Principles of Curriculum Design:
Tips for Clinician-Educators

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Faculty mentoring workshop
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Goals of the Session

• Be able to state why educational curricular design is important
• Be able to list and use a structural framework for designing curricula
• Begin to design curriculum for teaching within individual disciplines
Structure of Presentation

• Curricular Theory – Four Central Questions

• Six-step process for designing curriculum

• Opportunity for skill practice
Curriculum Broadly Defined

- Comprised of all the experiences that learners have that enable them to reach their learning goals

- A statement of the intended aims and objectives, content, experiences, outcomes and processes of an educational program
Why Curricula are necessary

• Experiential learning is haphazard and insufficient
  – Inequalities in the learning experience
  – Uncertainties in the achievement of learning goals and objectives
  – Difficulties in attesting to learners’ mastery/competence/incompetence for external stakeholders
Four Central Questions

1. What is supposed to be learned?
2. How will the program be organized?
3. What learning activities will achieve the educational purposes?
4. How do we know whether or not the educational purposes have been attained by the learners?
Structure of Presentation

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• Six-step process for designing curriculum

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Curriculum Development for Medical Education

A Six-Step Approach

Second Edition

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Six-step Approach

1. Program/Rotation Description
2. Targeted Needs Assessment
3. Develop Goals and Objectives
4. Develop Educational Strategies/Activities
5. Develop Assessment methods
6. Evaluating Learners and Providing Feedback
1. Educational Description

- Provide description of program/rotation/educational experience
  - PURPOSE: Provides learners with an overview or a roadmap of what to expect
2. Targeted Needs Assessment

• What do learners need to learn?
• Defining Learning Content (Internal and External Stakeholders)
  – School requirements
  – Licensing Examinations
  – Hospital review boards
  – Specialty societies
  – Accrediting agencies (ACGME Six-core competencies)
ACGME Core Competencies

• Medical Knowledge
• Patient Care
• Systems-Based Practice
• Practice-Based Learning
• Professionalism
• Interpersonal and Communication Skills
3. Goals and Objectives

• Provide an instructional road map
• Provide clarity about the education program to learners, teachers and external stakeholders
• Encourage higher order learning
• Determine Assessment method
Goals

• A statement that describes what the learner will gain from the instruction
• Should be thought as broad and overarching statements
• Goals are not necessarily measurable
Objectives

• Are behaviorally explicit reflecting what the learner should learn

• Reflect the knowledge, skills and/or attitudes that the residents should attain for each rotation or educational experience

• Objectives should be able to be measured. **Who will do what and how will she/he be assessed?**
Writing an Objective

• “At the completion of this activity, the learner will be able to ________ (action verb) as measured by __________ (type of assessment).”
4. Strategies/Activities

• What strategy/activity will best help the learner attain the goals and objectives?

• Some considerations
  – Type of Learner
  – Type of Content being Learned
  – Amount of Content being Learned
Common Teaching Methods

- Didactic Conferences
- Bedside/Examination Room Teaching
- Case-Based Teaching
- Journal Club
- Mentoring
- Mortality/Morbidity Conference
- Mannequin/Task Trainer Simulation
- Computerized Simulation Exercises
- Self-Directed Learning Modules
- Individual or Group projects/research
- Chart audits
5. Assessment Methods

• What assessment methods will be used to evaluate the resident’s performance?
  – Observation
  – Demonstration of knowledge, skills, attitudes
  – Examinations
  – Reflective practice/self-assessment

• Methods should reflect activity

• Multiple methods provide richer and more valid assessment
6. Evaluation and Feedback

• How will the assessment be implemented? Who will be doing it?
  – Formative Evaluation
  – Summative Evaluation

• When will feedback be given? Who will be providing it?
  – Specificity, Frequency, Timing, Positive/Negative, Learner Reaction, Action Plan
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Develop a “mini” curriculum

• Reflect on your area of expertise.
• What is one important item that my learners must learn?
• Define your learners and their needs.
• What educational activities should they do in order to learn it?
• How will I know whether or not they’ve learned it?
• How and when will I let them know of my assessment?
Summary – Curriculum Purpose

• Outlines the purpose of the educational program
• Describes how the educational program will be organized
• Articulates the activities that will achieve the learning goals and objectives
• Helps to determine whether or not learning has been achieved
References

Grant J. Principles of Curriculum design in Understanding Medical Education: Evidence, Theory and Practice 2010 (Swanwick T. ed.) Association for the Study of Medical Education. John Wiley & Sons, Ltd. London


Clinical Teaching materials – Stanford Faculty Development Center