

**University of New Mexico School of Medicine
Teacher & Educational Development | Process of Developing a Curriculum**

**Learning-Centered Medical Education:
CURRICULUM DESIGN & TEACHING PRINCIPLES & STRATEGIES**

Major Sources:

Fink, LD (2003). *Creating Significant Learning Experiences*. San Francisco, CA: Jossey-Bass.
Bransford, JD, Brown, AL & Cocking, RR (Eds.) (2000). *How People Learn: Brain, Mind, Experience and School*. Washington, D.C.: National Academy Press.

CURRICULUM DESIGN PRINCIPLES & STRATEGIES

“Priority is a function of context.”—Stephen Covey

Consider the context.

- ✓ Reflect realities of health professions practice
 - basic and clinical sciences
 - healing as a science and an art
 - emphasis on outpatient vs. inpatient care
 - poverty in healthcare
 - aging population
 - complex healthcare system
 - multiple types of coverage/payment/ assistance
 - use of informatics/technology
 - transdisciplinary care teams

It’s not enough to be busy. The question is: What are we busy about?—Henry David Thoreau

Start with the end in mind.

- ✓ determine what learners should “look like” when they graduate
- ✓ craft ambitious objectives that go beyond content to include attitudes and skills such as critical, practical and creative thinking; performance skills; ability to make connections; communication skills; cultural sensitivity; teamwork; leadership; values and attitudes; life-long learning; self-assessment and self-direction

“Covering” information ≠ learning-centered

Design learning-centered experiences.

- ✓ develop plan that introduces learners to content outside formal learning environment (e.g., reading assignments, web-based modules)
- ✓ design increasingly complex activities that require learners to think critically, use and apply content
- ✓ embed some form of ongoing small group learning (e.g., problem-based learning, team-based learning)
- ✓ provide venue for learning in the context in which information will be used (e.g., basic sciences in clinical context)
- ✓ create authentic projects (e.g., service learning, real patients, community projects)
- ✓ create transdisciplinary team learning experiences
- ✓ include multiple kinds of teaching methods
- ✓ create rich learning experiences that integrate multiple kinds of significant learning

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... institutional assessment efforts should not be concerned about valuing what can be measured but, instead, about measuring that which is valued—Banda, Lund, Black, Oblander

Plan for means of determining whether students are achieving objectives and for giving them formative feedback and summative assessments.

- ✓ build in iterative deliberate practice with feedback
- ✓ develop plan for assessments of *performance* as well as knowledge
- ✓ consider how learning will be used in actual practice; create/design assessments to mirror that as much as possible

**A self-reinforcing upward spiral: performance stimulating pride stimulating performance—
Rosabeth Moss Kanter**

Create an integrated vs. fragmented learning experience

- ✓ use systems-based vs. department-based approach
- ✓ weave in “threads” throughout (e.g., public health, cultural sensitivity, informatics, end of life)
- ✓ provide early clinical experience and build it developmentally across the curriculum
- ✓ create a logical, cohesive, developmental progression across the curriculum

LEARNING-CENTERED TEACHING PRINCIPLES & STRATEGIES

Education is not filling a bucket but lighting a fire—William Butler Yeats

Create a motivating environment.

- ✓ be enthusiastic
- ✓ establish rapport with learners
- ✓ explain/demonstrate relevance
- ✓ provide rationales
- ✓ target learning to appropriate level
- ✓ provide examples
- ✓ vary methods, stimuli, pace
- ✓ be organized
- ✓ actively involve learners

**... knowledge is something a student constructs, using his or her pre-existing knowledge—
Christopher Reisbeck**

Build a bridge from where learners are to the next level.

- ✓ help learners make their thinking visible
- ✓ identify current level of understanding
- ✓ connect explicitly to previous learning
- ✓ use metaphor and analogy
- ✓ create safe environment to take risks and learn from mistakes
- ✓ uncover misconceptions; demonstrate why thinking is faulty

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Knowing is not enough; we must apply!—Goethe

Facilitate learners' ability to use, transfer, transform and be transformed by knowledge.

- ✓ give learners a reason to read assignments and hold them accountable for learning it
- ✓ provide conceptual framework
- ✓ chunk information
- ✓ provide examples within and across contexts
- ✓ use compare and contrast and “What if…” questions
- ✓ help learners make connections and grasp big picture
- ✓ specify appropriate uses/applications of information
- ✓ provide meaningful active learning and hands-on experiences
- ✓ model expert thinking
- ✓ encourage open-mindedness and empathy
- ✓ facilitate deliberate practice with feedback
- ✓ provide time for significant learning to occur
- ✓ provide opportunity for self-, peer-, expert-assessment
- ✓ assess performance and appropriate application of knowledge

Learning without thought is useless; thought without learning is dangerous—Confucius

Develop in learners the habit and skill of self-reflection: Awareness, regulation, direction, authorship

- ✓ make clear what *excellence* looks like in your context
- ✓ foster/model challenging assumptions and recognizing biases
- ✓ provide time and opportunity for reflection
- ✓ facilitate the process of self-assessment
- ✓ provide opportunity for learners to compare self-assessment to peers' and experts' assessment of them
- ✓ model criteria-based feedback to self and others
- ✓ help learners recognize/admit limits of knowledge and develop specific and realistic plans for continued development