

CORE CONCEPTS FOR DEVELOPING A CURRICULUM

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Disclosures

- None of the lecturers have any financial disclosures or conflicts of interest.

Agenda

- Introductions/Agenda/Objectives
- Large Group Didactic
 - Curriculum Design 101 Part 1
- Think/Pair/Share
- Large Group Didactic
 - Curriculum Design 101 Part 2
- Think/Pair/Share
- Reflection/Questions

Learning Objectives


- Upon completion of this interactive lecture, you will be able to....
 - Describe the GNOMES framework of curriculum development
 - Recognize the tools available to evaluate and assess your curriculum
 - Construct a curriculum on your own for all levels of trainees
 - Identify avenues to disseminate and share your curriculum in a scholarly way

Why me?

- ACGME milestones and requirements
- LCME requirements
- Residents as Teachers, Students as Teachers, Faculty as Teachers??
- Educational Specialists
- Site Visits
- XYZ plans

Curriculum Design 101: GNOMES

- Goals
- Needs Assessment
- Objectives
- Methods
- Evaluation
- Scholarship



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Curriculum Design 101 Worksheet

Topic	Learner Audience	GOAL	NEEDS ASSESSMENT
METHODS		Learning OBJECTIVES (Using Bloom's Taxonomy)	
Experimental vs Observational? Quantitative vs Qualitative?	Remember the Learning Pyramid	1.	
		2.	
		3.	
What else do I NEED (or need to do) to accomplish this project?		How can I EVALUATE the learning? (Using Kirkpatrick's Outcomes)	
<input type="checkbox"/> Collaborators? <input type="checkbox"/> Resources? <input type="checkbox"/> Skills? Faculty Development?			
For Scholarship			
<input type="checkbox"/> Do I need IRB approval for this project? <input type="checkbox"/> Am I systematically documenting the development process? <input type="checkbox"/> Are my objectives, methods, and evaluation outcomes in line? <input type="checkbox"/> How will I share or disseminate my project?			

Modified from Nelson & D'Alessandro. PLANNING FOR ONLINE TEACHING-LEARNING ACTIVITIES. Workshop at P&H Vancouver, 2010. Adams, Aronides, Payne. Teaching Clinical Reasoning Skills: Core Concepts for Developing a Curriculum. Innovations in Health Science Education, 2012

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Curriculum Design 101— Topic and Audience

Curriculum Design 101— GOALS

Curriculum Design 101— GOALS

Definition

- The purpose toward which an endeavor is directed.
- The result or achievement toward which effort is directed; aim; end
- The overarching context of your curriculum
- Conveys how it will advance the literature

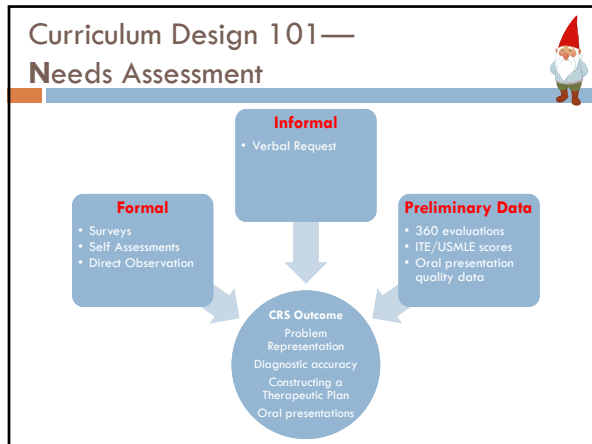
Focus:

- A goal focuses on what the **LEARNER** will experience, rather than what the **INSTRUCTOR** will share or do.
- Goals and Objectives are often confused with each other but what sets them apart is the time frame, attributes they're set for and the effect they inflict.

Curriculum Design 101— GOALS

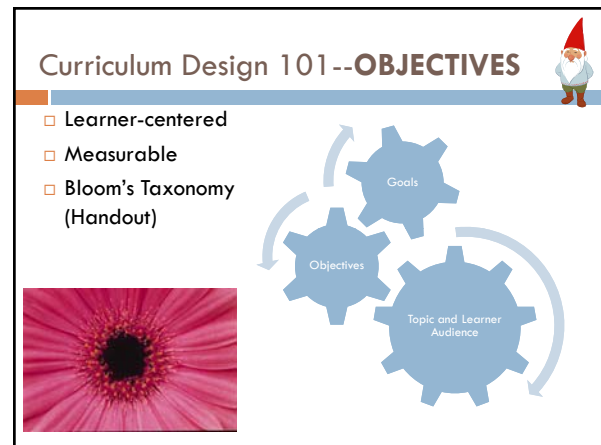
Basic Example:

- The goal of this curriculum is for the trainee to acquire the necessary skills to improve their oral presentation quality, diagnostic accuracy, clinical decision-making, and ultimately patient care delivery.



- ### Curriculum Design 101— Needs Assessment
- Need already identified?
 - Need still to be determined?
 - Formal needs assessment? Justification?
 - Informal needs assessment? Justification?
 - What baseline data do I need or have?

- ### Curriculum Design 101— Needs Assessment
- Make sure to ask yourself: What else do I NEED (or need to do) to accomplish this project?
- **Collaborators?**
 - Who's do you need on YOUR team? Who is your champion? Experts?
 - **Resources?**
 - IRB approval? Funding?
 - **Skills? Faculty Development?**
 - Training? Education Experts? Curriculum Design Courses?



- ### Curriculum Design 101--**OBJECTIVES**
- Questions to ask before writing:**
- Who is the activity intended for specifically?
 - What exactly is it that you want the learner to be able to do as a result?
 - Always begin your objective writing with
 - "The purpose of this activity is to...."
 - "The intended outcome will be..."
 - **Common Pitfalls**
 - not using measurable action verbs and not listing the degree required for mastery (how many, etc)

Bloom's Taxonomy (Revised)

Skill	Sample prompts	Purpose	Level
Remembering	recognize, list, describe, identify, retrieve, name	memorize and recall facts	LOWER
Understanding	discuss, explain, estimate, predict	understand and interpret meaning	
Applying	implement, carry out, use, apply, follow, solve	apply knowledge to new situations	
Analyzing	compare, organize, cite differences, deconstruct	break down or examine information	HIGHER
Evaluating	check, critique, judge hypotheses, conclude, evaluate	judge or decide according to a set of criteria	
Creating	design, construct, plan, produce	combine elements into a new pattern or product	

Based on an APA adaptation of Anderson, L.W. & Krathwohl, D.R. (Eds.) (2001)

Curriculum Design 101--OBJECTIVES

Examples:

- Upon completion of the *Clinical Reasoning Skills Curriculum* learning module, the trainee will be able to:
 - Arrange (1)** a patient case presentation using the PBAR (Problem representation, Background, Analysis, Recommendations) method

Comparing Goals and Objectives

Goals	Objectives
<ul style="list-style-type: none"> Broad Statements General Intentions Intangible Abstract Generally hard to measure 	<ul style="list-style-type: none"> Specific Precise Tangible Concrete Measurable

"A Guide to Developing Learner Based Instruction" innetCE.com The Academy of Dental Therapeutics and Stomatology

The **GOAL** of learning is like a **target** and the **OBJECTIVES** are the **arrows** that help the learner reach the target and demonstrate mastery

"A Guide to Developing Learner Based Instruction" innetCE.com The Academy of Dental Therapeutics and Stomatology

Small Group Session
Think/Pair/Share

OBJECTIVES SECTION ONLY

Goals, Needs and Objectives

Take 5 minutes and work with the person to your right to create your Objectives using the Bloom's handout.

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Curriculum Design 101--OBJECTIVES

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Curriculum Design 101--OBJECTIVES

Examples:

- Upon completion of the *Clinical Reasoning Skills Curriculum* learning module, the trainee will be able to:
 - **Arrange (1)** a patient case presentation using the PBAR (Problem representation, Background, Analysis, Recommendations) method
 - **Distinguish (2)** the key features of a patient history and **apply (3)** abstract qualifiers to compose an accurate problem representation
 - **Selects (4) and Support/Defend (5)** an accurate patient assessment and differential diagnosis
 - **Construct and Formulate (6)** an evidence-based, therapeutic plan
 - Objectively **demonstrate (3)** improved clinical reasoning skills based on standardized checklist and previous knowledge

Curriculum Design 101 Part 2: GNOMES

Goals
Needs Assessment
Objectives
Methods
Evaluation
Scholarship

Noemi Adame, MD, FAAP

Curriculum Design 101--Methods

- Experimental vs. Observational

- Quantitative vs. Qualitative



But if I can do it, I can teach it.....

Curriculum Design 101--Methods


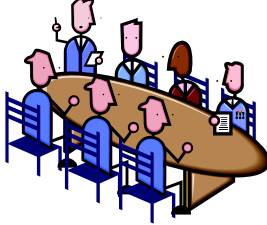
- Bedside Teaching
- Small-Group Activity
- Large Group Didactics
- Web-based Learning
- Reading Assignments
- Trainees as Teachers

Bedside Teaching



Large Group Didactic




Small Group Activity




Web-Based Learning



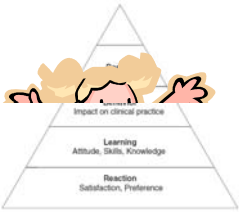
Curriculum Design 101--Methods



Method	Average Retention Rate
Lecture	5%
Reading	10%
Audio-Visual	20%
Demonstration	30%
Discussion Group	50%
Practice by Doing	75%
Teach Others/Immediate Use	90%



Curriculum Design 101--Evaluation




Impact on clinical practice

Learning
Attitude, Skills, Knowledge



Reaction
Satisfaction, Preference

Figure 1. Kirkpatrick's Outcomes Hierarchy.
Note: Outcomes become progressively more meaningful, yet more challenging to demonstrate, when progressing from the bottom to the top of the pyramid. (For further details see: Kirkpatrick 1996; Hutchinson 1999.)



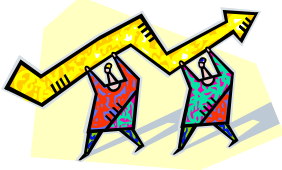
Curriculum Design 101--Evaluation

□ Reaction




Curriculum Design 101--Evaluation

- Learning
 - ▣ Attitudes
 - ▣ Skills
 - ▣ Knowledge




Curriculum Design 101--Evaluation

- Behavior



Curriculum Design 101--Evaluation


- Patient Care



Curriculum Design 101--Scholarship

- IRB
 - ▣ Most educational projects are EXEMPT
 - ▣ <http://research.uthscsa.edu/irb/index.shtml>
 - ▣ IRBMAIL@uthscsa.edu
- Dissemination/Share
- Publication

"If you build a curriculum using a scholarly approach, and you share your work, your curriculum can become Scholarship."
—Virginia Neibuhr and Donna D'Alessandro



Small Group Session II

Think/Pair/Share

METHODS, EVALUATION,
SCHOLARSHIP
SECTIONS

Curriculum Design 101 Worksheet

Topic	Learner Audience	Goals	NEEDS ASSESSMENT What do you know? What do you need to know? What are your current practices?
METHODS Experimental vs Observational? Quantitative vs Qualitative?		Researcher Learning Faculty	Learning OBJECTIVES (Using Bloom's Taxonomy)
What else do I NEED (or need to do) to accomplish this project? Resources Faculty Time		How can I EVALUATE the learning? (Using Kirkpatrick's Outcomes)	
For Scholarship 1. Do I need IRB approval for this project? 2. Am I systematically documenting the development process? 3. Am I using objectives, methods, and evaluation outcomes (if any)? 4. How will I share or disseminate my project?			

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Take Home What You Learned



- Prior to developing a new curriculum a problem statement should be defined.
- Educational goals are general statements of intent and purpose
- After educational goals are written, a needs assessment should be completed with the use of formal, informal or preliminary data.
- A needs assessment should also include the identification of collaborators, resources and skills needed to execute the new curriculum.
- Educational objectives are specific, measureable and precise
- Bloom's Taxonomy is a valid and reliable source for writing educational learning objectives.
- The cognitive domain is most frequently used in developing educational objectives.

Take Home What You Learned



- Using the "Curriculum Design 101" worksheet, *develop and implement* a curriculum
- *Evaluate* your newly developed curriculum using Kirkpatrick's Outcomes
- *Share* your curriculum with others by disseminating your work via poster presentations, workshops, journal articles publications, or MedEd Portal

References and Resources



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Questions??

