NTTCHP

Slides	NOTES
Formulating Outcomes **Nemuel S. Fajutagana, MD, MHPEd (UniMaas)** **Professor and Dean** **NTTCHP – UP Manila**	
Review Figure 3. Framework for Outcomes-Based Education	
Definition of Terms *Program outcomes* are the sets of competencies (related knowledge, skills, and attitudes) that all learners are expected to demonstrate at the time of graduation. *Course outcomes* refer to the knowledge, values, and skills all learners are expected to demonstrate at the end of a course. *Learning outcomes* may result from a specific lesson, although it is sometimes used interchangeably with course outcomes. Thus, in the hierarchy, learning outcomes are seen as building blocks toward course outcomes, which in turn, support the program outcomes.	

© 2015

	Slides	NOTES
NTTCHP	**Outcome → Indicators → Standards** Program — Attributes Does — Behavior Shows how Knows how — Cognition Course Knows Learning Professional authenticity Miller GE. The assessment of clinical skills/competence/performance. Academic Medicine (Supplement) 1990; 65: S63-S7.	
	FORMULATING PROGRAM OUTCOMES	
	Plan Backward Program Outcome Course Outcome (Learning Objectives) Session Outcomes Nemuel S. Fajutagana, MD, MHPEd (2014	
	Formulating Program Outcomes **SOURCES:** ● Some program outcomes are already available (c/o CHED's technical panels) ● UP's guideline for GE ● Professional organizations ● ASEAN guidelines ● PRC ● etc	

NTTCHP

Slides	NOTES
Example: Nursing Program Outcomes (CHED) 1. Apply knowledge of physical, social, natural and health sciences and humanities in the practice of nursing 2. Provide safe, appropriate and holistic care to individuals, families, population group and community utilizing nursing process 3. Apply guidelines and principles of evidence-based practice in the delivery of care 4. Practice nursing in accordance with existing laws, legal, ethical and moral principles 5. Communicate effectively in speaking, writing and presenting using culturally-appropriate language 6. Report and document up-to-date client care accurately and comprehensively 7. Work effectively in collaboration with inter-, intra- and multi-disciplinary and multi-cultural teams 8. Practice beginning management and leadership skills in the delivery of client care 9. Conduct research with an experienced researcher 10. Engage in lifelong learning with a passion to keep current with national and global developments in general, and nursing and health developments in particular 11. Demonstrate responsible citizenship and pride of being a Filipino	
Example: MHPEd Program Outcomes General Outcome Competency Areas • Communication Skills (written & oral) • Professionalism • (including nationalism) • Interprofessionalism • (including cultural competence) • Specific Outcomes • Context-based macroplanning • Context-based microplanning • Teaching skills • Evaluation planning • Conducting Evaluation • Evidence-based teaching • Research production • Educational Leadership • Administration skills	
Plan Backward Program Outcome → Course Outcome → (Learning Objectives) Session Outcomes Nemuel S. Fajutagana, MD, MHPEd (2014	
Outcome → Indicators → Standards Program / Course / Learning — Professional authenticity Attributes Does — Behavior Shows how Knows how — Cognition Knows Miller GE. The assessment of clinical skills/competence/performance. Academic Medicine (Supplement) 1990; 65: S63-S7.	

Faculty Development Program: Faculty Orientation

	Slides	NOTES
NTTCHP		

The Taxonomy Table for Cognitive Domain

The knowledge dimension	The Cognitive Process Dimension					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual knowledge	START				HIGHER YEARS	
Conceptual knowledge						
Procedural knowledge	remember	classify	execute	differentiate	critique	produce
Meta-cognitive knowledge						

Formulating Course Level Outcomes
Major process? Curriculum Mapping

ANNEX 3

SAMPLE CURRICULUM MAPS FROM THE NURSING PROGRAM
Mapping of Nursing Program Outcomes by Year Level

PROGRAM OUTCOMES First Year	Theoretical Foundation	Anatomy and Physiology	NCM 100-Fundamentals of Nursing	Health Assessment	GE-Purposive Communication	Chem 2-Biochemistry	GE-Understanding Self	STS Science, Technology and Society	Logic with Critical Thinking	GE-Bioethics	GE-Reading in Philippine History	GE-Arts Appreciation
1. Apply knowledge of physical, social, natural and health sciences and humanities in the practice of nursing	I	IP	IP	IP/L	I/L	IP/L	I/L	IP/L	IP/L	I/L	I/L	I?
2. Provide safe, appropriate and holistic care to individuals, families, population groups and communities utilizing nursing process	I	IP	IP	IP	I	I	I	I	I	I	I	I
3. Apply guidelines and principles of evidence-based practice in the delivery of care in any setting	I	I	I	I	I	I	I	I	I	I	I	I
4. Practice nursing in accordance with existing laws, legal, ethical and moral principles	I	I	IP	IP	I	IP	IP	I	I	IP	I	I
5. Communicate effectively in writing, speaking and presenting using culturally-appropriate language	I	IP	I	I	IP	IP	I	I	I	I	I	I
6. Document and report on client care accurately and comprehensively	I	-	IP	IP	-	-	-	-	-	-	-	-
7. Work effectively in teams, in collaboration with other disciplines and multi-cultural teams	I	I	I	I	I	I	I	I	I	I	I	I
8. Practice beginning management and leadership skills in the delivery of client care	-	-	IP	IP	-	-	-	-	-	-	-	-
9. Conduct research with an experienced researcher	I	I	-	-	I	I	-	I	I	-	-	-
10. Engage in lifelong learning with a passion to keep current with national and global developments in general, and nursing and health developments in particular	I	I	I	I	I	I	I	I	I	I	I	I
11. Demonstrate responsible citizenship and pride of being a Filipino	I	I	I	-	I	-	IP	I	I	IP	IP	IP

Legend: I- Introduced concepts/principles; P-Practiced- with supervision; Demonstrated – across different clinical setting with minimal supervision

1st year LEVEL OUTCOMES: The student 1) demonstrates self-awareness, 2) communicates effectively, 3) discusses beginning theories and principles, 4) works effectively as a team, 5) demonstrates background on the laws (national and traditional)

Example: MHPEd Program Outcomes

PROGRAM

General Outcome Competency Areas	HP 201	HP 211	HP 221	HP 231
• Communication Skills (written & oral)				
• Professionalism				
• (including nationalism)				
• Interprofessionalism				
• (including cultural competence)				
• Specific Outcomes				
• Context-based macroplanning				
• Context-based microplanning				
• Teaching skills				
• Evaluation planning				
• Conducting Evaluation				
• Evidence-based teaching				
• Research production				
• Educational Leadership				
• Administration skills				

© 2015

NTTCHP	**Slides**	**NOTES**
	## Curriculum Map: Defining Program Outcomes | Course	C 1	C2	C3	C4	C5	C6	C7	C8	C9	C10
Outcomes										
a) articulate and discuss the latest developments in the specific field of practice. (PQF level 6 descriptor)										
b) effectively communicate orally and in writing using both English and Filipino										
c) work effectively and independently in multi-disciplinary and multi-cultural teams. (PQF level 6 descriptor)										
d) act in recognition of professional, social, and ethical responsibility										
e) preserve and promote "Filipino historical and cultural heritage" (based on RA 7722)										| legend is useful in correlating the outcomes and the courses. For example: **L** – learned in the course; **P** – practiced in the course; **O** – opportunity to learn or practice in the course, not yet learned or practiced. Another legend is as follows: I – Introduce, **P** – Practice skills with supervision, **D** – Demonstrate skills, without supervision.	
	## Formulating Learning Outcomes	
	Plan Backward Program Outcome → Course Outcome → (Learning Objectives) Session Outcomes Nemuel S. Fajutagana, MD, MHPEd (2014	

	## Intended Learning Outcomes (ILOs)
	
	• it is a statement of what the student is to learn
	• "intended" emphasizes control and directions in the educational process
	• *ILO may be:*
	  ◦ facts, ideas, theories
	  ◦ skills, competencies or values	

© 2015

NTTCHP

Slides	NOTES
Three Primary Functions of ILO ▸ **ILO should guide instruction and instructional planning** ▸ **ILO should communicate to others (for example, students and the public) what we are using precious time, money and facilities for** ▸ **ILO should serve as a basis for developing indicators or evidence of success**	
ILO Statements: Form and Function A Subject: the learner A verb: behavior or behavior product Given conditions: the situation in which the behavior occurs Standards: of quality or quantity *Example: The* learner will solve nine out of ten equations containing two unknowns. The equations must be solved within 20 minutes.	
• The overall behavior act • The important conditions under which the behavior is to occur (givens, restrictions, or both) • The criterion of acceptable performance *Example:* Given a human skeleton, the student must be able to correctly label at least 40 of the following bones: there will be no penalty for guessing. (list of bones inserted here.) (Mager, 1962)	
• **The situation faced by the students** • **The learned capability** • **The object of the performance** • **The action verb** • **Tools and other constraints: how must the performance be carried out** *Example:* Given a data set s**tudents will be able calculate the standard deviation Using EpiInfo correctly.**	

© 2015

NTTCHP	Slides	NOTES
	CATEGORIES OF ILOs	
	Categorizing ILOs **Understanding** can be thought of as **Skills** can be thought of as **"Knowing That"** **"Knowing How"**	
	reminder! **Some reminders**	
	Re: Aims and Objectives The rationale for using statements of aims and objectives would seem to be based on three linked assumptions: • That education is about changes in student's thinking and knowledge. • That it is useful at the start of the course to inform students plainly, methodically, and accurately what they need to learn. • That it is what students do, rather than what teachers do, that ultimately determines whether changes in their understanding actually take place.	

NTTCHP

Slides	NOTES
Three traps when writing aims and objectives: • Restating syllabus topics using the language of aims and objectives. • Vague, extremely general aims that are practically content-free. • Objective that describes only observable student behaviors and is extremely narrow and specific	
Restating syllabus topics using the language of aims and objectives For example: Topic: Anatomy of the heart Objective: To acquire knowledge about the anatomy of the heart	
Vague, extremely general aims that are practically content-free. For example: Objective: To become an independent learner. Objective: To improve written communication skills	
Objective that describes only observable student behaviors and is extremely narrow and specific • To concentrate only on observable behaviors in writing objectives trivializes learning. • It narrows courses to the things that are easily measurable rather than to things that are educationally important. • It is equally mistaken to think that all important objectives, particularly the less concrete ones concerning changes in attitude, can be pre-specified.	

© 2015

Faculty Development Program: Faculty Orientation

NTTCHP

Slides	NOTES
How well written (SMART) are your objectives? S Specific M Measurable A Attainable R Relevant T Time-bound	
Formula to easily write objectives **The ABCDs of a good objective:** **A**udience (who) **B**ehavior (will do what) **C**ondition (by when or some other condition, such as with assistance) **D**egree (how well, if not 100% of the time)	
Simple Exercise: Think of a topic you are teaching now: To easily write an objective, fill in the blanks. Use this formula to help you out. **Who** will do **what**, by **when**, and **how well**? _____ will _____, by _____, _____ Or **A**udience (who), **B**ehavior (will do what), **C**ondition (by when or some other condition, such as with assistance), **D**egree (how well, if not 100% of the time).	

NTTCHP

- The **object** generally describes the **knowledge** students are expected to acquire or construct. (Anderson and Krathwohl, 2001, pp. 4–5)

In this model, each of the colored blocks shows an example of a learning objective that generally corresponds with each of the various combinations of the cognitive process and knowledge dimensions.

Remember: these are **learning** *objectives*—not learning *activities*. It may be useful to think of preceding each objective with something like: "Students will be able to . . ."

*Anderson, L.W. (Ed.), Krathwohl, D.R. (Ed.), Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J., & Wittrock, M.C. (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy of Educational Objectives (Complete edition). New York: Longman.

Model created by: Rex Heer
Iowa State University
Center for Excellence in Learning and Teaching
Updated January, 2012
Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
For additional resources, see:
www.celt.iastate.edu/teaching/RevisedBlooms1.html

The Knowledge Dimension

- **metacognitive** — Knowledge of cognition in general as well as awareness and knowledge of one's own cognition.
- **procedural** — How to do something, methods of inquiry, and criteria for using skills, algorithms, techniques, and methods.
- **conceptual** — The interrelationships among the basic elements within a larger structure that enable them to function together.
- **factual** — The basic elements students must know to be acquainted with a discipline or solve problems in it.

The Cognitive Process Dimension

- **remember** — Retrieve relevant knowledge from long-term memory.
- **understand** — Construct meaning from instructional messages, including oral, written, and graphic communication.
- **apply** — Carry out or use a procedure in a given situation.
- **analyze** — Break material into constituent parts and determine how parts relate to one another and to an overall structure or purpose.
- **evaluate** — Make judgements based on criteria and standards.
- **create** — Put elements together to form a coherent whole; reorganize into a new pattern or structure.

Example objectives in blocks:
Recall how to perform CPR. Classify adhesives by toxicity. Recognize symptoms of exhaustion. List primary and secondary colors. Summarize features of a new product. Respond to frequently asked questions. Provide advice to novices. Select the most complete list of activities. Identify strategies for retaining information. Clarify assembly instructions. Predict one's response to culture shock. Carry out pH tests of water samples. Differentiate high and low culture. Check for consistency among sources. Use techniques that match one's strengths. Integrate compliance with regulations. Determine relevance of results. Generate a log of daily activities. Deconstruct one's biases. Judge efficiency of sampling techniques. Assemble a team of experts. Reflect on one's progress. Design an efficient project workflow. Create an innovative learning portfolio.

IOWA STATE UNIVERSITY
Center for Excellence in Learning and Teaching

Taxonomy
Marzano and Kendall 2008

KNOWLEDGE UTILIZATION

Investigating — Test hypothesis using assertions and opinions of others		Experimenting — Test hypothesis using data collection by student		Problem Solving — Use information to accomplish a goal with obstacles or limiting conditions		Decision Making — Use information to make a decision	
Investigate	Find out about	Experiment	How would you test that	Solve	How would you reach your goal	Decide	Which is the best way
Differentiating factors	What would happen	Generate and test	How would you determine if	Develop a strategy	Adapt	Select the best alternatives	Which of these is most suitable
Research	Take a position on	Test the idea that	How can this be explained	Figure out a way to	How would you overcome		
How/why happened		What would happen if					
		Based on the experiment what could be predicted					

ANALYSIS

Specifying — Identify logical consequences of information		Generalizing — Construct new principals or generalizations based on information		Error Analysis — Identifying logical or factual errors in knowledge		Classifying — Identify categories to which information belongs		Matching — Identify similarities and differences	
Make and defend	What would happen if	Draw conclusions	Create a rule	Revise	Assess	Classify	Identify a broader category	Categorize	Distinguish
Predict	Develop and argument	Draw inferences	Trace development	Edit	Identify errors	Identify categories	Organize	Compare & contrast	Sort
Judge	Under what conditions	Create a principle	Form conclusions	Evaluate	Identify problems	Identify different types	Sort	Differentiate	Create analogy
Deduce			Generalize	Diagnose	Identify issues			Discriminate	Create metaphor
				Critique					

COMPREHENSION

Symbolizing — Construct symbolic representation of information			Integrating — Identify basic structure of information		
Symbolize	Draw/ Illustrate	Use models	Describe how or why	Describe relationship between	Paraphrase/ summarize
Represent	Show	Diagram chart	Describe key parts of	Explain ways in which	Describe the effects

RETRIEVAL

Executing — Perform procedures			Recalling — Produce information on demand			Recognizing — determine if information is accurate, inaccurate or unknown		
Use	Demonstrate	Show	Exemplify	Label	What	Recognize	Select (from list)	Identify (from list)
Make	Complete	Draft	Name	State/ describe	Where	Determine if true/false		
		Create	List	Who	When			

© 2015

Faculty Development Program: Faculty Orientation