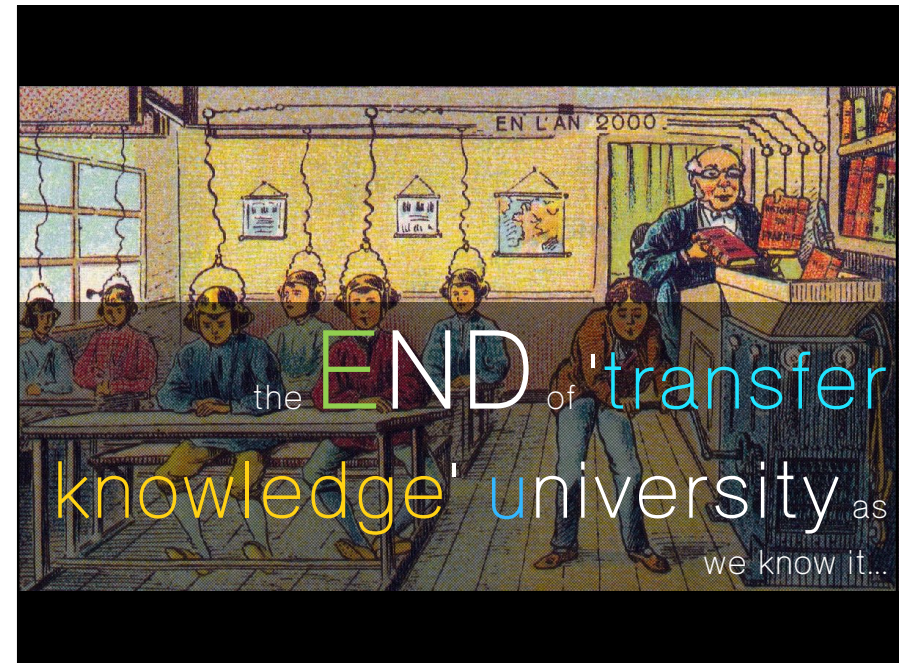
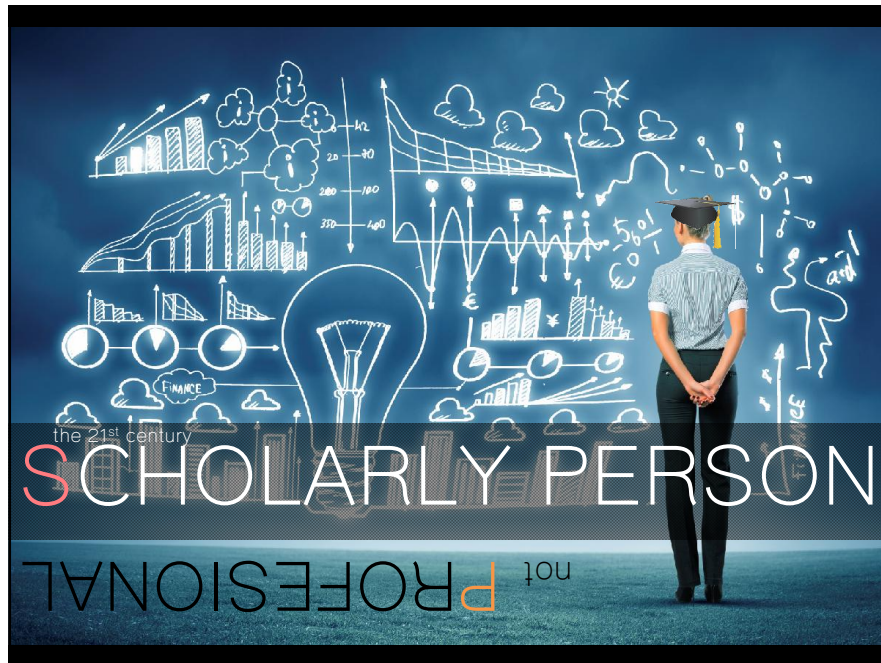
make our students  
LEARN



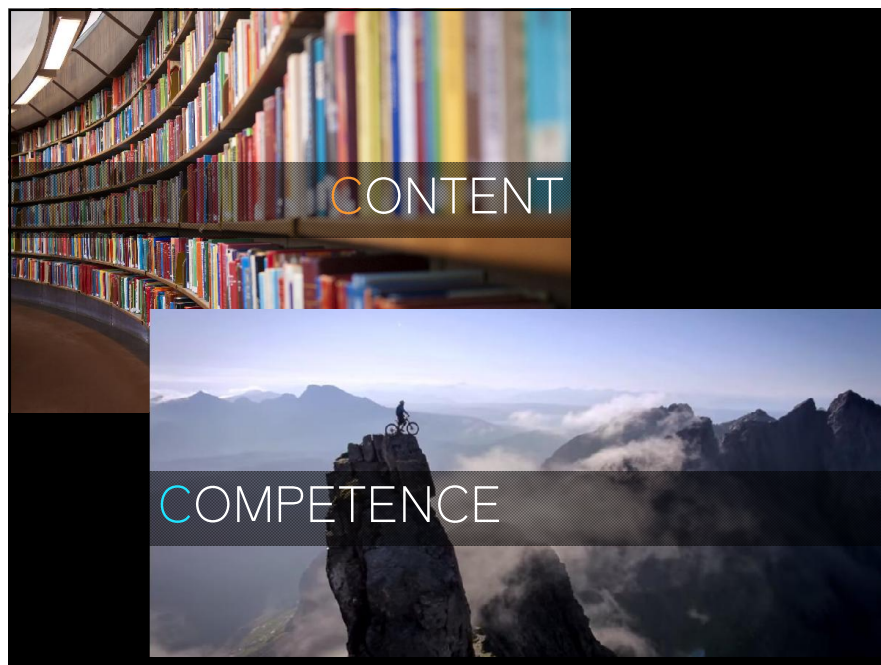




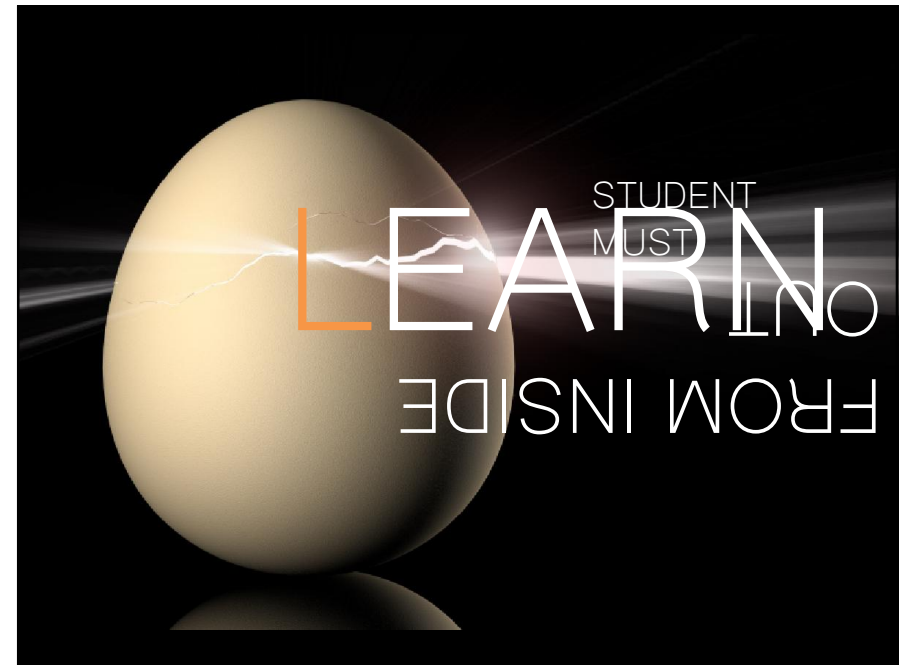
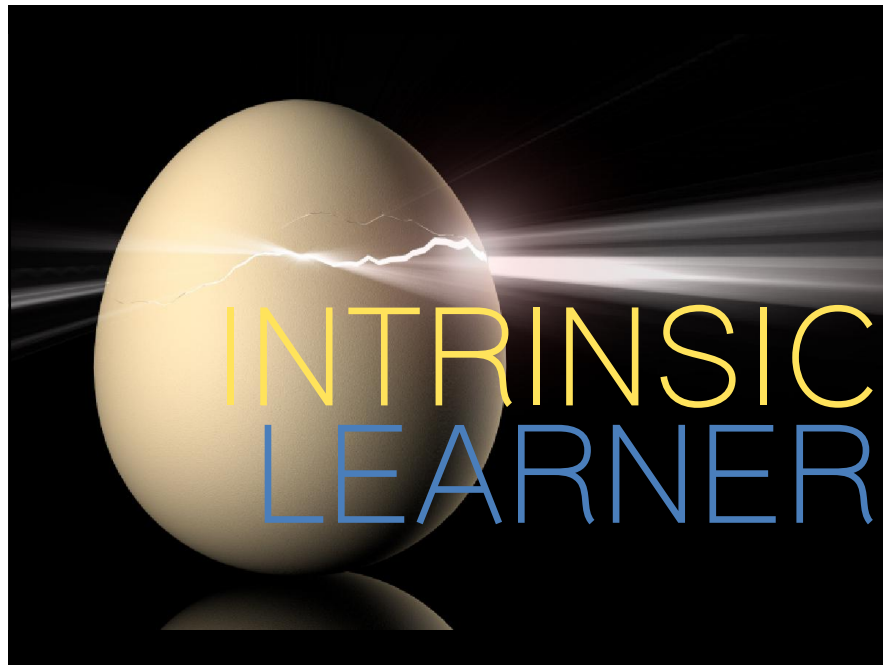












- how do you know that your students really **LEARN** ?



if they "learn" this should happen ...

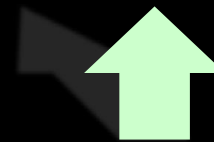


# Learning

*[biologically]*

- Your brain consists of billions of neural cells that are connected to each other.
- To learn is essentially to form sets of those connections.

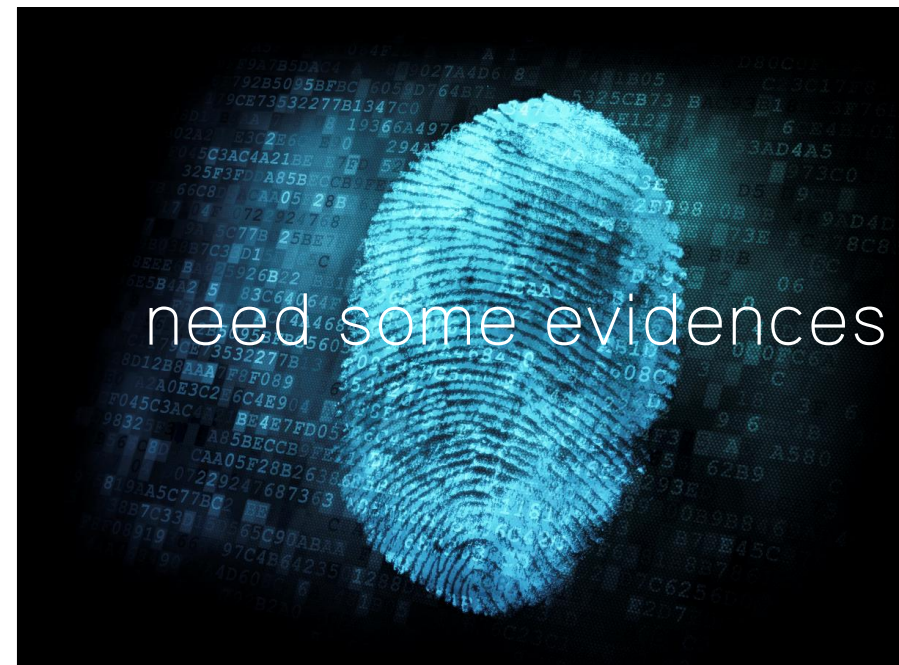
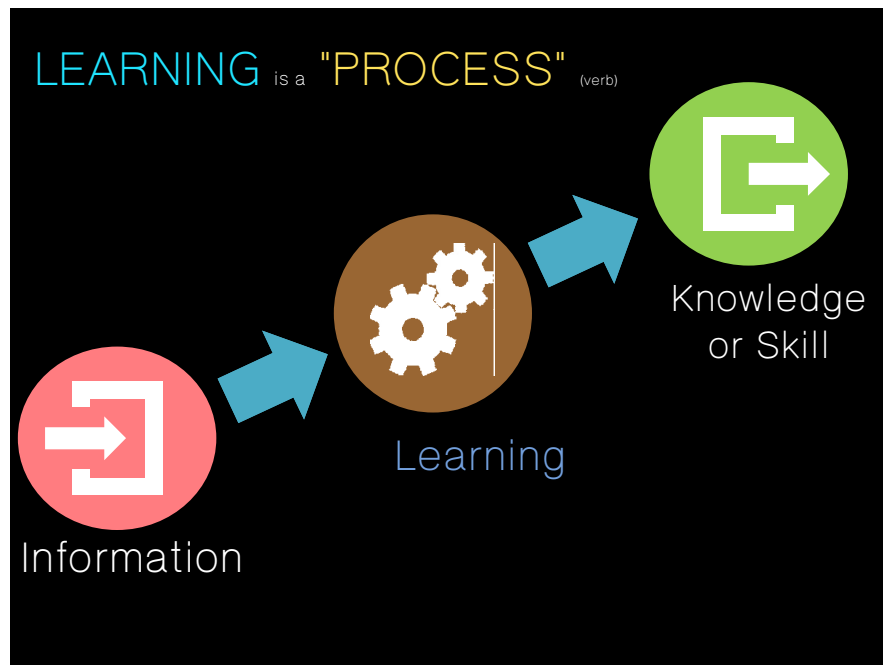
เรียนรู้ (Learning)



 การประมวลผล (สกัด)

 การนำข้อมูลประสาทสัมผัส (อย่างใดอย่างหนึ่ง หรือหลายอย่างพร้อมกัน)

Two Actions Required:







LEARNING  
OUTCOME?  
WHAT  
IS

LEARNING  
OUTCOMES



# MEASURABLE objectives ...



clear learning results that  
learners have to  
demonstrate at the  
end of significant learning  
experiences ...

LEARNING OUTCOME

action/ performance  
that embody and reflect  
learner competence in  
using content, information,  
ideas and tools successfully ...

LEARNING OUTCOME

describe the result of  
learning over a period of time  
- the result of what is  
learned versus what is  
taught ...

LEARNING OUTCOME

learning outcome must be

**a**chievable and  
**m**easurable ...

learning outcome must be

**c**lear and  
**p**recise ...





what learners can  
actually DO with what  
they know and have  
learned ...

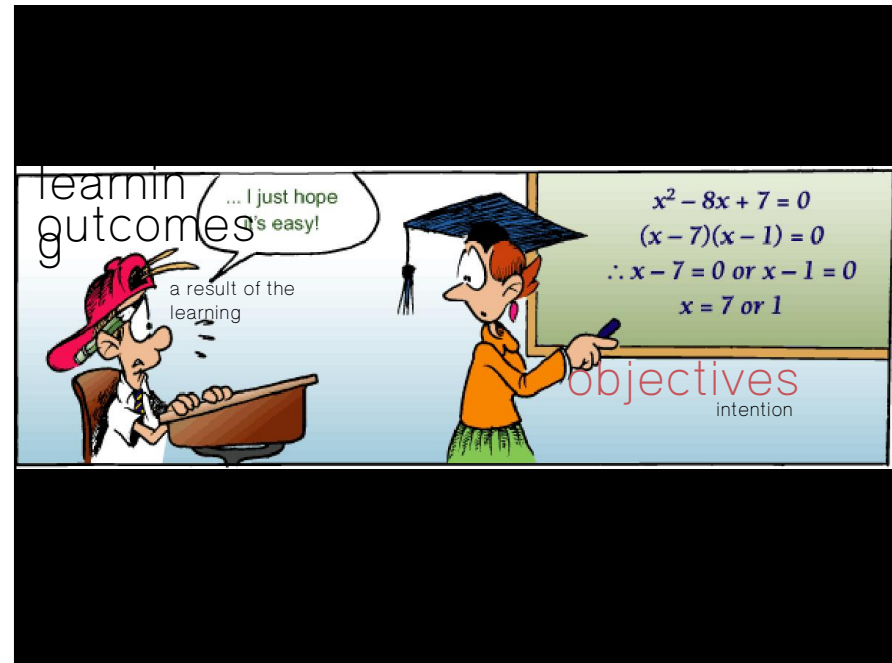
LEARNING OUTCOME

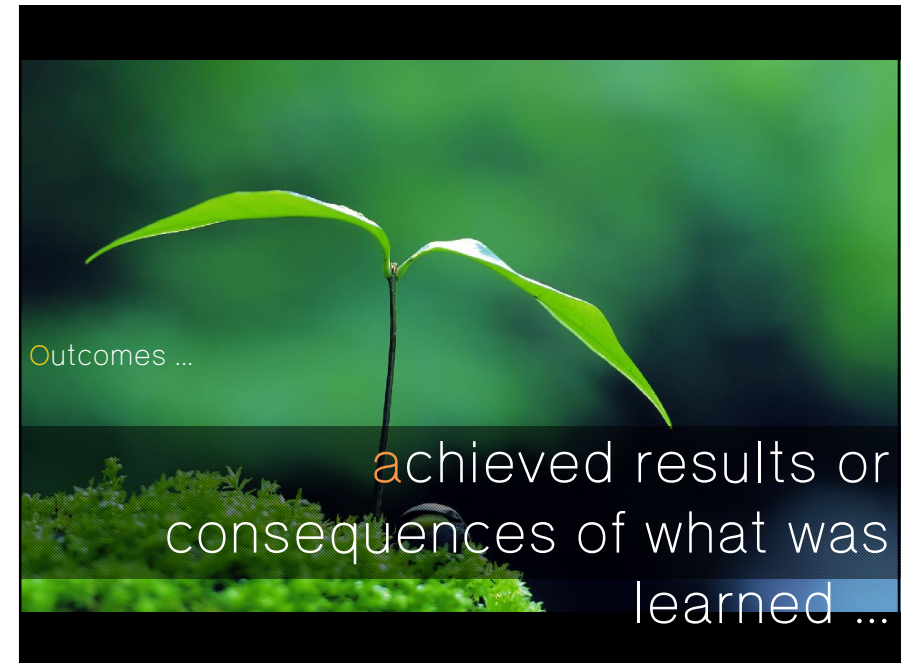
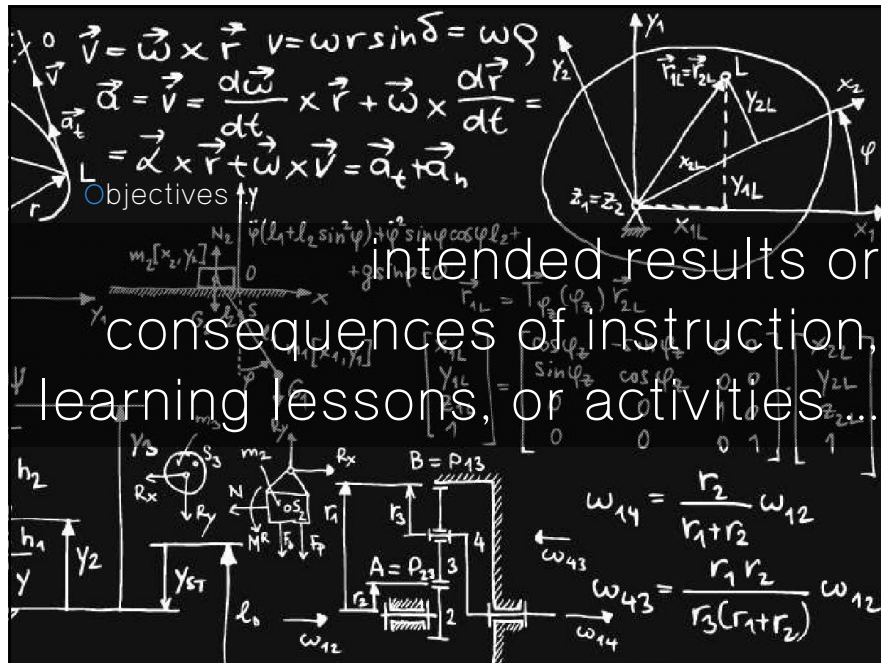
what assignment and  
learning pedagogy and  
activities will aid learners  
mastering the identified  
KNOWLEDGE, SKILLS, or  
ATTITUDE CHANGES ...

LEARNING OUTCOME

how to assess the  
accomplishment  
of learners ...

LEARNING OUTCOME







learning outcomes must be:

- focus on what students will know and be able to do: applications of the core knowledge,
- describe observable and measureable actions or behaviours.
- the key for measurability: use an action verb that describes a observable behavior, process, or product .

## how to write learning outcomes ...

- Begin each learning outcome as an action verb, followed by object of the verb, followed by a phrase giving the context and/or how well ?
- Use only one verb per learning outcomes.
- The learning outcomes must be clear, precise, measurable, and observable.
- Ensure that learning outcomes are capable of being assessed.

Kennedy et. al.

## the benefit of learning outcomes

- Integrating course design through integrating student needs, instructor expertise, and disciplinary and university requirements.
- Learning outcomes are measurable ways of demonstrating learning. They clarify course purpose and assessment of learning.
- Acknowledging relationship of evidence to conclusion.
- Engaging with course content; providing deeper learning.



## the benefit of learning outcomes

- Increasing transparency; increased coherence.
- Improving overall teaching effectiveness.

## Food for Thought

- Students will know the differences in major contemporary theories in the field of sociology.
- Students will be able to contrast major contemporary theories in the field of sociology.

### Learning Outcome Samples:

- Identify an educational theme and compare and contrast its application in American vs. European schools.
- Given a problem situation, determine whether it is a rate of change problem or a total change problem; use the Solve problems using calculus appropriate method to accurately solve the problem.

### Learning Outcome Samples:

- Given two paintings - each from a different historical period - determine which period each is from, describe how imagery is used in each, and contrast how each reflects the cultural norms of the period. (Understand the power and meaning of imagery in our visual world, from current and historic sources.)

## Learning Outcome Samples:

- Use the critical thinking rubric to provide three classmates with feedback on their Blackboard postings of anthropomorphic measurements of facial features.  
(Interact and learn from one another about issues related to problems facing communicatively challenged individuals.)

- how do you feel about  
TQF?



to foster  
 INTRINSIC LEARNER  
 we must REDESIGN  
 our EDUCATION  
 SYSTEM

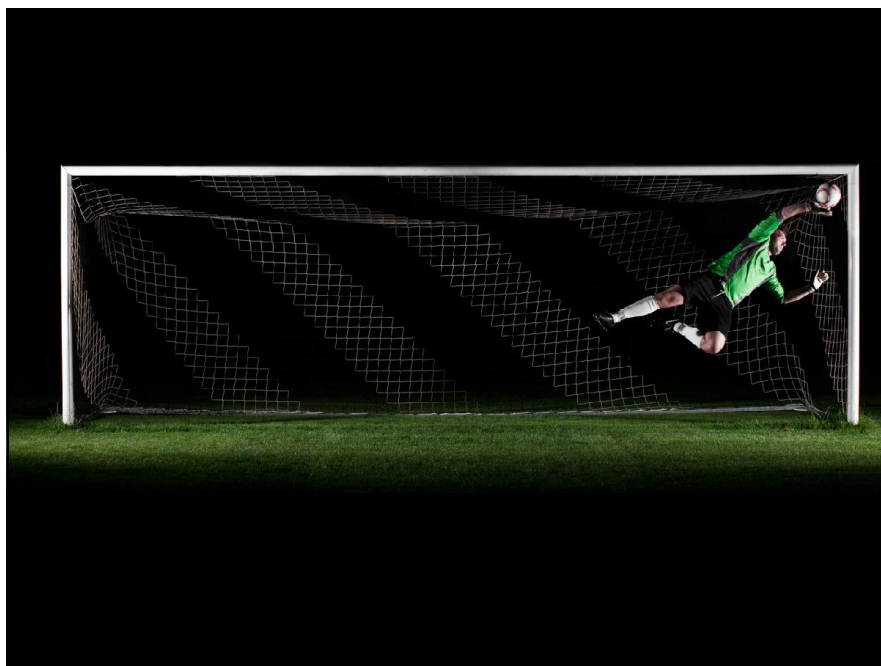
## A Map for Change

	Traditional Education	21 <sup>st</sup> Century Education
Criterion for Curriculum Organization	<ul style="list-style-type: none"> <li>• Disciplinary content to be covered during the course or program</li> </ul>	<ul style="list-style-type: none"> <li>• Competencies to be developed as outcomes of the course or program</li> </ul>
Teaching	<ul style="list-style-type: none"> <li>• Coverage of prescribed disciplinary content</li> <li>• Lecturing</li> </ul>	<ul style="list-style-type: none"> <li>• Uncovering relevant and personalized meanings</li> <li>• Facilitating</li> </ul>
Learning	<ul style="list-style-type: none"> <li>• Cognitivism</li> <li>• Consumption and processing of disciplinary content</li> </ul>	<ul style="list-style-type: none"> <li>• Constructivism</li> <li>• Task-oriented learning: <i>problem-based learning, project-based learning, internships</i></li> </ul>
Assessment	<ul style="list-style-type: none"> <li>• Assessments of disciplinary content processing</li> <li>• Focus on summative assessments (<i>assessment of learning</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• Assessment of applied learning &amp; skills development</li> <li>• Ample formative assessments (<i>assessment for learning</i>)</li> </ul>









ACHIEVEMENT<sup>OF</sup> STUDENTS  
AT THE <sup>END</sup> OF LEARNING  
UNITS

# GOAL

OF COURSES AND PROGRAMME

TOWARDS THE

outcome-based education (OBE) is an educational theory that bases each part of an educational system around **goals** (**o**utcomes). By the end of the educational experience each student should have **a**chieved the goal...

Wikipedia

not what teacher  
teach



what the teacher expects students to know and be able  
to do (as a whole) at the end of instruction...

what student learn ...



what student can actually DO at the  
end of LEARNING  
experiences/activities ...

OBE **answer** these  
questions ?

are we nurturing the **RIGHT**  
**1. GRADUATES ?...**

are we nurturing the **GRADUATES**  
**RIGHT ?... 2.**

- How can we facilitate them to achieve it?
- How can we close the gap?
- How do we know whether our students have achieved it?
- What do we want students to have or be able to do ?

QUESTIONS to address:



- Continuous quality improvement is embedded (on going assessment and support).
- Progress through mastery
- Demonstrate learning
- Focus on 'outcomes' not 'inputs'

Principle of Outcome Based Curriculum

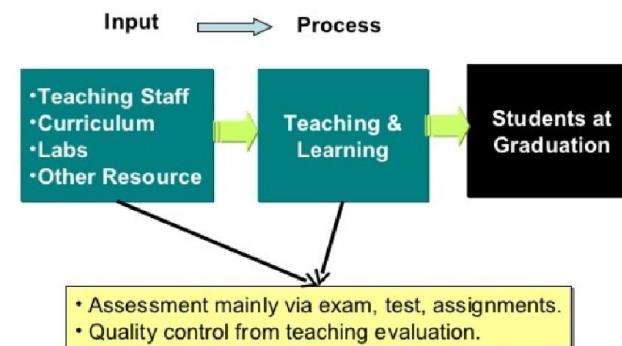
## Outcome-Based Education (OBE)

- OBE is an educational process that focuses on what students **can do** or the **qualities** they should develop after they are taught.
- OBE involves the restructuring of curriculum, assessment and reporting practices in education to reflect the achievement of high order learning and mastery rather than accumulation of course credits.
- Both structures and curricula are designed to achieve those **capabilities** or **qualities**.
- Discourages traditional education approaches based on direct instruction of facts and standard methods.
- It requires that the students demonstrate that they have learnt the required skills and content.

13

## OBE Versus Traditional Education Process

- Traditional education process focuses on the inputs.

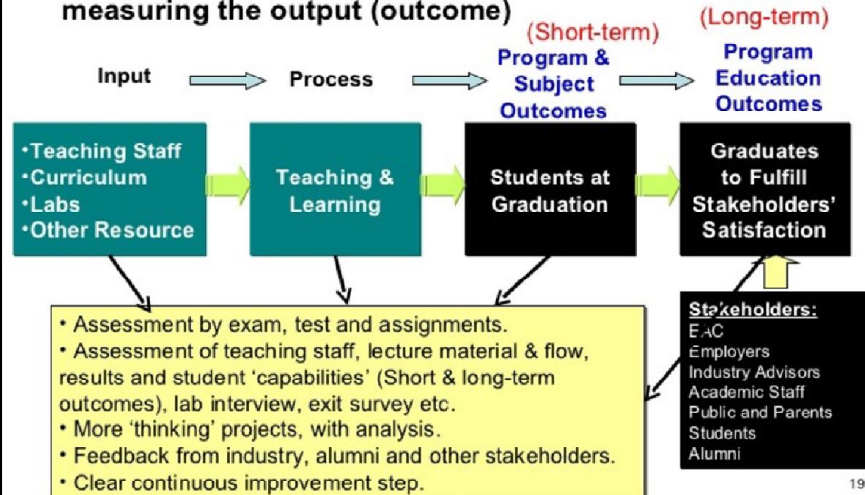


18



## Outcome-Based Education Versus Traditional Education Process

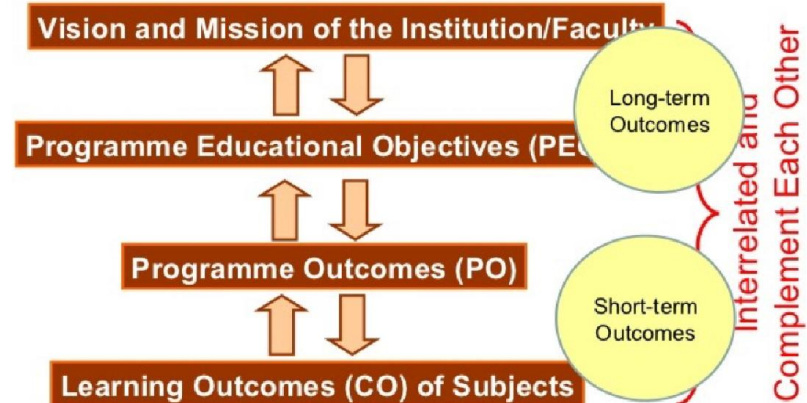
- OBE shifts from measuring input and process to **include measuring the output (outcome)**



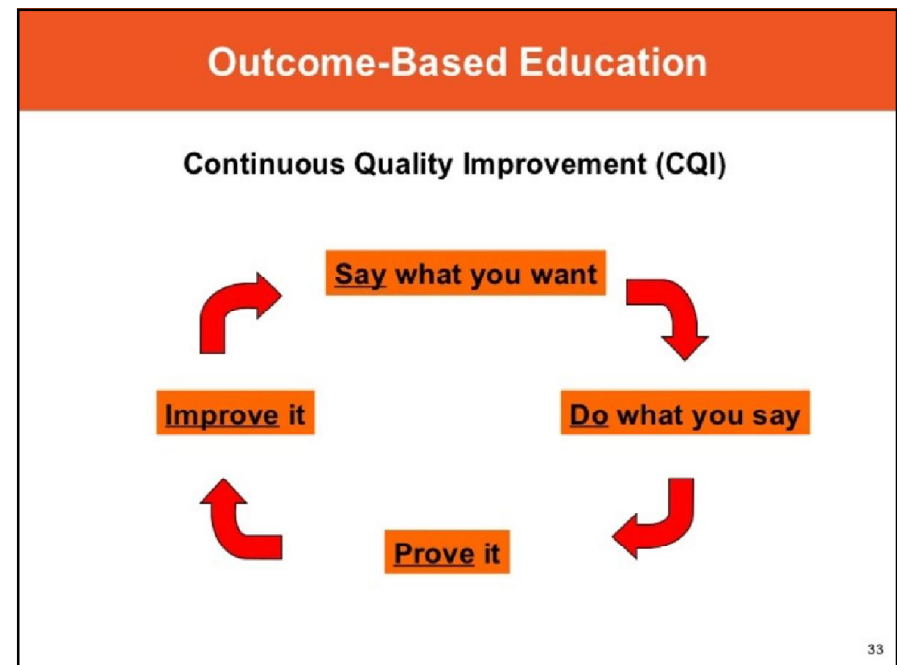
19

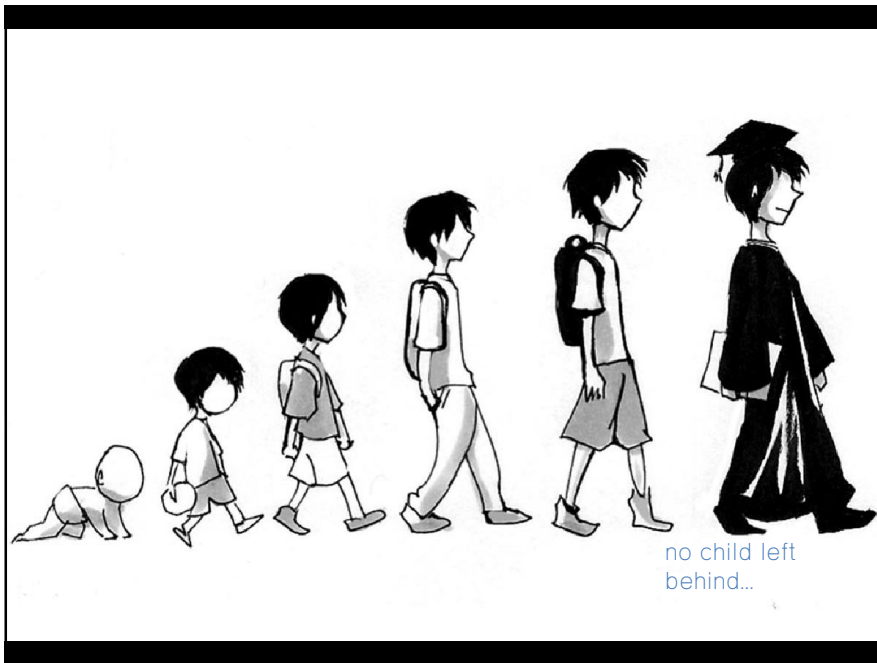
## Outcomes in OBE

### A Model Hierarchy of Outcomes



20





clearly focusing and organizing  
**EVERYTHING** in an educational  
system on what is essential for all  
students to be able to **do**  
**SUCCESSFULLY** at the **end** of  
their learning experiences

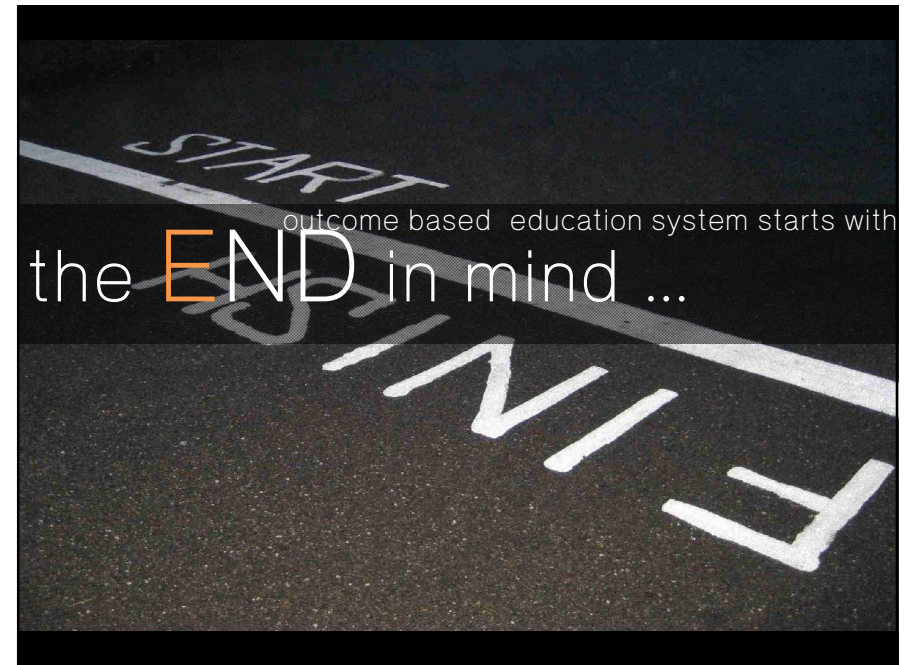
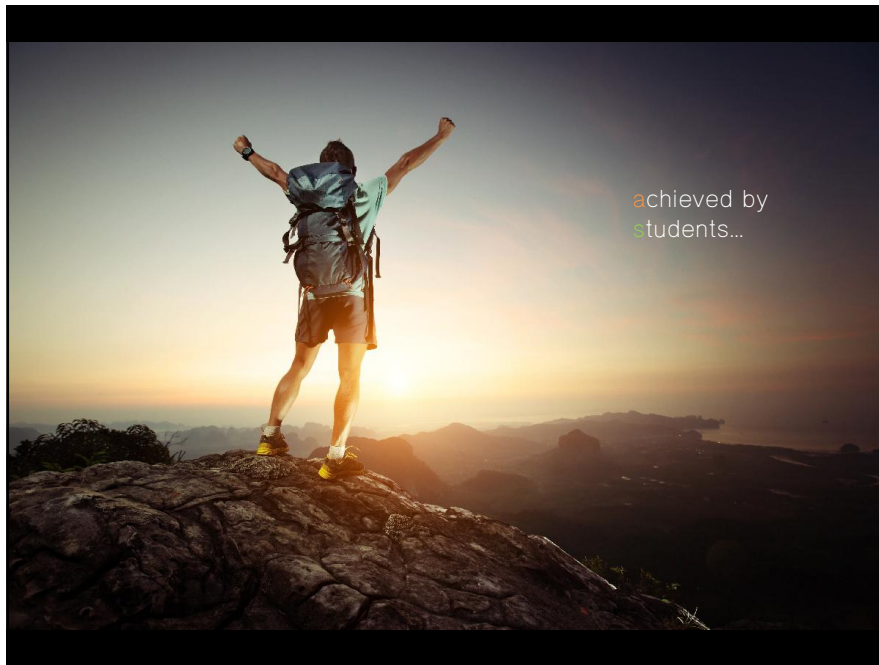
---

Source: William G. Spady (1994) *Outcomes-based education: Critical Issues and Answers*. The American Association of School Administrators

This means starting with a clear picture of what is important for students to be able to do, then ORGANIZING the curriculum, instruction and assessment to make sure this learning ultimately happens.

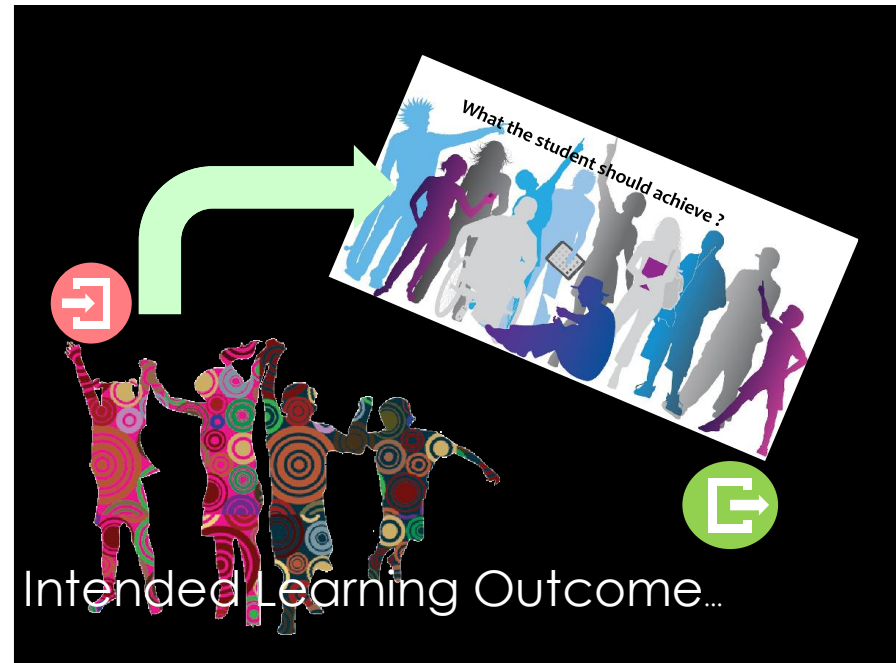
Source: William G. Spady (1994) *Outcomes-based education: Critical Issues and Answers*. The American Association of School Administrators

OBE embodies the idea that the best way to LEARN is to first determine what needs to be achieved...



# learner profile

what is the

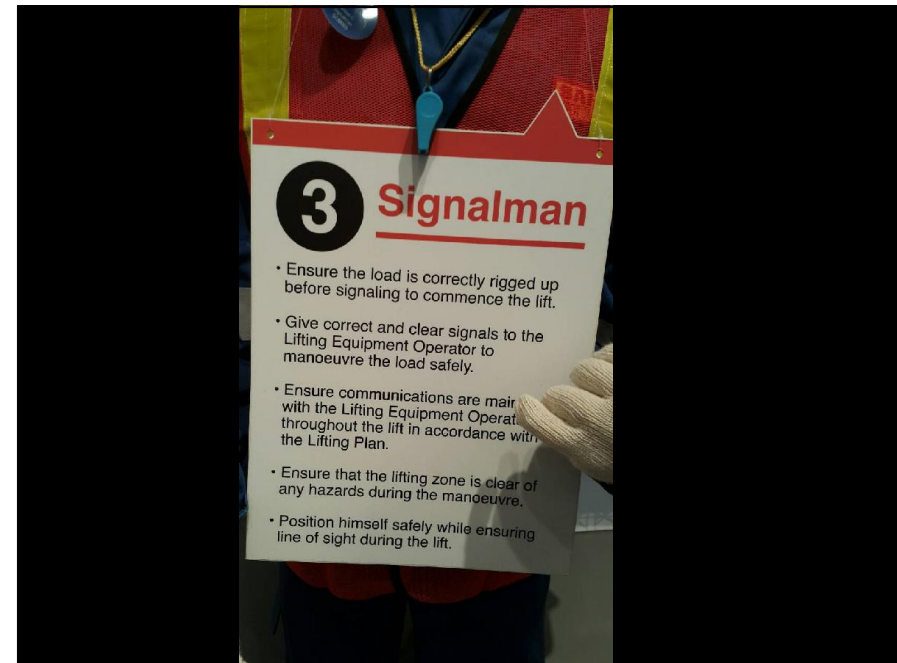


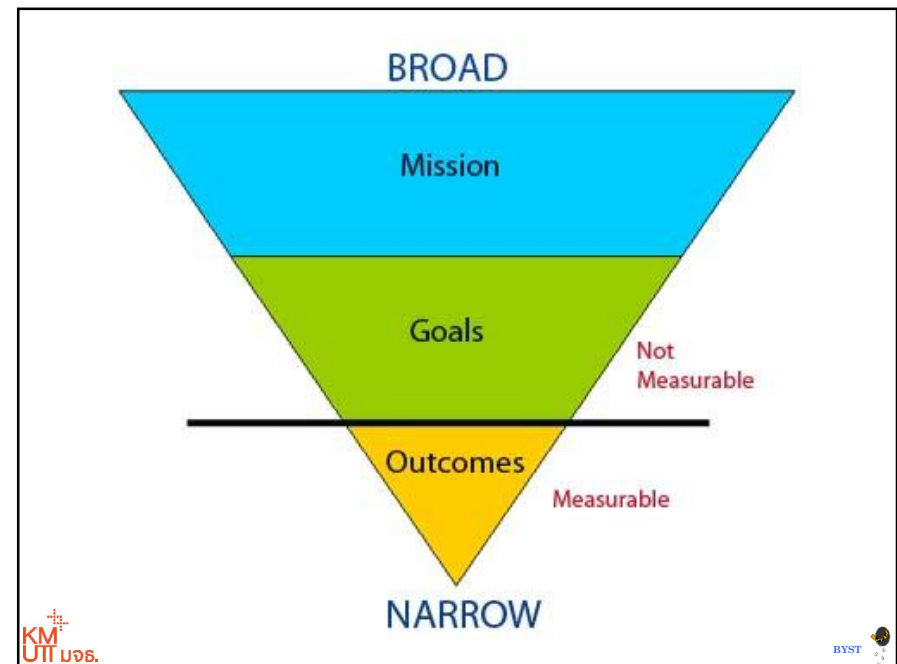
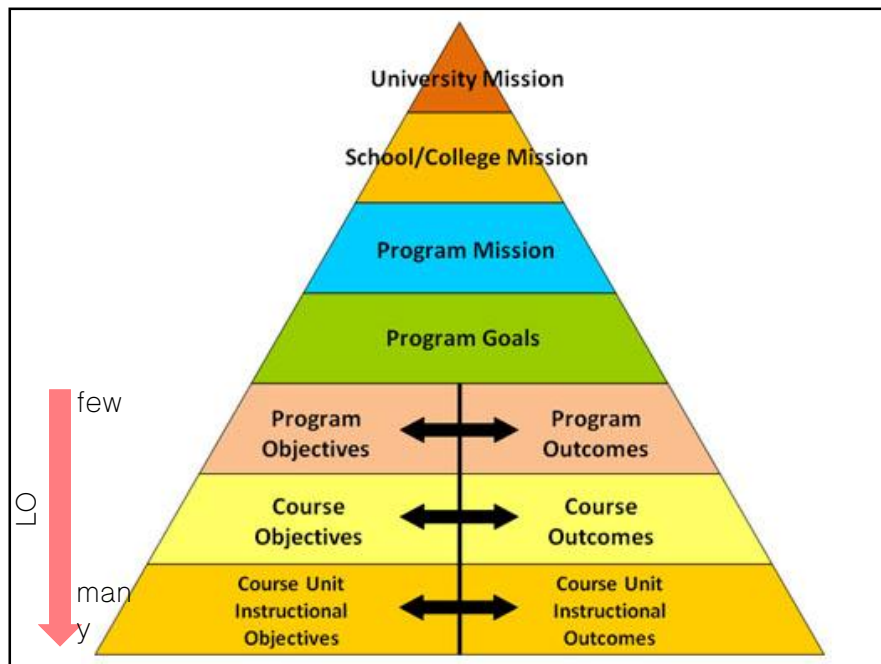


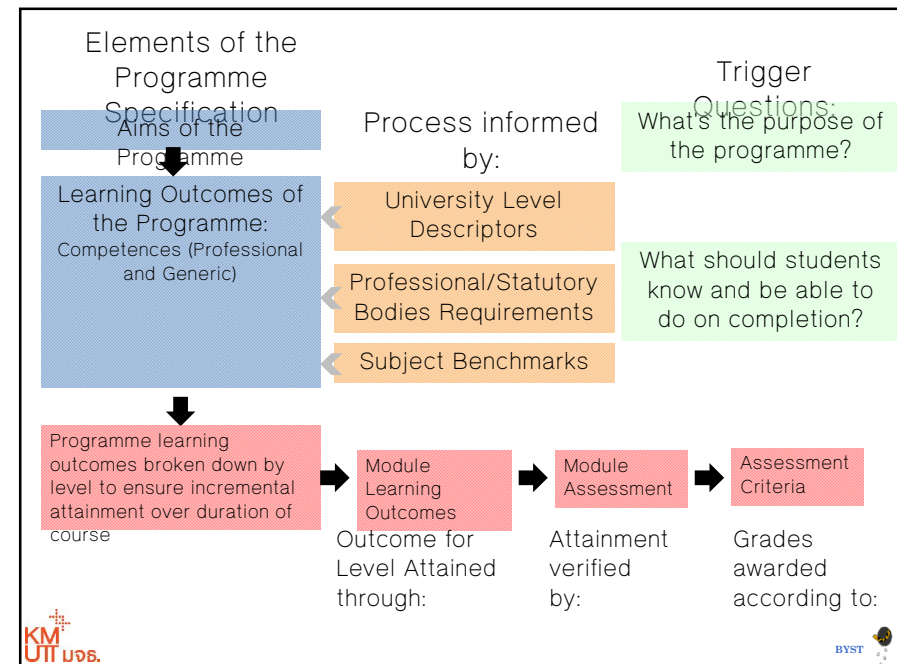
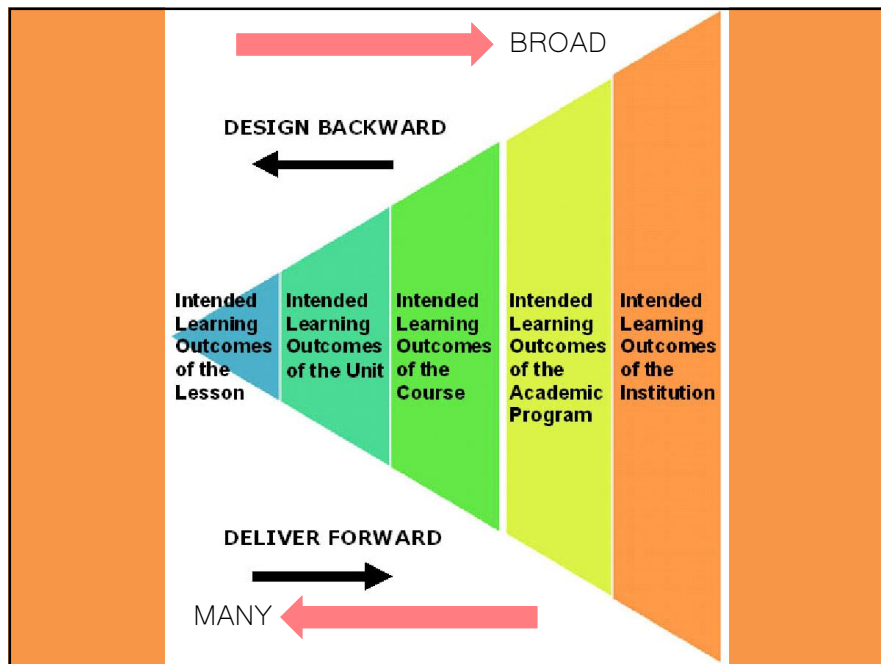
student must learn how to:

UNDERSTAND  
be able to DO and FEEL

W A  
H I









at the **END** of each learning unit what  
will student **be** able to do that  
they could **not do as**  
**well** before each unit...

