



OBE CURRICULA DESIGN

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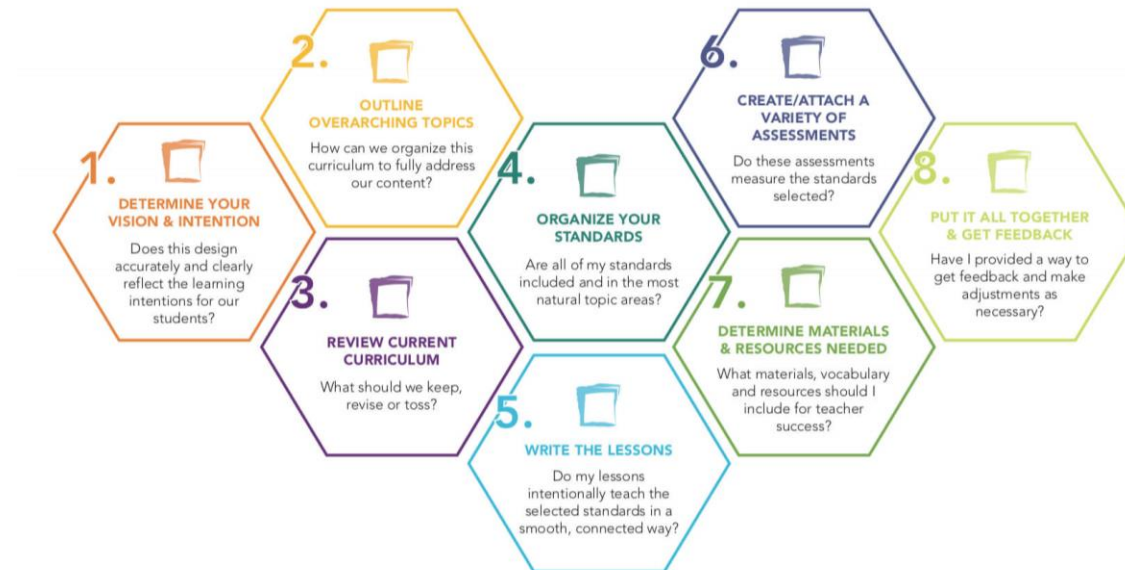
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Definition

“An intentional design for learning”

(in the context of social/market/national expectations and student’s needs)



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Content

What a student should know (course/subject) & be able to do (learning outcomes); clearly defined outcomes



Context

How the educational system is organized; aligned with its institution’s mission, vision.....



Methodology

How it is to be taught (instructional methods & teaching strategies); combine techniques to help the learner achieve these outcomes



Assessment

How learning is measured based on set criteria & assessment tools; include an assessment process that shows if outcomes are



REVIEWING CURRICULA

Revising & developing curricula by evaluating & assessing context, content, methods & assessment **(by involving stakeholders to meet expectations & changing demands of the market & the wider environment)**





REVIEWING CURRICULA

Evidence	Documentations of the practices	Self-review against new/emerging ideas, technology, pedagogy, assessment, TLAs
Mapping (Alignment, Gap)	Vision, Mission, GA, Program Goal, Program Objectives, Program Outcomes	Standard, compliance, quality, accreditation
Benchmarking (Ideas, Evaluation)	National, Regional, International	
Regulations (Standards, Compliances)	UGC, BAC, BAETE, University	
Feedback (New Skills, Demands, Teachers, Students)	Industry Advice, Alumni, Employer, Survey Records	



PROGRAM PILLARS

- **Vision** : to be the premier university
- **Mission** : provide best education....
- **Goal** : meet expectations of..... produce engineers; broad
- **Objective** : produce graduates to address market demand train in latest technology.....
 - develop analytic skill; Teaching/provision
- **Outcome** : deliver competent graduates..... able to solve problem; learning/ability

Hierarchy Educational objectives of a course serve the program objectives, which serve the goals that in turn serve the mission



Pathway to Design Curriculum

Vision of the University

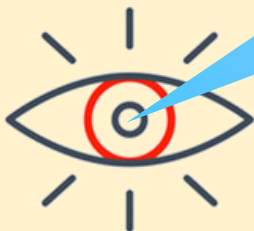


Mission of the University



M1:
M2:
M3:
.....

Vision of the Department



Mission of the Department

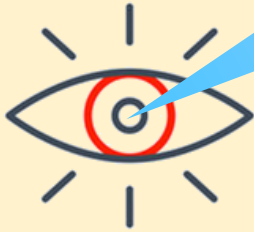


M1:
M2:
M3:
.....



Pathway to Design Curriculum

Vision of the Department



Mission of the Department



M1:
M2:
M3:
.....

- PEO

- GA

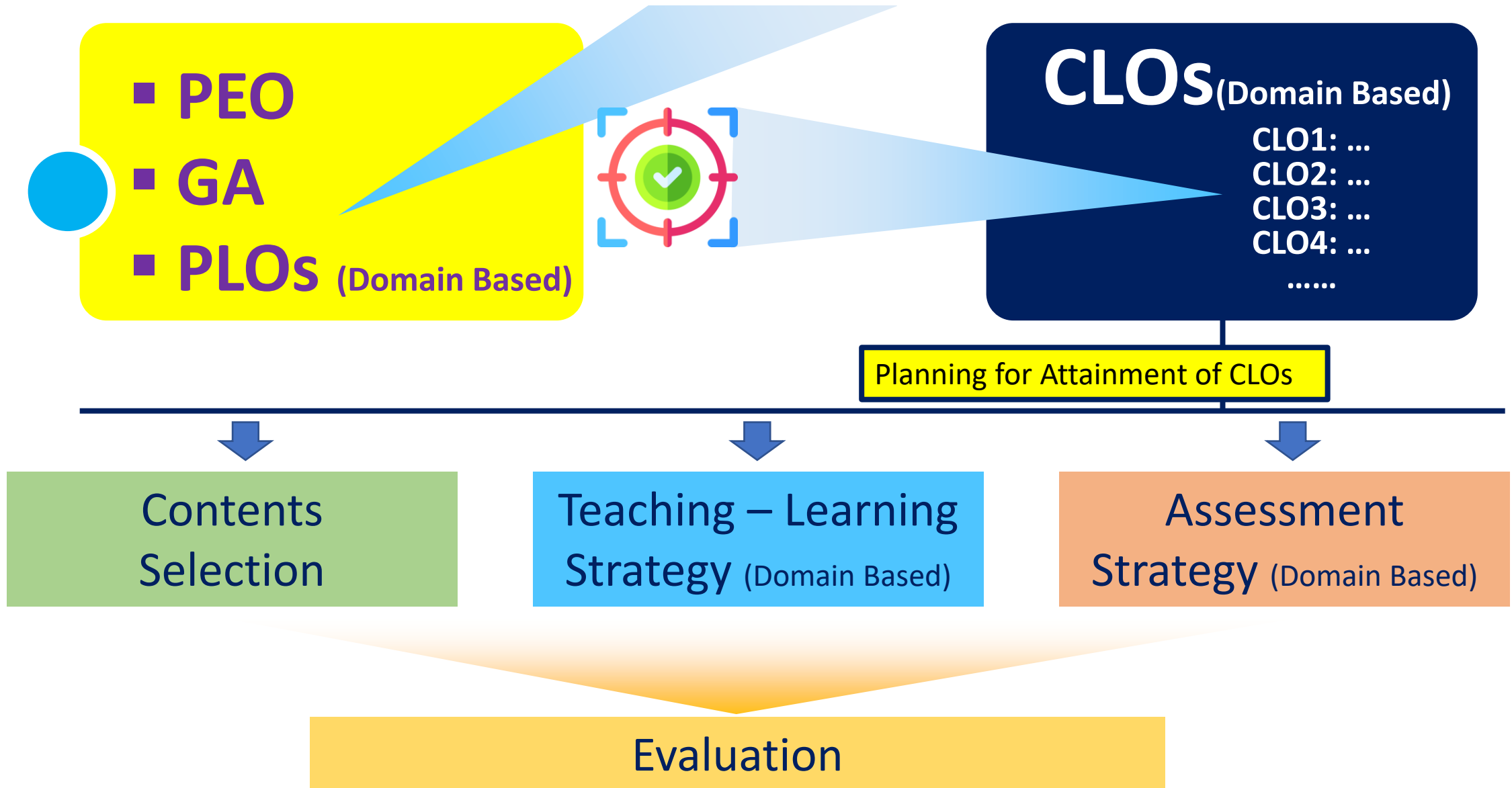
- PLOS (Domain Based)

CLOs_(Domain Based)

CLO1: ...
CLO2: ...
CLO3: ...
CLO4: ...
.....



Pathway to Design Curriculum



OBJECTIVES VS OUTCOMES

OUTCOME

proof of your arrival

- ❖ what each learner should know, do & value [at end]
- ❖ intended results of activities (specific demo)
- ❖ Impact of Objectives
- ❖ Helps designing curricula, e.g. learning evidence, assessment
- ❖ More specific than goal, precise, measurable
- ❖ More student centered

OBJECTIVES

- How/why you get there
- desired outcome of instruction (skills, values...)
- target accomplishments...
- Prepare students to become....
- contents/topics to cover; activities (by instructor)
- Show the use of.....
- reason for activities
- Conduct....
- stakeholder defined
- not measured
- teacher oriented
- Discuss the effects of.....
- Develop capability of...

OBJECTIVES VS OUTCOMES

OUTCOME

proof of your arrival

Outcome 1: to use proper technology...

Outcome 2: to produce cover design by using.....

OBJECTIVES

How/why you get there

Objective 1: train the students on the use of an appropriate technology to address the.....

Objective 2: train the students to adapt a graphic software to address.....

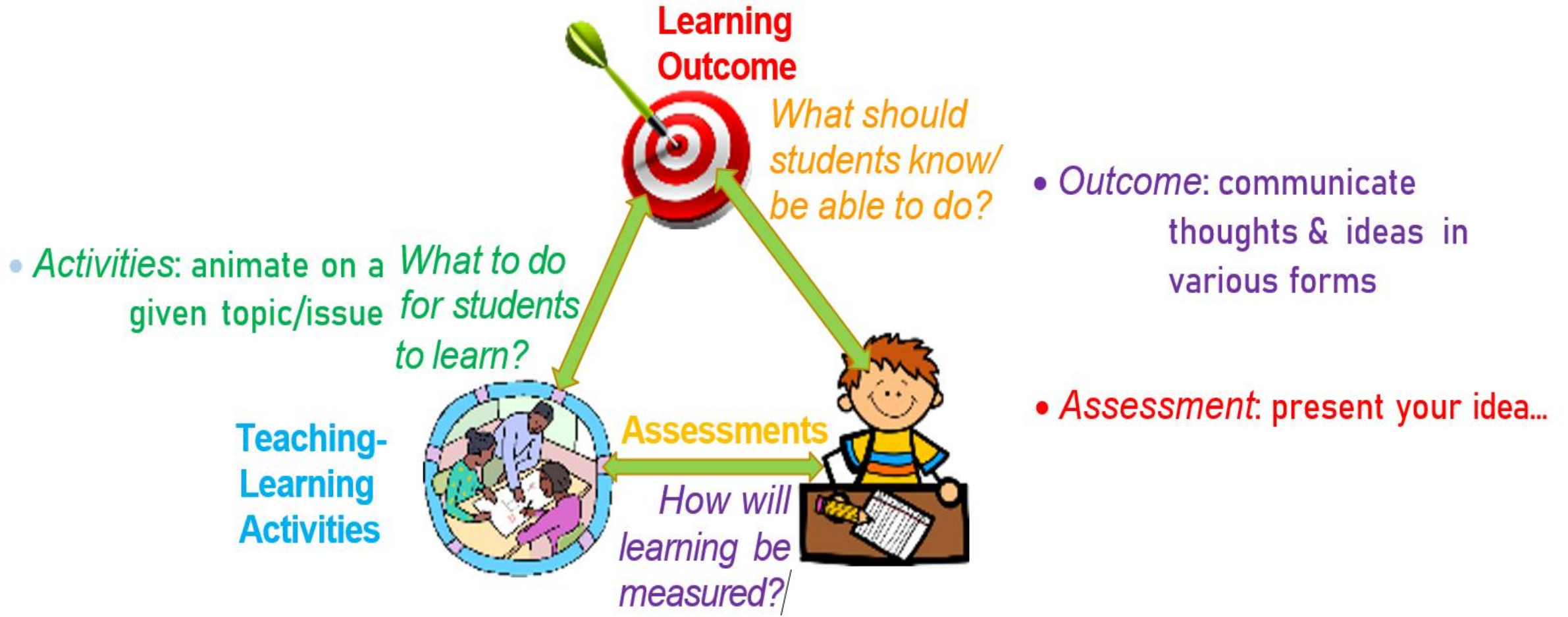
Objective 3: draw detail elevation of.....

Objective 3: demonstrate the drawing of elevation.....

Objective 4: learn graphic.....

Objective 4: use graphic.....

OUTCOME BASED EDUCATION





"I hear and I forgot. I see and I remember. I do and I understand"

Confucius

Lecture

Participation

Demonstration

Outcome statement

- Articulate the [enduring] **knowledge**, [essential] **abilities** (performance, skills & competencies), and [transferrable] **attributes** (attitudes, dispositions, qualities, values)
- Describe what students will be able to know (cognitive), do (psychomotor), and dispose (affective) [at the end]

General Format [writing outcome]

- **Observable, measurable**
- Discrete accomplishments that students can demonstrate
- Use action verbs to state what students will be able to do.
 - e.g., demonstrate, analyze, evaluate, implement, develop, design, create, compare, explain....
 - Avoid words like: appreciate, know, learn, understand (AKLU)
aware of, enjoy, perceive, become familiar with, believe, see, think, feel, see, (vague, don't facilitate higher cognition)

DEMONSTRABLE
MEASURABLE

Demonstrate clear understanding; perform various tasks; demonstrate thought, abilities & habits; apply skills & knowledge; adapt skills to use; value aspirations; assess knowledge; formulate own opinion....

General Format [writing outcome]



- **an action** (performance)
- **a topic**/learning statement (what to be performed)
- often **a criterion**/context (of acceptable performance)

Example 1: research on any business/engineering problem

*Example 1: collect, interpret, analyze, and synthesize information
and data relevant to mechanical engineering*

Example 2: show team spirit in designing and executing a project

Example 2: participate in teamwork in a design project

General Format [writing outcome]



- **an action** (performance)
- **a topic**/learning statement (what to be performed)
- often **a criterion**/context (of acceptable performance)

*Example 3: describe the evolution of modern banking system
and summarize the impetuses.....*

*identify the factors that contributed positively
to the banking sector in..... during.....*

explain the positive events that contributed to the banking.....

Example 4: list proper tools needed for spinning cotton thread

evaluate performance of various tools needed for

Writing Guidelines

1. Be distinctive and specific:

- *Students in the program can make patterns*
- *Graduates will be able to apply pattern making skill (by working on various.....)*
- *Students completing the program will score above 80% in admission test*

2. Specify demonstrable, observable & measurable action/behavior

(can gather evidence; more than one assessment method; number/types unrestricted)

- *Graduates will demonstrate knowledge of history (in explaining.....)*
- *Graduates will be able to explain effects of history (on regional.....)*
- *will demonstrate competence & ability to apply gravity principles*
- *Graduates will be able to apply gravity principles (in float design)*
- *Graduates can solve complex loading problem with gravity principles*
- *Graduates can design floating objects by applying gravity principles*

Writing Guidelines

3. Don't join actions that cannot be assessed by a single method:

graduates *can* design questionnaire and collect data

graduates *will* demonstrate knowledge of history and society, and gain competency in doing research on historical development of design ideas

Explain effects of history and society on design

Analyse development of design ideas through [a certain period/context]

4. Don't include content, learning resources or TLA
include demonstrable actions (measurable activity)

Study stress analysis

Analyze stress in pipes

Read text book

Summarize a given text

Critique essays on

Study energy simulation; teach EnergyPlus

. *Use simulator to visualize energy use*

. *Evaluate various scenario obtained by using simulation programs*

Writing Guidelines

5. Keep activity & assessment in mind

Run fast → track training → clock timing

6. Align with mission statement

Derive PLO from goals + objectives [CLO from rationale, objectives & contents]:

Goal: Acquire leadership qualities

Outcome: Demonstrate leadership in group projects on

Objective: Develop a professional attitude and teamwork

Outcome: Communicate with professionals working on a group project

7. Ignore semantics; jot down verb(s) (measurable students performance)

Appreciate

Know

Learn

Understand

Writing Guidelines

By the end of the lecture,
teacher should be able to
appreciate climate change

SMART Criteria

S specific & student focus

M measurable

A attainable by students

R relevant to the course

T timeframe is realistic

By the end of the lecture, students should be
able to explain the impact of climate change
on the current built forms in the region

Is it smart?



DEVELOPING OUTCOMES

Consult guidelines/regulation/
standard/credential level to
achieve?

Define a small set of goal areas
Develop program goals and/ or
educational objectives

Goal Area: LEADERSHIP

Objective 1: produce decision-
makers with...

Objective 2: produce problem
solvers who can.....

Iterative process

- ❖ Collect **self-examination**/group reflection
- ❖ Orient with/Review **own literature**, reports, memos
- ❖ Recall/**Define the distinction** between Goals, Objectives & Outcomes
- ❖ Articulate, agree on & **write down** a program mission statement
- ❖ **Brainstorm**: knowledge, skills & values the **ideal graduate** should demonstrate (able to do/accomplish)

DEVELOPING OUTCOMES

Goal Area: DESIGN

- Outcome 1: design climate-conscious buildings that....
- Outcome 2: design buildings that reflect local.....
- Outcome 3: design a building that serves people's needs...
- Outcome 4: gather all climate data by using EcoTech...
- Outcome 5: understand material behavior in...
- Outcome 6: teach software....

Move on to developing Learning Outcomes

- **Focus on an area**; ask what you want your students to learn
- **Ask colleagues** to write a set of potential outcomes for each goal area
- **Collect** ideas, discuss and articulate LOs for each goal area
- **Define** cognitive [know], performative [do] or affective [feel] outcomes
- **Identify** + revise, establish + refine learning goals/outcomes

DEVELOPING OUTCOMES

USE A CHECKLIST

- What are the things a student gains/achieves by studying....
- What different knowledge, skills, and values are fostered in the students?
- What is most important for students to learn in this program (is it essential/ significant)?
- Do the PLOs reflect accreditation requirements (criteria)? Show the match

- Write what **program graduates** should be able to do
- Graduates will have reliably demonstrated ability to.... [choose the verbs]
 - Is this **important** now/in future
 - Will **stakeholders** agree?
 - Can learners **perform/demonstrate** this?
 - Can you **measure** it?
 - **distinctive** and **specific** to the program
 - **stated clearly & simply**
 - **Free of cultural & gender bias**
 - **consistent** with the program rationale
 - possible to **collect evidence** (accurate & reliable)
 - **verifiable** (learners can demonstrate the ability)

WRITING TIPS

- Work with all; form consensus
- Ask an impartial facilitator
- Arrange workshops
- Use a second eye
- Start small; capture + build upon
- Write down; "wordsmith" later
- Be ready to throw away 25%
- Divide goals among subgroups
- Revisit + Refine LO statement
- Ignore contents; think end result
- Have assessment in mind



Thanks to all ...