Sesi Kedua:
Beberapa Pertimbangan Merancang Pengajaran

PM. Dr. Hanipah Hussin
UTeM

1. Good Teaching : The Top Ten Requirements
2. Do We Teach
3. Background of the Challenges
4. Process and Outcome of University Learning
5. **Our Emphasize on the Curriculum Process (KUiTTHO Perspective)**
6. **Outcome-based Learning Curriculum Mapping**

Good Teaching:
The Top Ten Requirements

1. **Good Teaching is about passion as it is about reason.**
2. **Good teaching is about substance and treating students as consumers of knowledge.**
3. **Good teaching is about listening, questioning, being responsive, and remembering that each student and class is different.**
4. **Good teaching is about not always having a fixed agenda and being rigid, but being flexible, fluid, experimenting, and having confidence to react and adjust to changing circumstances.**
5. **Good teaching is about style.**
6. **This is very important – good teaching is about humor.**
7. **Good teaching is about caring, nurturing and developing minds and talents.**
8. **Good teaching is supported by strong and visionary leadership and very tangible institutional support- resources, expertise and funds.**
9. **Good teaching is about mentoring between senior and junior faculty, teamwork and being recognized and promoted by one's peers.**
10. **At the end of the day good teaching is about fun, experiencing pleasure and intrinsic rewards, thoughts being formed, the person becoming better.**

Good Instruction

Active Learning in Large Classes
Asking Questions
Giving Explanations to Students
Managing Tutorials
Planning Lectures
Teaching Objectives - Action Verbs
Writing Instructional Objectives
Delivering Lectures
Role Play
Improving the Effectiveness of Lectures

DO WE TEACH,

WHAT WE KNOW BEST?
WHAT WE WERE TAUGHT?
WHAT WE ENJOY TEACHING?
WHAT WE HAVE EXPERIENCE WITH?
WHAT THE TEXTBOOK HAPPENS TO INCLUDE?

DO WE TEACH,

WHAT THE STUDENT MOST NEEDS FOR SUCCEFUL EMPLOYMENT?

Important Challenges

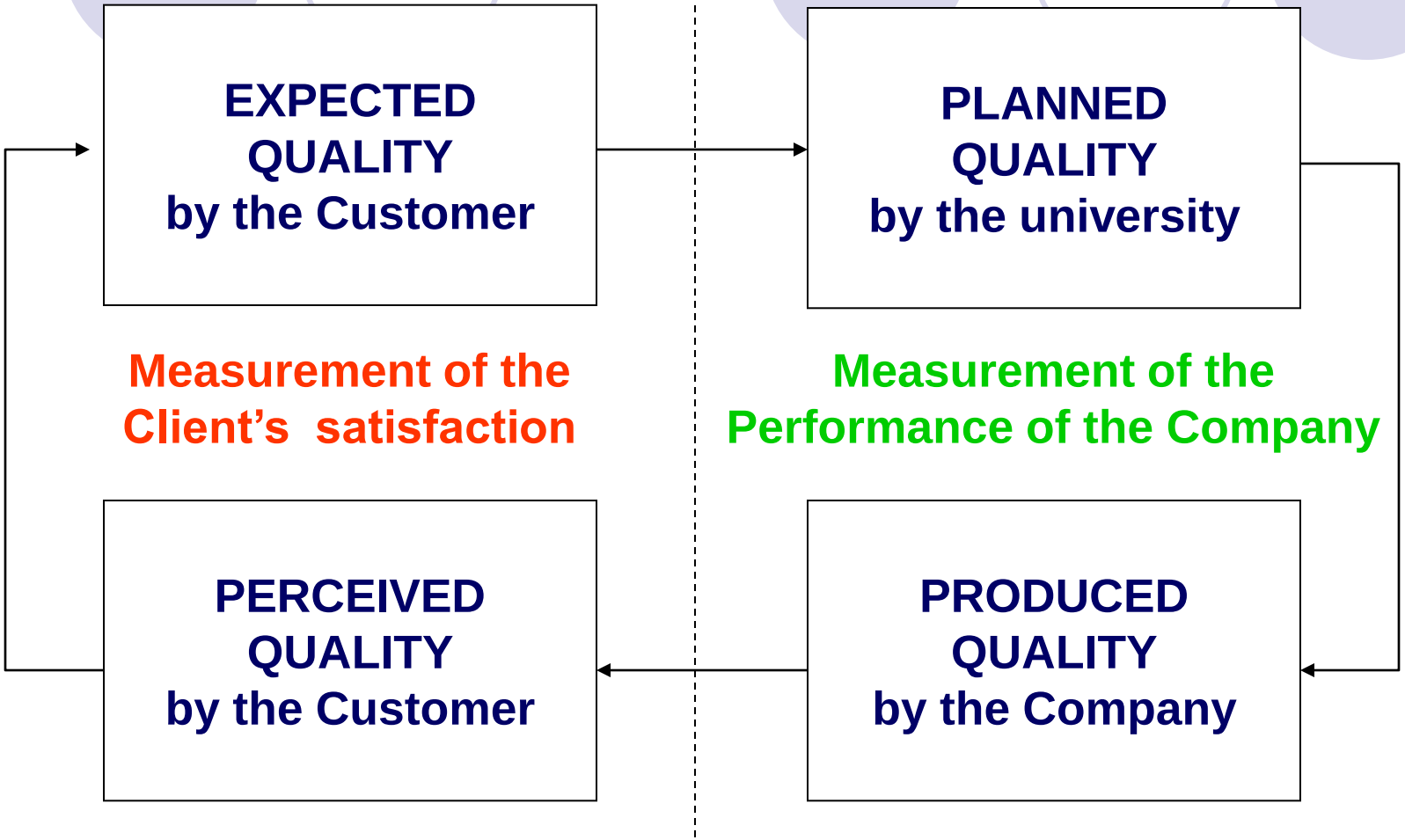
- To improves quality and to link education to society's needs and development goals. It is necessary that the road map of the future higher education scenario be charted out clearly to facilitate the transition of Malaysia into a developed nation by year 2020.

- Competitiveness:
  - Innovations in curriculum & instruction.
  - Development of educational infrastructure.
  - The networking with other educational institutions and with the industry.

Perception on Quality

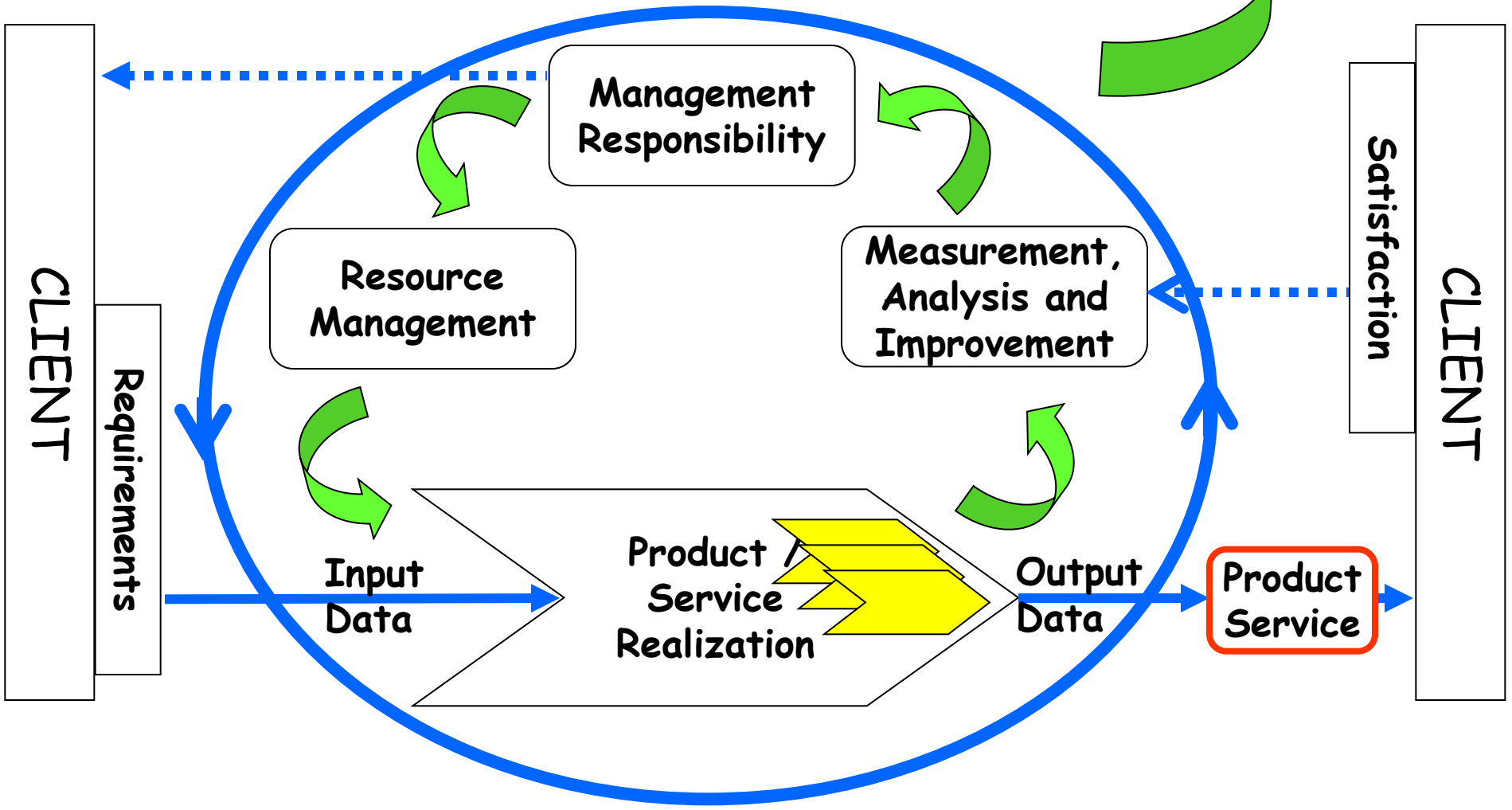
- Perception of acceptable quality level
- Competitive spirit
- Market & customer orientation
- Problem solver

The ISO 9001:2000 requirements



Systemic approach ?

Continuous improvement of the Quality Management System



Background of the issue:

Towards Vision 2020:

"To reach the status of an industrialized country by the year 2020"

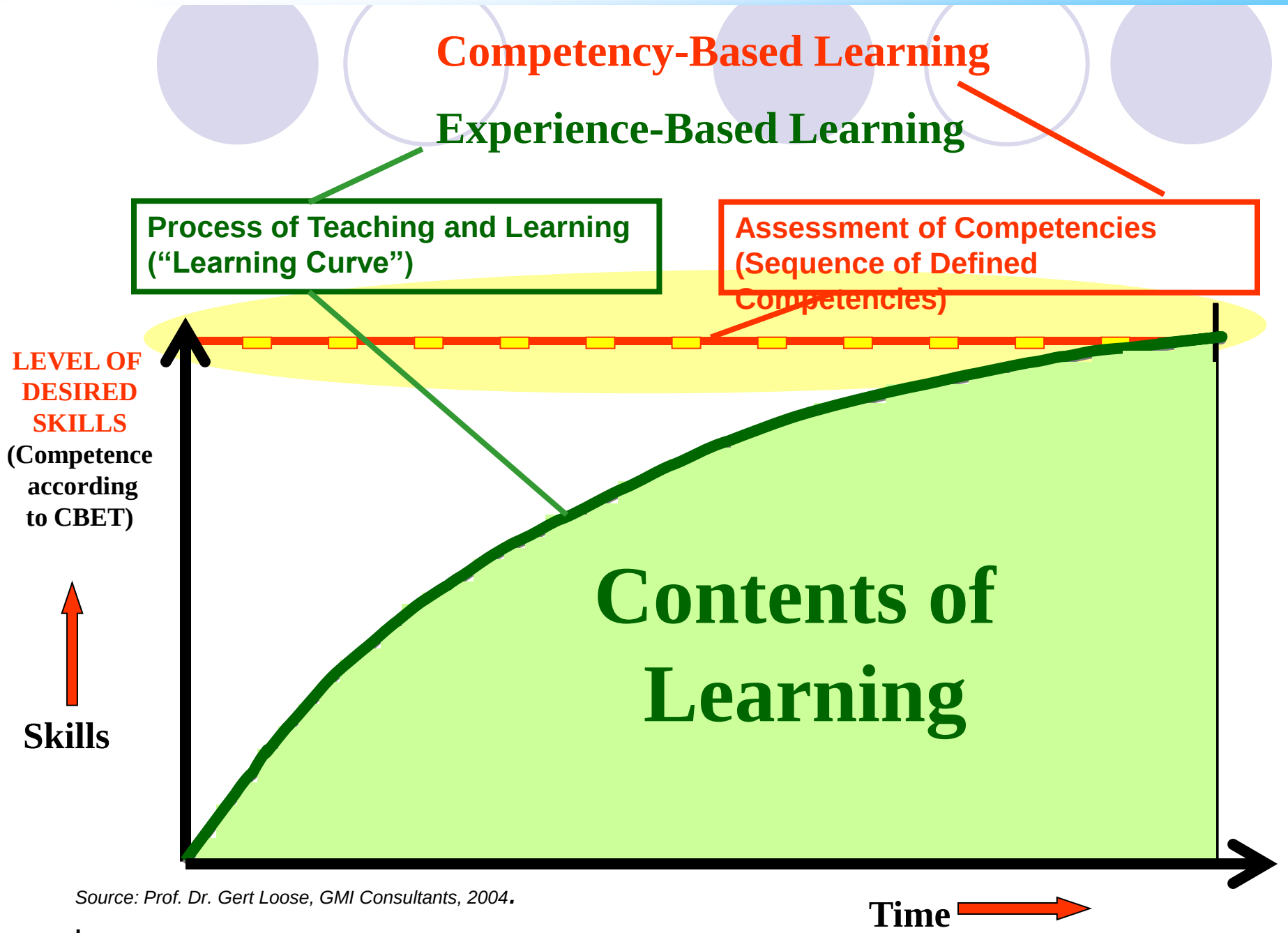
A Sample Guideline:

Among the characteristics of a knowledge-based economy is a highly skilled labour force.

Skills and knowledge become the main assets for the economy to gain competitiveness.

Source: **The Third Outline Perspective Plan 2001 – 2010**, Kuala Lumpur: EPU, Prime Minister's Department 2001, p.121

The Process and Outcome of University Learning

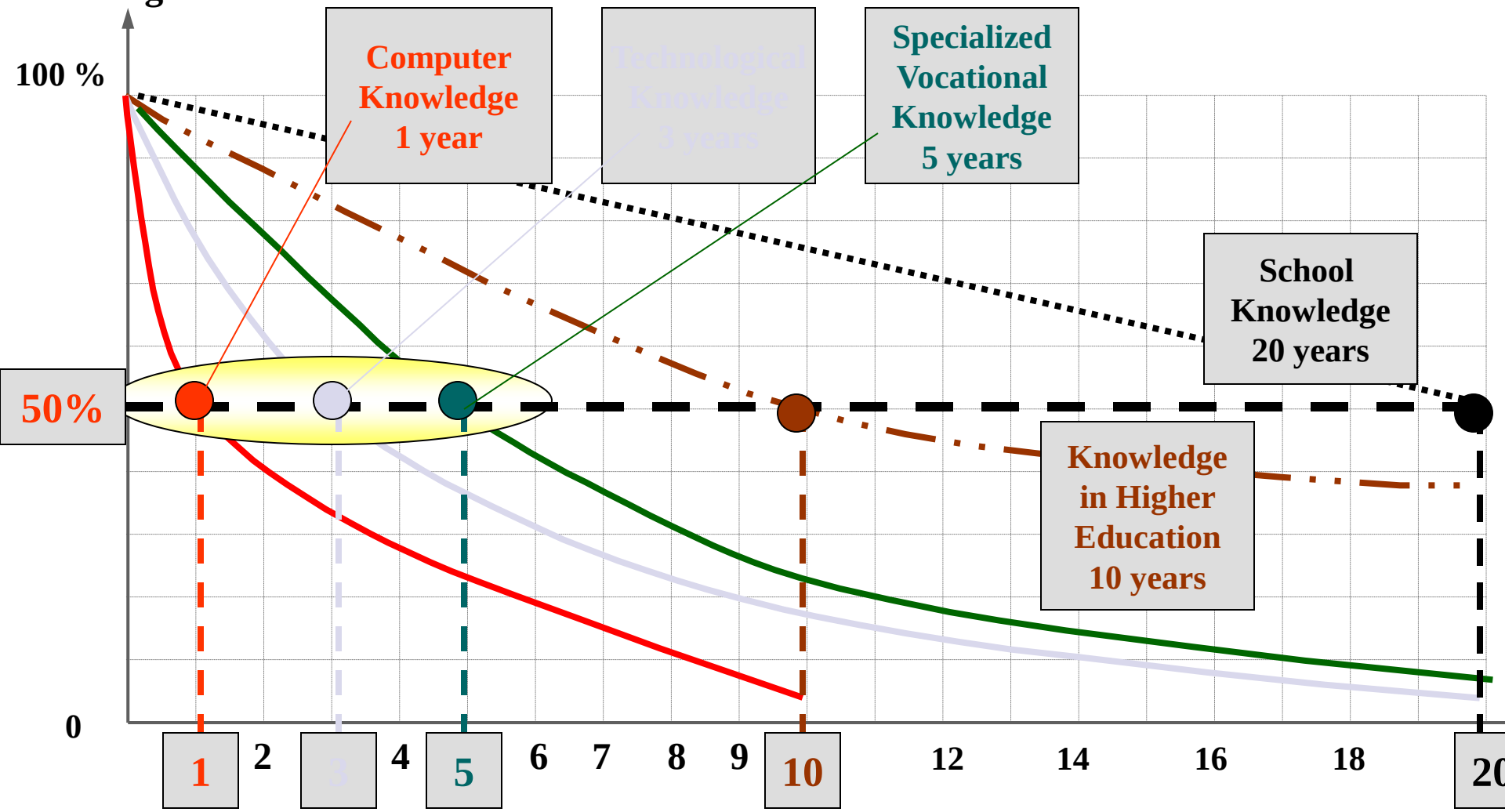


Source: Prof. Dr. Gert Loose, GMI Consultants, 2004.

Phenomenon :
The Excessive Pace of Technological Change

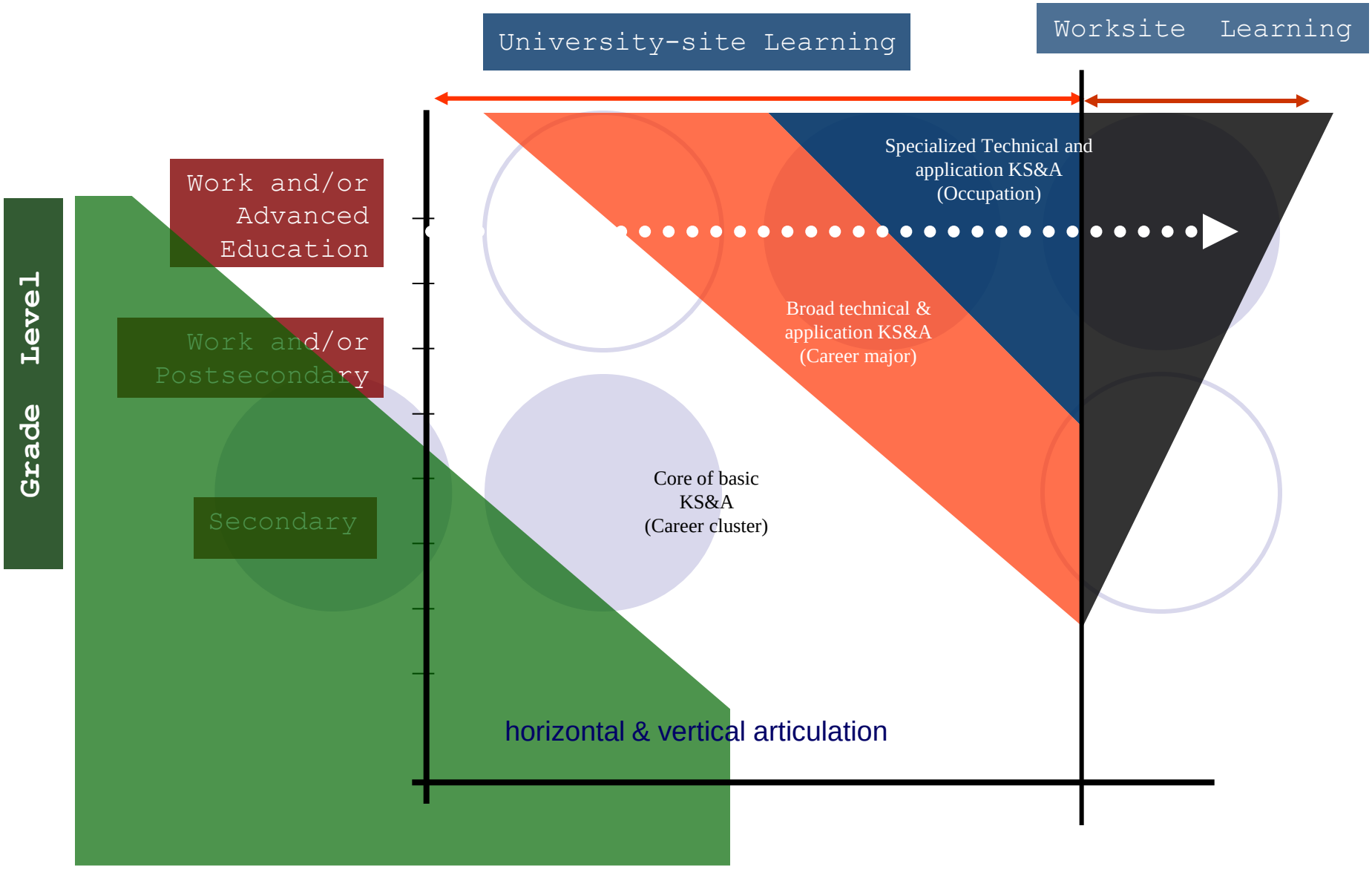
The Half Life of Knowledge

The Loss of Relevance over Time



Source: IBM, 1994

FUTURE OF UNIVERSITY LEARNING: KUiTTHO PERSPECTIVE.

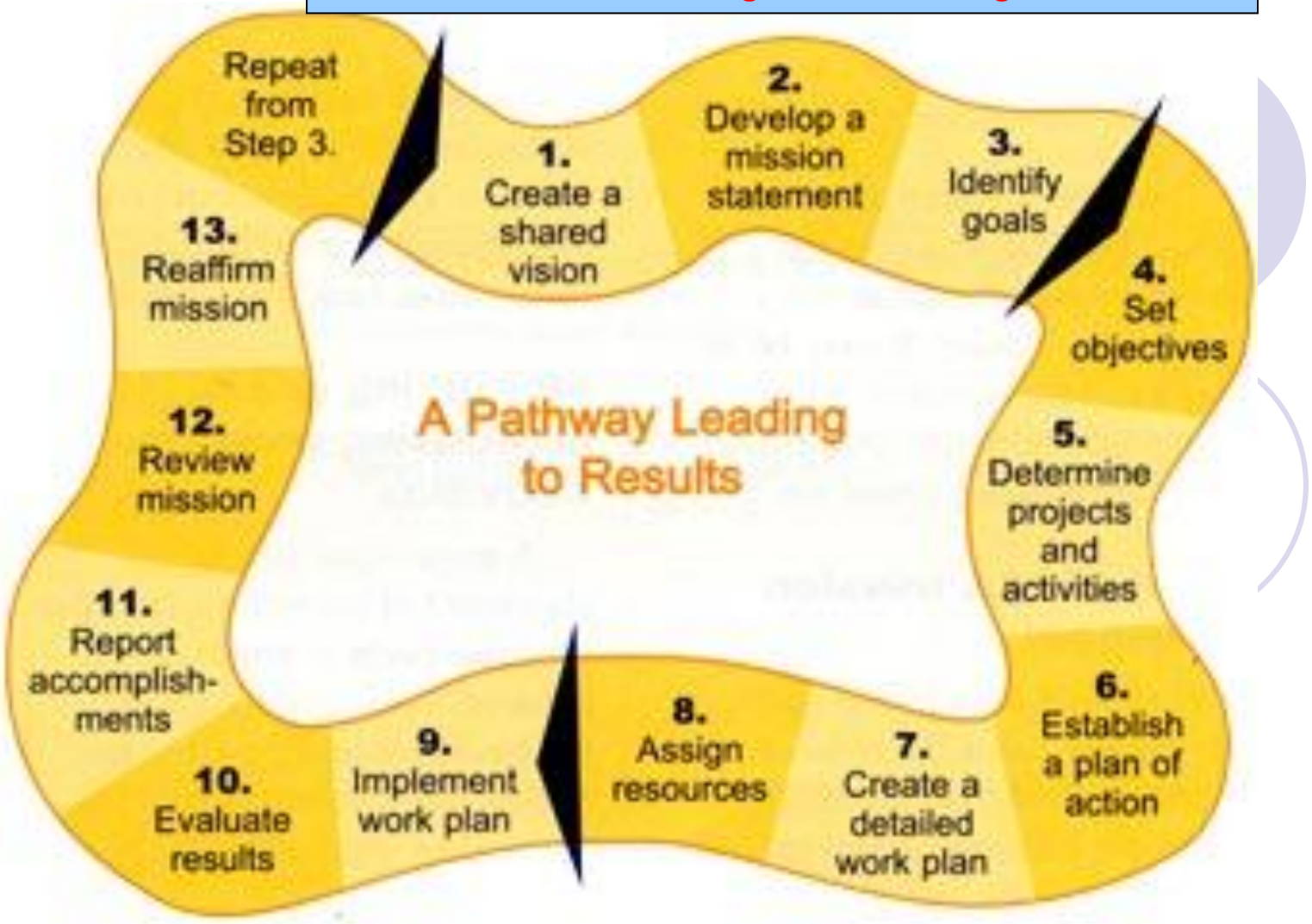


KS&A - knowledge, skills & attitudes

KUiTTHO Perpective: Quality in Teaching:

Ensuring We Do As We Say

In Teaching and Learning



Principles of Curriculum Planning/Assessment (KUiTTHO Perspective)

The following principles are designed to guide the Curriculum Planning/Assessment process.

- Faculty responsibility: The principle that the faculty is responsible for the curriculum should be followed. This requires active consultation throughout the process.
- Faculty Development: The School has both an obligation to enable and the right to expect its faculty to develop a high level of competence in instructional, learning and evaluation methods.
- Student-Centered Learning: Students will be responsible for and actively involved in their own learning. This requires that the appreciation of discipline based information becomes more relevant when applied in the context of solving problems.
- Mission driven: The curriculum must be consistent with the University's mission.
- MQF Curricular Standards: The curriculum must be consistent with the MQF curriculum standards.
- Continuous Improvement: Planning and evaluation leads to creating and delivering high quality curricula on a regular, systematic basis that incorporates improvements based upon contemporary theory and practice.
- Educational Objectives: The educational objectives of the business programs will be reviewed periodically for relevance and linkage to courses and students learning outcomes/ objectives.
- Assessment: Assessment of the effectiveness of the curriculum in achieving the school's mission and educational objectives, and to demonstrate consistency with the MQF curriculum standards, must be systematically employed in the process of continuous improvement of the curriculum.
- Stakeholders: The Curriculum Planning/Assessment process will gather data from, and carefully consider the input of, various stakeholders – students, employers, alumni, and other stakeholders.

Tyler's 4 Questions of Instructional Development (Teaching)

1. What are the purposes of the university education?
   (Think about, justify, and delineate what you are you going to teach and how this material is relevant to the common, current purposes of university learning?)
2. What educational experiences are related to those purposes?
   (What content, processes and methods are you going to use to deliver instruction and information?)
3. What are the organizational methods which will be used in relation to those purposes?
   (In the contexts of your educational purposes, how can you effectively organize your information and presentations so that they are effective?)
4. How will those purposes be evaluated?
   (How do you know you taught the content or process successfully?)

(Source: Tyler, R. W. (1949) Basic principles of curriculum and instruction. Chicago: University of Chicago.1)

Wilson's Additions to Tyler's Principles

1. In the context of students' future needs, be able to justify why you are teaching particular content or processes.

(Be able to provide a rationale for what you are teaching and for how you are using students' time.)

2. Be able to make the content or processes more holistic.

(Teach the whole child through instructional techniques and processes which actively engage multiple modalities and children's minds, bodies, psyches, and social conscious nesses. Good instruction needs to be multi-modal and holistic in order to be remembered. This approach creates multiple neural pathways and has a better chance of being remembered and of meeting different types of learning styles.)

3. Be able to make instruction relevant to students' experiences -- past, present, and future lives?

(Tie instructional strategies and content into students' experiences -- make it real, make it applicable to their past experiences, their present needs and their immediate futures.)

4. Be able to create more authentic types of assessment.

(Give students connections through meaningful assignments that have direct applicability and carry-over into the real world.)

In order to create effective curriculum and instructional designs, use Tyler's questions as a place to get started, and then use my questions as a way to monitor instructional relevancy and applicability.

Lesson Planning

Lesson Planning

The lesson plan is a dreaded part of instruction that most teachers detest. It nevertheless provides a guide for managing the learning environment and is essential if a substitute teacher is to be effective and efficient. Three stages of lesson planning follow:

Stage 1: Pre-Lesson Preparation
Goals
Content
Student entry level

Stage 2: Lesson Planning and Implementation
Unit title
Instructional goals
Objectives
Rationale
Content
Instructional procedures
Evaluation procedures
Materials

Stage 3: Post-Lesson Activities
Lesson evaluation and revision

TEACHING OBJECTIVES, ACTIVE VERBS

- When writing teaching objectives, *it isn't sufficient to just write understand' or 'know*' . . . because your expectation of anticipated learning outcomes is not defined as clearly as it could be.
- Different types of learning require different behaviours or skills, different types of instruction and assessment of outcomes.
- If the action verbs used in writing objectives are not sufficiently well-defined, assessment is unlikely to be testing the required learning outcome

teaching objectives

Action verbs for teaching objectives should be:

- Measurable
- Observable
- Definable
- Understandable

They can be applied to different levels of learning/performance in different domains. Here we will deal with Action Verbs related to the Cognitive and Affective domains.

Levels of learning: Action verbs

Cognitive domain

KNOWLEDGE

define, describe, identify, label, list, match, outline, reproduce, select, state

COMPREHENSION

convert, defend, distinguish, estimate, explain, extend, generalize, give example, infer, paraphrase, predict, rewrite, summarize

APPLICATION

change, compute, demonstrate, discover, manipulate, modify, operate, predict, prepare, produce, relate, show, solve, use

ANALYSIS

break down, differentiate, discriminate, distinguish, identify, illustrate, infer, outline, point out, relate, select, separate, subdivide

SYNTHESIS

categorize, combine, compile, compose, create, devise, design, explain, generate, modify, organize, plan, rearrange, revise, categorize, combine, compile, compose, create, devise, design, explain, generate, modify, organize, plan, rearrange, revise, rewrite, summarize, tell, write

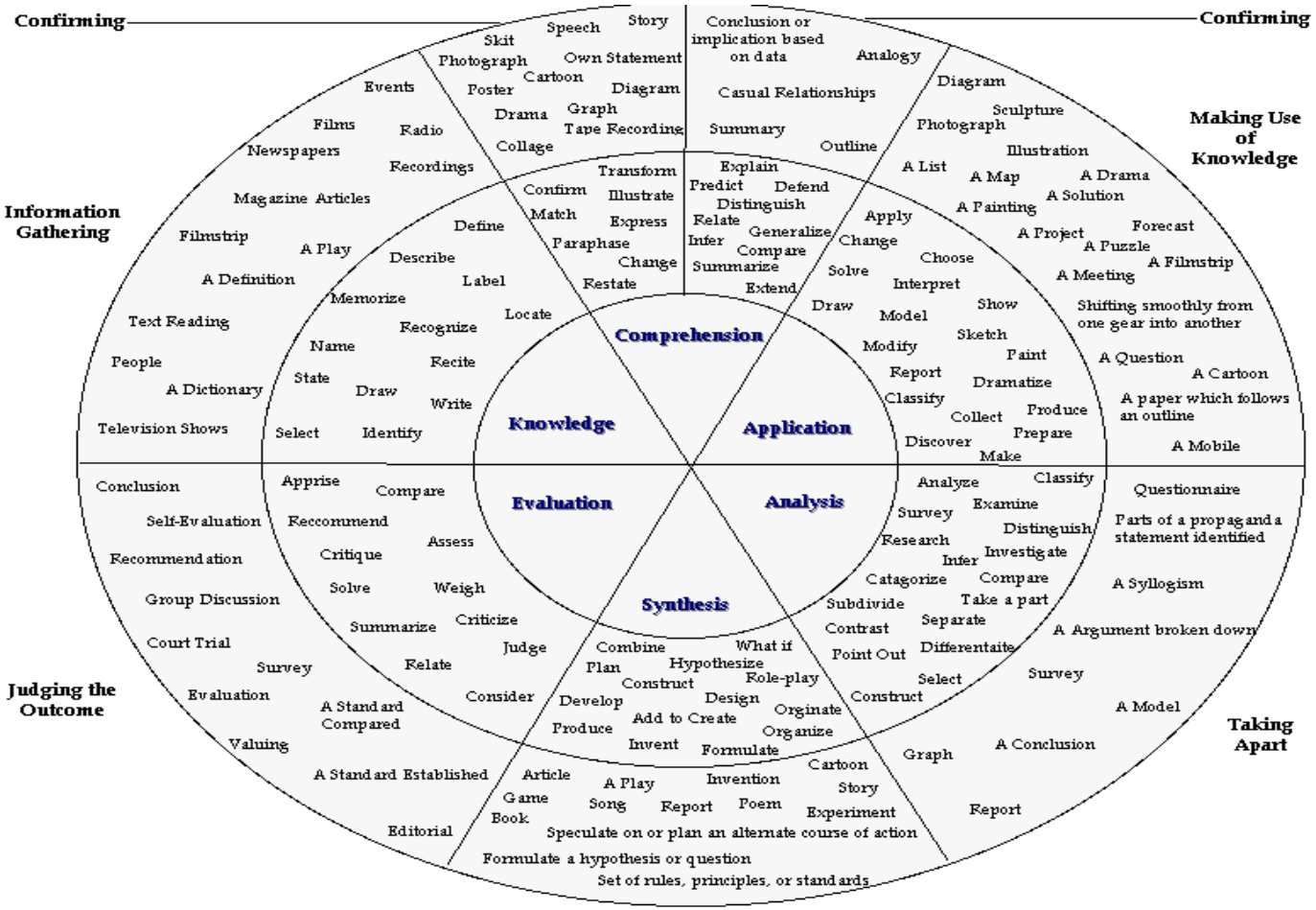
EVALUATION

appraise, compare, conclude, contrast, criticize, discriminate, explain, justify, interpret, relate,summarize, support

Affective domain

RECEIVING (willingness to attend)
ask, choose, describe, follow, give, hold, identify, locate, name, point to, select, reply, use
RESPONDING (active participation)
answer, assist, compile, conform, discuss, greet, help, label, perform, practise, present, read, recite, report, select, tell, write
VALUING (worth or value a student attaches to a particular object)
complete, describe, differentiate, explain, follow, form, initiate, invite, join, justify, propose,read, report, select, share, study, work,
ORGANIZATION (bringing together different values)
adhere, alter, arrange, combine, compare, complete, defend, explain, generalize, identify, integrate, modify, order, organize, prepare, relate, synthesize
CHARACTERIZATION BY A VALUE
act, discriminate, display, influence, listen, modify, perform, practice, propose, qualify, question, revise, serve, solve, use, verify

Bloom Taxonomy Wheel



Our Emphasize on the Curriculum Process (KUiTTHO Perspective)

- **Outcome-based Learning (OBL):**
  - Problem-Based Learning
  - Experiential/ Practical-based Learning
  - Competency-based Learning
  - Occupational-centered Instruction
  - Learner-centered Instruction
  - Students Outcome-based Instruction

- **What we need to have:**
  - Curriculum Mapping: eg. Programme outline
  - Course Mapping: eg. Course Outline, Course Matrix
  - Course Substance : eg. Course Modules
  - Course Teaching Technology: eg. Media & Real Exposure.

OUTCOME BASED LEARNING

Definition of Outcome-Based Learning (OBL)

"An education process which is based on trying to achieve certain specific outcomes in terms of individual student learning. Thus, having decided what are the key things students understand and be able to do or qualities they should develop, both structure or curricula are designed to achieve those capabilities or qualities."

Willis & Kissane

What is Outcome-based Learning ?

1. **Do we know where we are going to ?**
   - Learning outcomes-aims and objectives

2. **How are we going to get there ?**
   - Teaching and learning activities that facilitate the attainment of such outcomes

3. **How do we know that we are there ?**
   - Assessment of the learning outcomes
   - Motivation for learning and a measure of learning effectiveness

LEARNING OUTCOMES

LEARNING OUTCOMES are statements of what is expected that a student will be able to ***DO*** as a result of a learning activity.

STUDENT LEARNING OUTCOMES

STUDENT LEARNING OUTCOMES encompass a wide range of student attributes and abilities, both cognitive and affective, which are a measure of how their college experiences have supported their development as individuals. Cognitive outcomes include demonstrable acquisition of specific knowledge and skills, as in a major; what do students know that they didn't know before, and what can they do that they couldn't do before? Affective outcomes are also of considerable interest; how has their college experience impacted students' values, goals, attitudes, self-concepts, world views, and behaviors? How has it developed their many potentials? How has it enhanced their value to themselves, their families, and their communities?

WHY LEARNING OUTCOMES?

- **STUDENTS:**
- **help students learn more effectively.**
- **They know where they stand and the curriculum is made more open to them.**
- **Make it clear what students can hope to gain from following a particular course or lecture.**

- **LECTURERS:**
- **Learning outcomes help lecturers more precisely to tell students what is expected of them.**
- **help lecturers to design their materials more effectively by acting as a template for them.**
- **help lecturers select the appropriate teaching strategy, for example lecture, seminar, student self-paced, or laboratory class. It obviously makes sense to match the intended outcome to the teaching strategy.**
- **help lecturers more precisely to tell their colleagues what a particular activity is designed to achieve.**
- **assist in setting examinations based on the materials delivered.**
- **ensure that appropriate assessment strategies are employed.**

- **Learning outcomes are particularly important in a project like this where materials and learning activities are produced by many people in order to be used by others. By stating what you expect students to be able to do as a result of what you have written, you can help colleagues elsewhere better judge its appropriateness to their circumstances and consider how to change it to meet their own local needs.**

Key Characteristics of O.B.L.

- Palpable of future environment
- Establishing final outcomes
- Derive performance measures and metrics
- Develop learning experiences
- Devising instructional strategies
- Document and analyze results
- Built in a review cycle and continually improve the methodology

Requirements of OBL.

- Clearly identifying what students should learn
- Showing progress based on demonstrated achievements
- Utilize several assessment methods to address the needs of all students
- Allow adequate time so all students can reach their full potential

New Learning Model (OBL)

- Collaborative
- Long lasting
- Contextual and interconnected
- Requires structural changes

To Promote OBL

- Clearly define & articulate desired outcomes
- Establish and communicate accountability mechanisms
- Align teaching and assessment with outcomes
- Build an explicit focus on desired results
- Create strong culture of evidence
- Promote methods of “learning how to learn”

Promote Active Learning that:

- Accommodates general reflection
- Integrates new ideas with prior knowledge
- Loosens control and promotes risk taking
- Brings students in the center stage as partners
- Promote scholarship of teaching and learning
- Document what works & share lessons learned in ways that others can build on

Three Types of Learning

- Knowledge accumulation
- Skills development
- Conceptual development

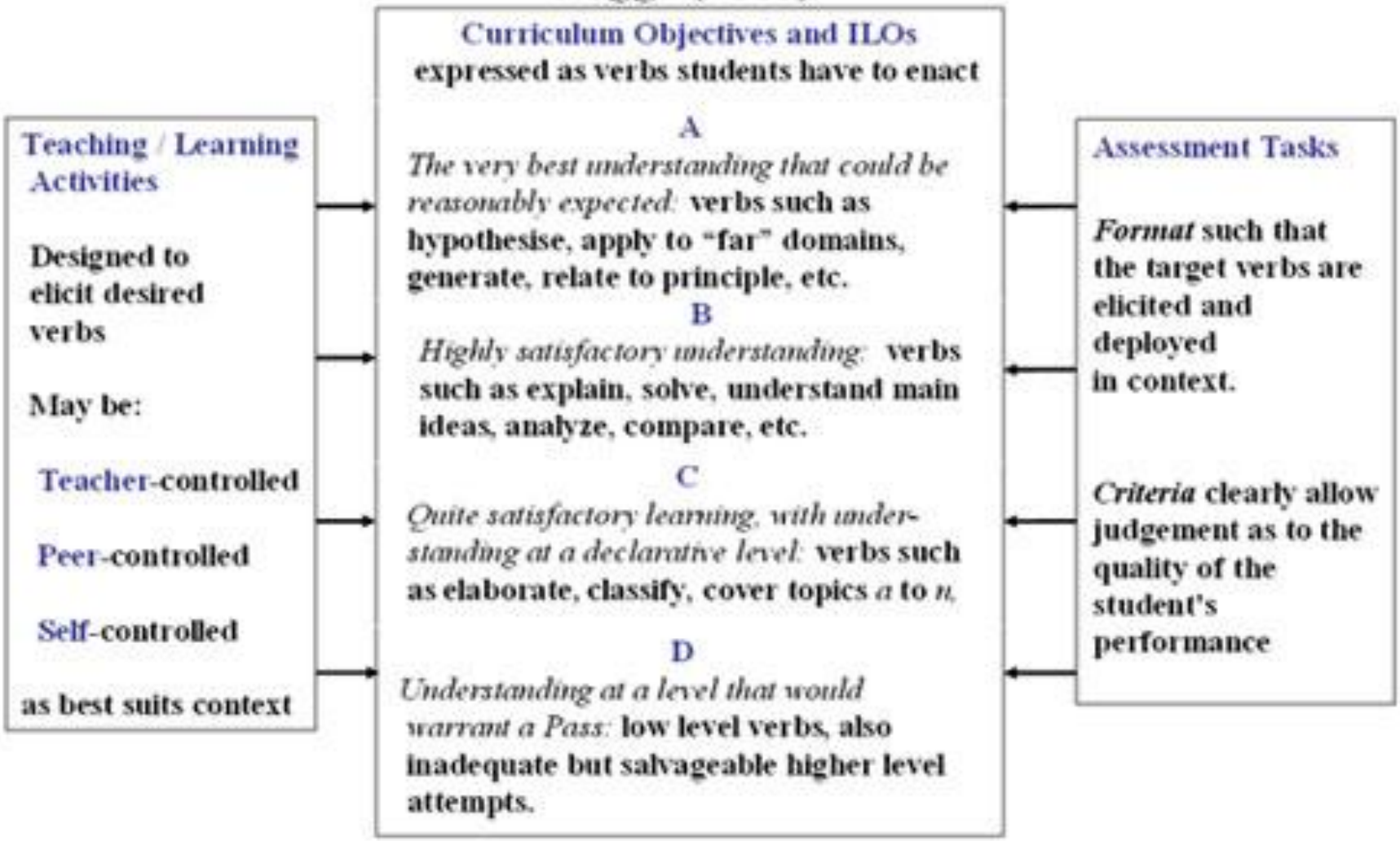
Levels of Learning

- *Know-what:* Basic cognitive knowledge to perform the task
- *Know-how:* Skill needed to apply the knowledge in actual problems
- *Know-why:* Knowledge of overall culture, and how to interact to accomplish tasks
- *Care-why:* The will to be highly motivated and adaptive

Quinn, Anderson, and Finkelstein

Constructive Alignment

Biggs (2003)



Learning Outcome Critique

Does the learning outcome:

- ACTION VERB (Do_able) Use action verbs?

- EXPLISIT: Describe what students can do?
- Ask students to apply what they've learned by producing something?
- Address student competency rather than content coverage?

- TIME FRAME: Include a time frame (at the end of a course, end of the second year, etc.)?

- Represent a fundamental result of the course/program?
- Represent an appropriate level of work?

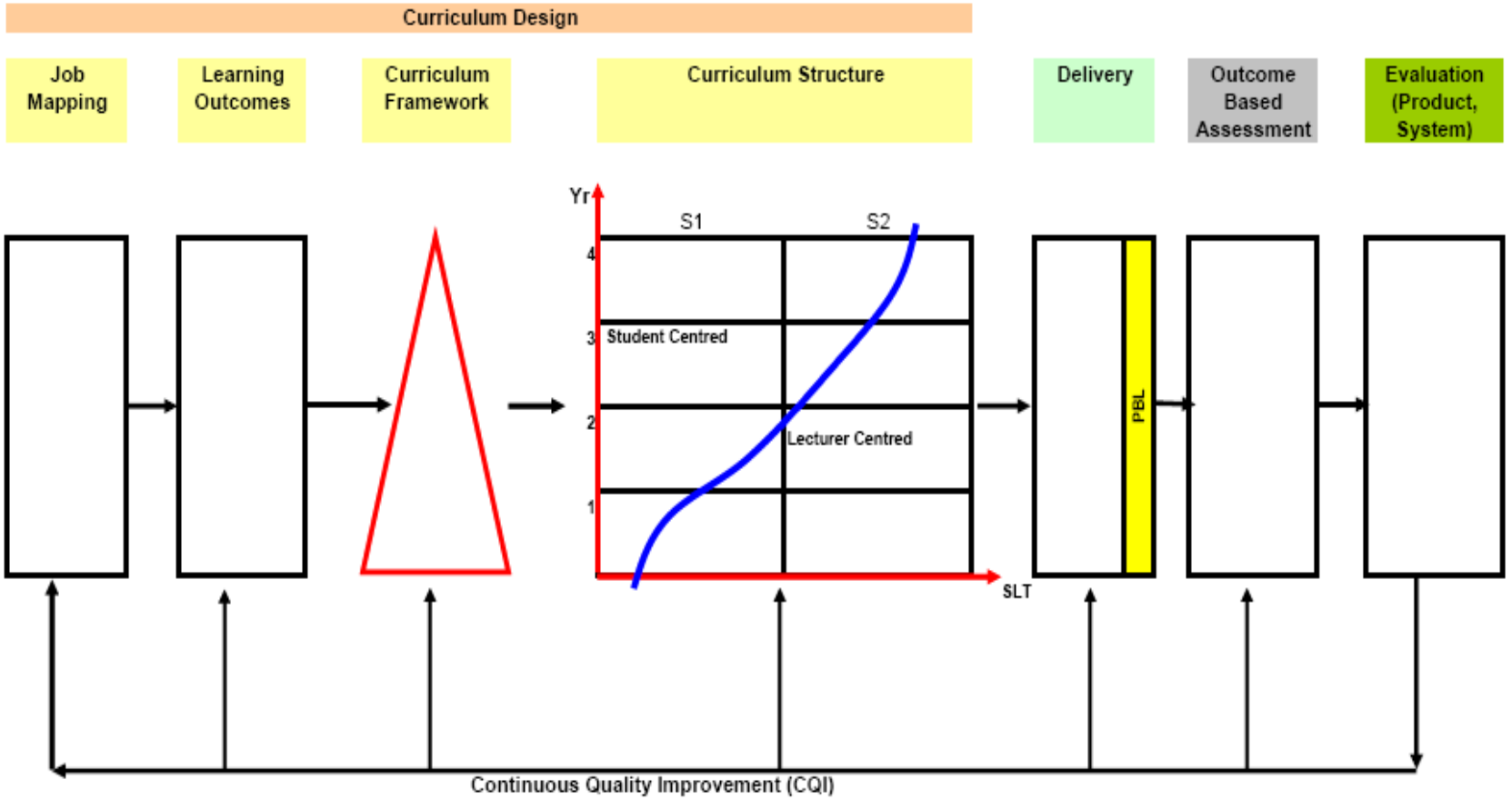
Example of writing a learning outcome

- Example of writing a learning outcome: At **Knowledge** level :
- *Having successfully completed this unit, you will be able to **demonstrate** knowledge and understanding of:….*

Mapping Learning Outcomes to Assessment

Learning outcomes *(include: knowledge, cognitive, key & subject specific skills) – select core learning outcomes that appear across units – it is not necessary to list all learning outcomes.*	**Learning-teaching activity** *You will need this for the learning-teaching-assessment cycle part – just give idea of different teaching& learning used to accommodate a learning outcome.*	**Type of assessment** *Eg. essay, group work, presentation, work-based, extended project etc.*	**Unit Code**

Curriculum Mapping:
Conceptual framework of innovation in Curriculum Development (Wahid Razzaly, KUiTTHO, 2005)



Curriculum Design Template: Job Mapping Technique

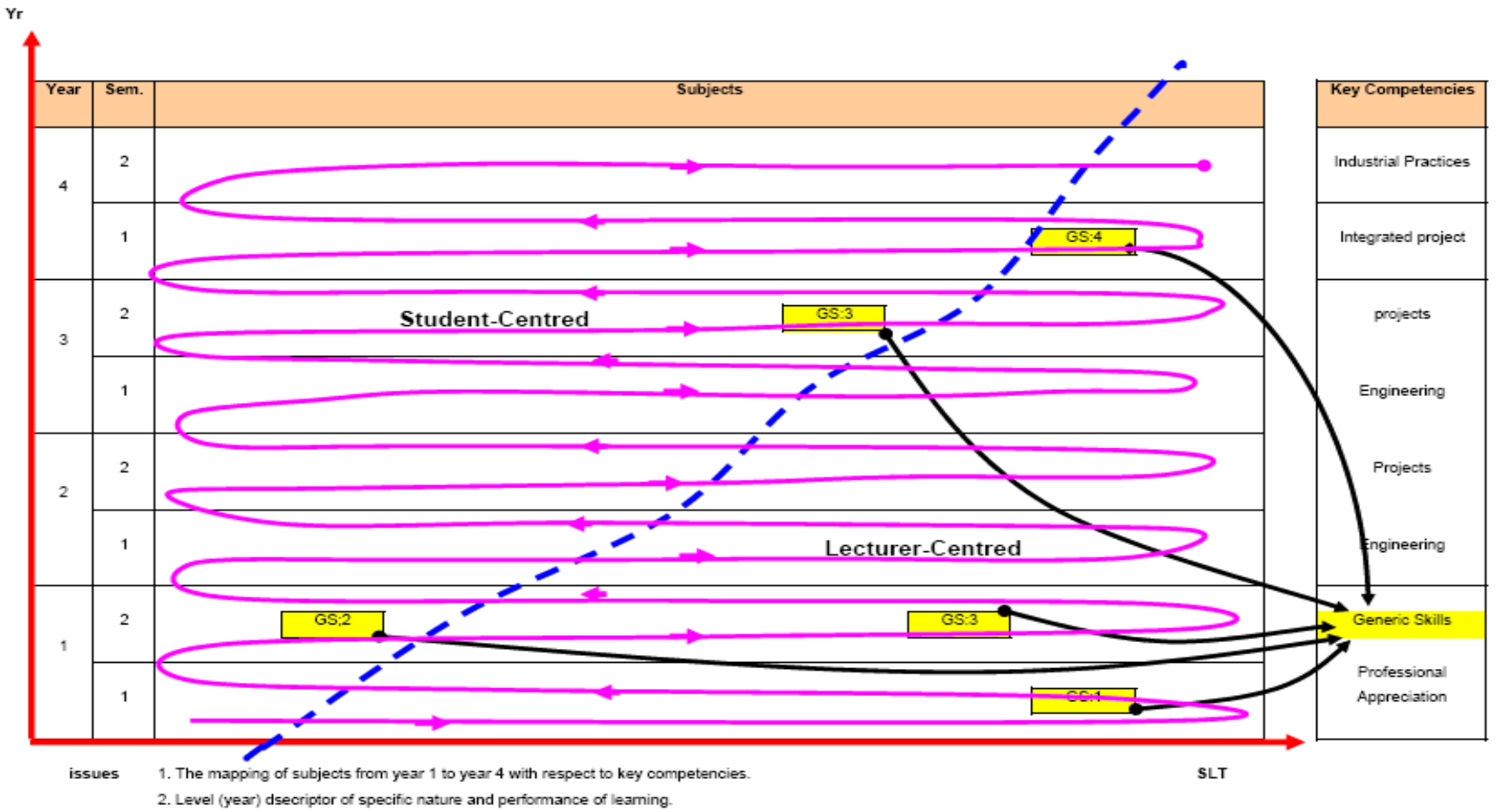
Programme

Profession

Job Description

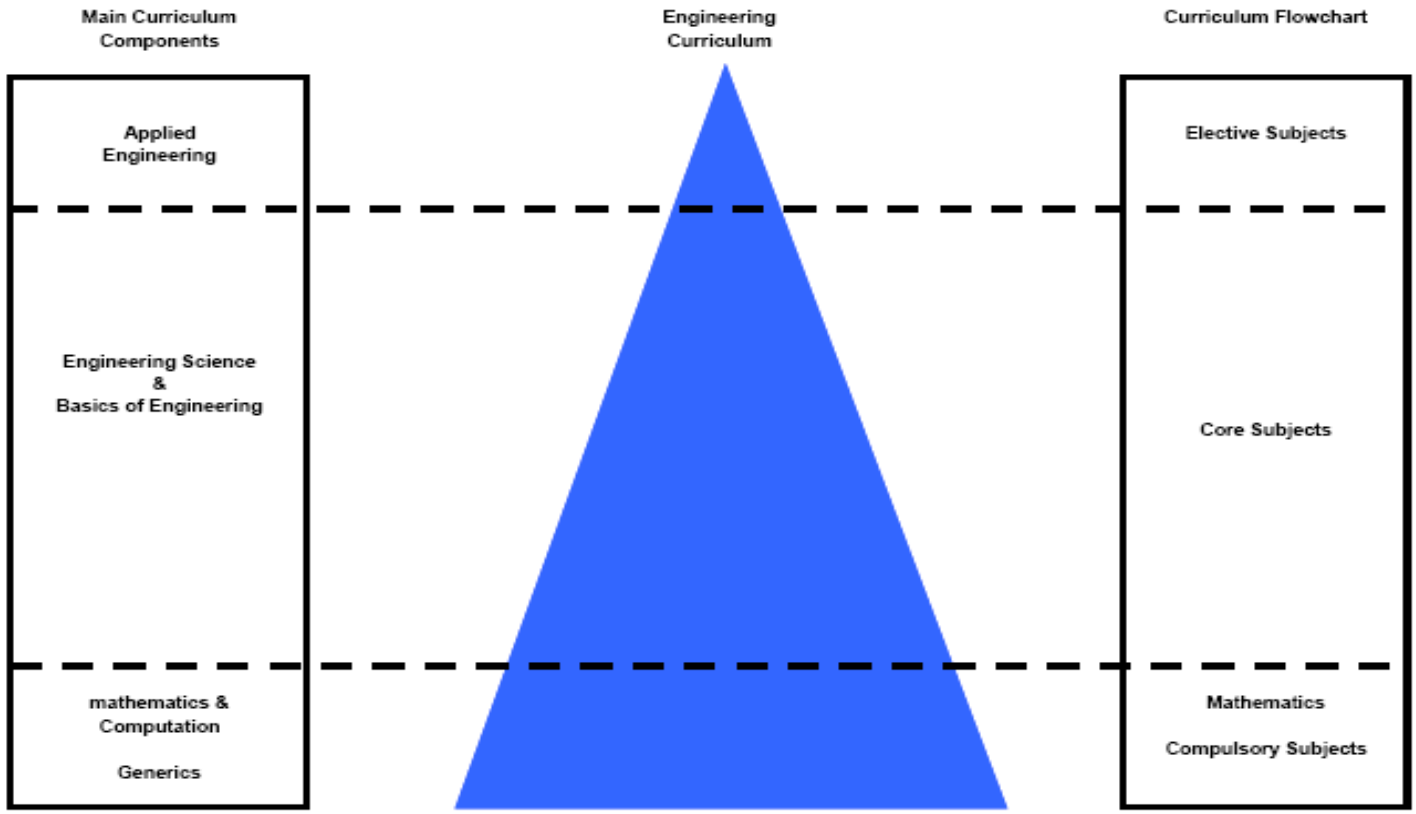
	Job Activities	Sub Activities	Blooms Cognitive						Generic Skills	Attitude	Others
			Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation			
1											
2											
3											
4											
5											
6											
7											

Structure


Yr
Year
Sem.
Subjects
Key Competencies
4
2
1
3
2
1
2
2
1
1
2
1
Industrial Practices
Integrated project
projects
Engineering
Projects
Engineering
Generic Skills
Professional
Appreciation
GS:4
GS:3
GS;2
GS:3
GS:1
Student-Centred
Lecturer-Centred
issues
1. The mapping of subjects from year 1 to year 4 with respect to key competencies.
2. Level (year) dsecriptor of specific nature and performance of learning.
SLT

Curriculum Framework

Programme: Engineering



Critical issues:

Professional Requirement
Minimum Credit

Practice Oriented
Elective

Main Competencies
Flow charting
Student Learning Time

Students Learning Outcomes Matrix

Programme: Bachelor of Civil Engineering Subjects - Learning Outcomes Matrix

	Learning Outcome																			
	apply knowledge of basic science, and engineering fundamental		in-depth technical competence		communicate effectively/use ICT effectively		use techniques, skills, and modern engineering tools		identify problems, create solutions, innovate and improve current practices		understanding of professional and ethical responsibilitiesto the community		engage in life-long learning		function effectively in groups,as a leader and effective team player		a national perspective on social and cultural responsibilities		appreciate aesthetic values	
LO No.	1		2		3		4		5		6		7		8		9		10	
	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S
Subject																				
Maths & Sc																				
1																				
2																				
3																				
4																				
Generic																				
1																				
2																				
3																				
4																				
Core																				
10																				
1																				
2																				
3																				
4																				
Total																				

Subject LO evaluation

Subject:
Code:

Subject Objectives		Bloom	Subject Learning Outcomes	Compliance to PLO (1-10)										Delivery	Assessment	Performance Indicator	CQI
				1	2	3	4	5	6	7	8	9	10				
note: subject objective should contribute to the overall programme objective	Primary	Attitude															
		Generic Skills															
		Evaluation															
		Synthesis															
		Analysis															
		Application															
		Comprehension															
		Knowledge															
	Secondary	Attitude															
		Generic Skills															
		Evaluation															
		Synthesis															
		Analysis															
		Application															
		Comprehension															
		Knowledge															

Programme Specification
(Course Outline/Syllabi)

Programme Specification

What		Specification about the programme that is comprehensible to everybody
For whom	1	students (during registration)
	2	employers (LI or visits)
	3	professional and regulatory bodies
	4	external examiners
	5	basis for feedback
Content	1	general description of the programme
	2	intended learning outcomes
	3	teaching and learning methods that enable learners to achieve these learning outcome
	4	assessment methods to demonstrate their achievement
	5	programme structure
	6	highlighted plus points of programmes
	7	Job opportunities
	8	Contact number

Assessment

7.1 Assessment schedule

Assessment	Due	%	Learning Objectives (assessment criteria)

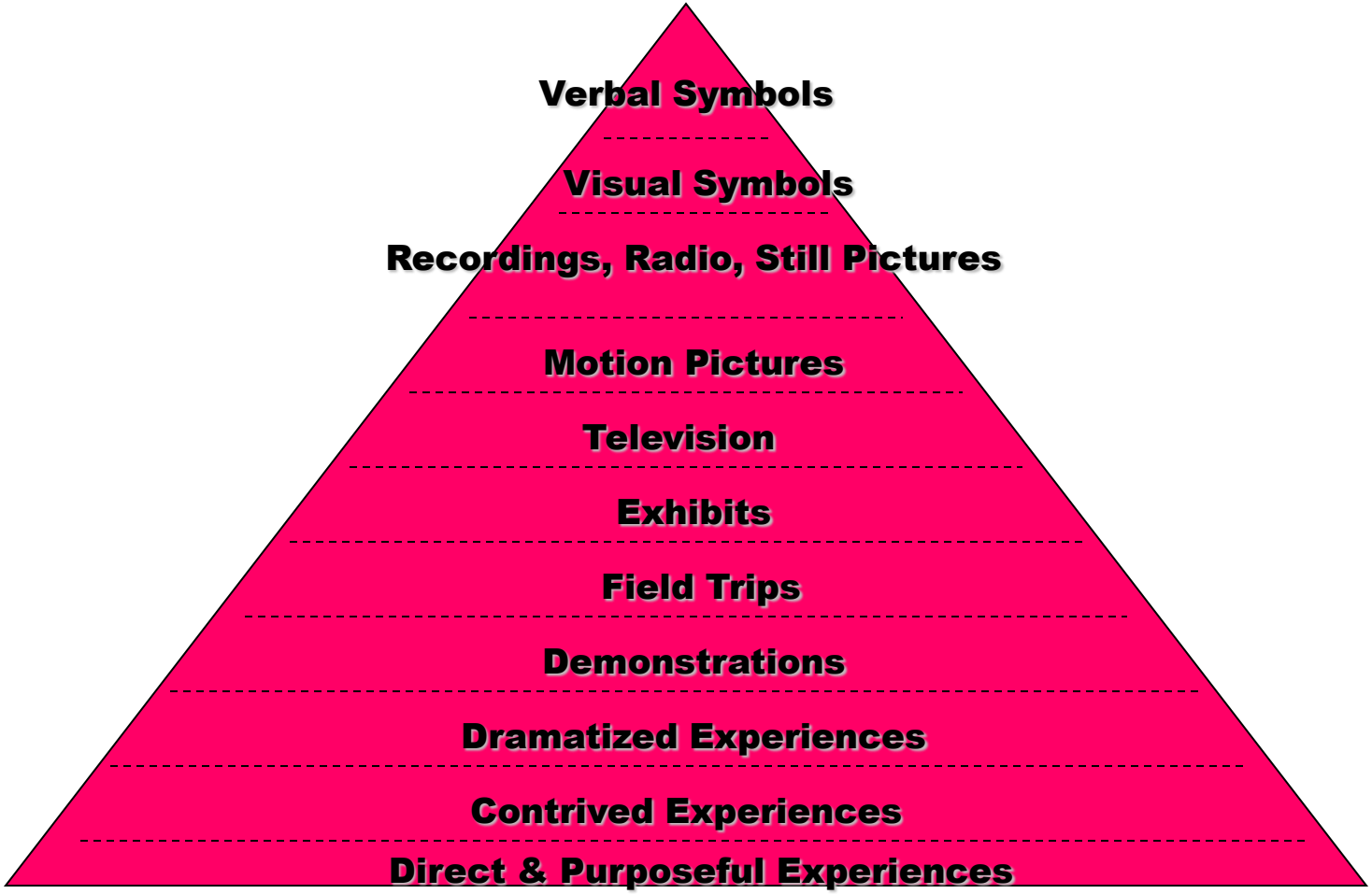
Membina Bahan P & P

Adult Learning Principles

- Direction of learning is clear.
- Instructions are clear.
- Positive reinforcement is used.
- People can ask questions.
- Self-esteem & ego are respected.

Edgar Dale's Cone

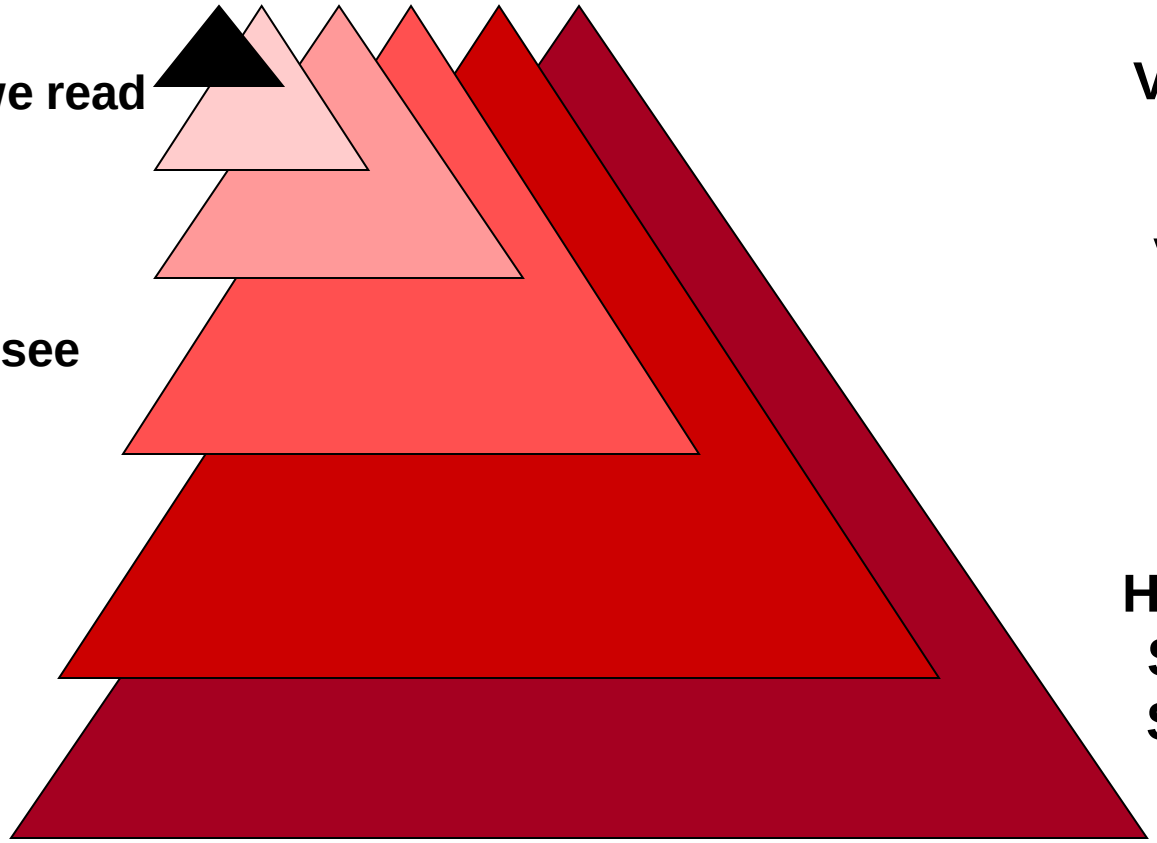
Effectiveness of learning according to the media involved…



Cone of Learning

Edgar Dale, *Audio-Visual Methods in Technology*, 1946

After 2 weeks we tend to remember…



10% of what we read

20% hear

30% see

50% hear and see

70% say and write

90% of what we say as we do a thing

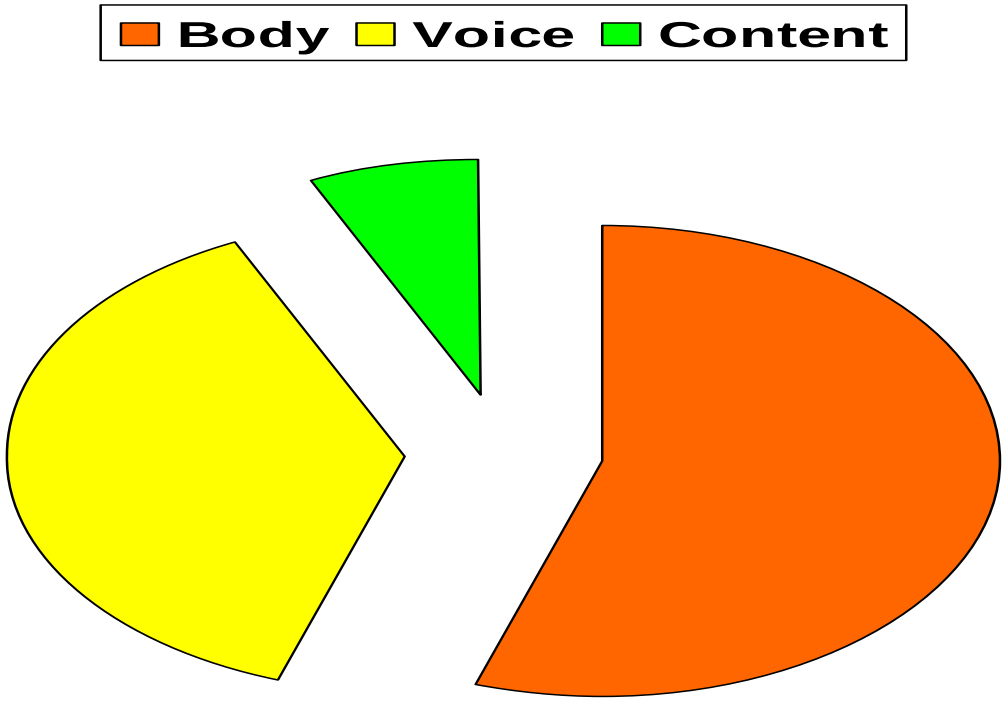
Verbal

Visual

Hearing, Saying, Seeing, Doing

Albert Mehrabian

(1960s) The effectiveness of spoken communications…



Albert Mehrabian

The effectiveness of spoken communications (interpreted for public speakers)…

- 55% of the impact was driven by the speaker's gestures, body movements and facial expressions
- 38% of the impact was driven by the speaker's vocals/tone (paralinguistic)
- 7% of the impact was driven by the speaker's content (the words)