Developing A Competency Based Curriculum

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What is competency?

- Statements of the characteristics that graduating students should demonstrate that indicate they are prepared to <u>perform and function independently in professional practice</u>.

- Competencies should include more than facts.

What is competency?

- They represent the **integration and application** of learned facts, skills and affective qualities needed to serve the patient, the community and the profession.

What is competency?

"…the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflections in daily practice for the benefit of the individual and community being served."

Ref: Epstein and Hundert, JAMA, Jan. 9, 2001

Social Accountability

"A well-rounded professional demonstrates: knowledge, clinical competence, lifelong learning, evidence-based practice, interdisciplinary teamwork, balance between disease management and disease prevention/health promotion, professional and ethical behavior in practice, optimal use of resources and consciousness of well-being of self and colleagues."

TIME (FAITH)-BASED EDUCATION

- **Time- based**
  - Students need a defined amount of time on task or topic to become competent

    e.g., 140 hours of anatomy, 2 semesters of surgery, 90 min of ethics
  - But we really have no clue how much time it takes
- **FAITH- based**
  - Take on faith that within a set time students will learn what they need to learn and (miraculously) become competent
  - Little evidence for that belief

Ref: Dr. Larry Gruppen

Four Overarching Goals For New Curricula

1. Standardization of learning outcomes and individualization of the learning process

2. Integration of formal knowledge and clinical experience

3. Development of habits of inquiry and innovation

4. Focus on professional

   identity formation

Many frameworks

- **ADEE (2005, 2010): 7 domains/ 3 levels**
  - ◦ Professionalism, Communication and Interpersonal Skills, Knowledge base

    Information, Handling and Critical Thinking, Clinical Information Gathering, Diagnosis and Treatment Planning, Establishment and Maintenance of Oral Health, and Health Promotion
  - ◦ "To be competent at…"; "have knowledge of…"; and "be familiar with…"

Many frameworks

- **ADEA (2006): 6 domains**
  - Critical thinking, Professionalism, Communication and Interpersonal skills, Health Promotion, Practice Management and Informatics, Patient Care: a) Assessment , Diagnosis and Treatment b) Establishment and Maintenance of Oral Health

Many frameworks

- **Canada (1994, 2005 rev): 47 aims**

- All share many similarities with some special emphases

How do you design a competency based curriculum?

How do you design a competency based curriculum?

BACKWARDS

Implications of CBE

What drives the system

- Competency <u>outcomes drive curriculum</u> objectives

- Curriculum does NOT drive outcomes

- <u>Fundamental shift</u> from teacher-centered to learner-centered orientation

Competency-based instruction

- Instruction is developed around stated objectives that can be observed and measured

- Learning is measured according to how well the learner performs in relation to competencies (objectives)- criterion referenced- rather than in relation to the other learners- norm based-

Competency-based instruction

- Competency based instruction measures *what participants have learned* as opposed to what instructors think they have taught

- Competencies are not taught as a whole in a single course- their components are presented/ taught through out the curriculum
  - Several courses assist in the attainment of each competency

Small Group Activity: Reflect on your own curriculum

1. Review the competency distributed and its subcompetencies
2. Develop the subcompetencies of the "Diagnosis and Treatment Plan"

Designing Steps

1) Identify the minimum characteristics the ideal graduate should have upon graduation to be able to practice their profession competently.

- *Fewer competencies make the curriculum design, student assessment and program evaluation better managed.*

Designing Steps

2) Review mission statement and overall curriculum goals to make sure the competencies are within these parameters.

➢Update goals if needed
➢Each goal should be reflected in at least one comeptency

Designing Steps

Examples of Curriculum Goals:

❖ *Coordinate and administer oral health services for a variety of populations in diverse settings (hospitals, clinic etc)*

❖*Pursue professional development through self-study, CDE, research etc*

Designing Steps

3) Develop a set of sub-competencies for each competency and match with course goals/ objectives

(Competency statements like curriculum goals or course goals are usually broad -difficult to assess)

➢ Course objectives are specific, measureable statements that describe what the student should be able to add upon completion of the each course.

Designing Steps

4) Faculty review of grid to:

➢ Identify course objectives that do not relate to any of the competencies

➢ Decide if you are going to add competencies or revise/ eliminate the objectives

➢ Identify redundancies and omissions in the curriculum as well as areas to expand upon

➢ Assess the sequencing of courses

➢ Make sure appropriate TEACHING and ASSESSEMNT METHOD is used for different level of learners

THIS STEP TAKES TIME…

Questions to Consider

Step 4 is the most critical but offers a real opportunity to review and update your Curriculum

- How can information be presented in a meaningful and effective way?
- What activities/ exercises can the student perform to demonstrate competency?
- What level of performance is considered acceptable?
- Are the methods of assessment appropriate to distinguish competent from less competent students?
- What is your remediation plan for students who do not demonstrate competency?

10 Competencies
122 Sub competencies

Communication (oral and written) 12sub

Medical Knowledge 7 sub

Clinical Skills (Hist and Phys, Interpretive and Procedural) 22sub

Professionalism 20 sub

Social & Community Context of Healthcare 10sub

Problem Solving 10sub

Self awareness- self growth and improvement 9 sub

Life Long Learning 8 sub

Prevention, Diagnosis and Management 17sub

System-based Practice 7sub

Ref: Stony Brook School of Medicine

Example of Competency and Sub-competencies

Clinical Skills (Overall Goal)

Graduates are proficient in history-taking and examination skills across a wide spectrum of patient care encounters. Graduates correctly select and proficiently perform routine clinical procedures, properly utilize ancillary services and accurately interpret results.

Institutional Objectives: Upon graduation the students will be able to:

- Demonstrate mastery, completeness, organization and interpersonal skill in electing full and accurate patient histories.

- Perform a comprehensive physical, functional and mental status exam using correct application of techniques, (e.g., inspection, palpation) and tools, (e.g., stethoscope, otoscope).

Example of Competency and Sub-competencies

- Correctly describe, interpret and assess patterns of findings from H and P in health, disease states and over time and recognize patients with immediate life threatening conditions.

- Skillfully and correctly perform routine and more procedural skills; Be aware of their indications, complications and limitations.

- Skillfully apply, assess and interpret raw data, written reports and other outcomes of commonly performed diagnostic tests. Be able to determine the priority in which diagnostic procedures/ tests should be requested in clinical situations and be aware of their indications, complications and limitations.

What are some of the challenges designing a competency- based curriculum?

Assessment

- Assessing competence becomes central
- Need new/ creative methods of assessment
- Create assessments that reflect as closely as possible real life as professional
- Multiple choice examinations are often not sufficient to evaluate skills, attitudes, and behaviors

Curriculum Management

- Learning management system is required
  - Large number of competencies, sub-competencies/ outcomes and objectives
  - Individualized progress through system
  - Sequencing of educational activities
  - Flood of assessment data- different type of data

Comprehensive Assessments

Year I –OSCE

- One SP case (history and physical skills)
- Communication, professionalism, medical knowledge

Examples from checklist :

- Establish a personal rapport

- Use open ended questions

- Shows interest in me as a person

Ref: Stony Brook School of Medicine

Comprehensive Assessments

Year II OSCE

- 4 SP Cases (all competencies except systems based practice)
- 1 Paper case (medical knowledge, prevention diagnosis and management, problem solving, written communication)
- Post encounter activities
- Assessment of interpretive and procedural skills

YEAR III Clinical Performance Examination

- 10 SP Cases
- Post encounter activities
- Assessment of interpretive and procedural skills

Ref: Stony Brook School of Medicine

Faculty

- Changing faculty responsibilities:
  - NOT teach whatever you want whenever you can
  - Create experiences
  - Set expectations
  - Collaborate with other faculty
  - Mentoring and advising
  - Perform "real" assessment (designated, trained assessors)