Cómo Diseñar un Currículo Basado en Resultados de Aprendizaje
(Designing an Outcomes-Based Curriculum)

Día 3: Evaluación e Implementación del Currículo
(Day 3: Curriculum Evaluation and Implementation)

Universidad Católica de la Santisima Concepción

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UNIVERSIDAD CATOLICA
DE LA SANTISIMA CONCEPCION

LASPAU
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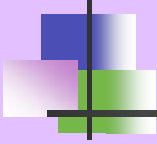

Objetivos

- Describir una variedad de métodos que proporcionen evidencias de la calidad de un programa

- Enfatizar la conexión existente entre la evaluación de un currículo y su mejoramiento continuo

- Reconocer y abordar los retos de implementar un currículo basado en resultados de aprendizaje

A Curriculum Development Model
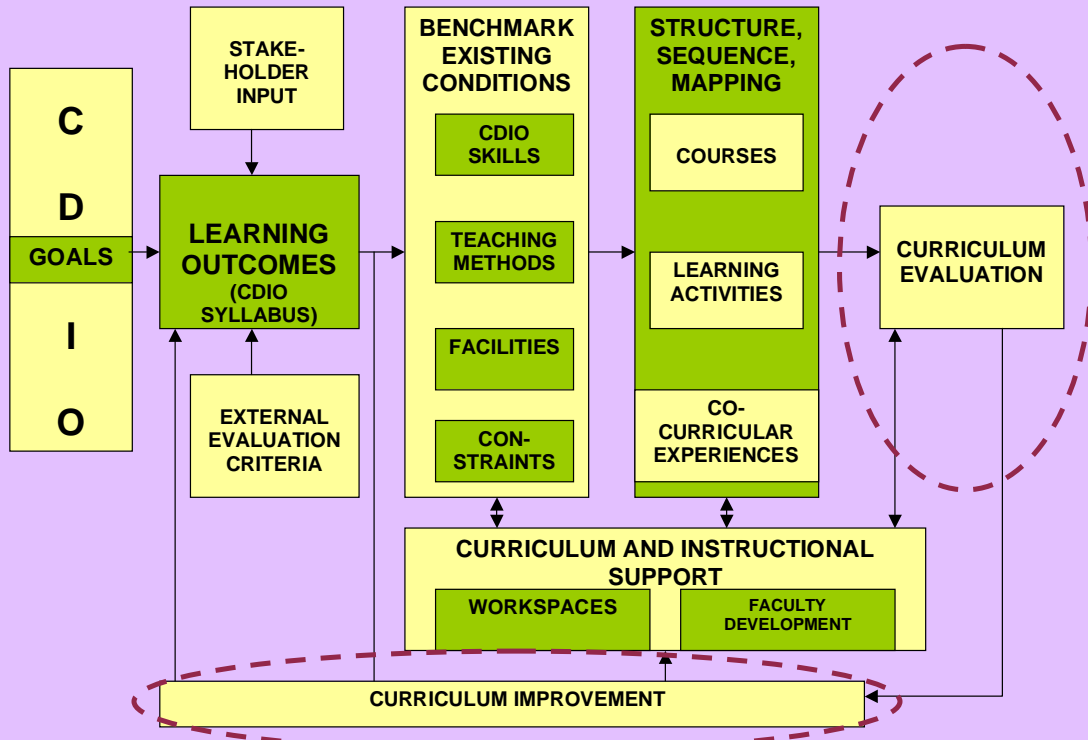
Curriculum Evaluation
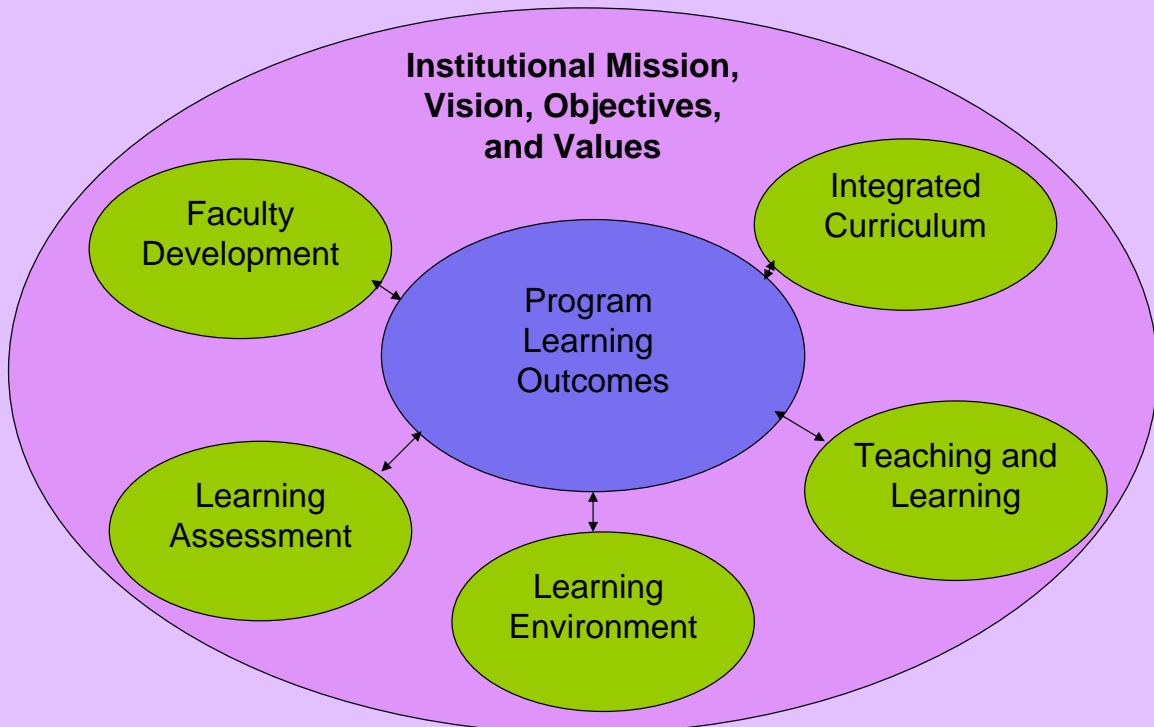
Key Questions

Massachusetts Institute of Technology

- What are the criteria of success for each important area, that is, what does a good example look like?

- What evidence will tell you that you are doing well in each key area?

- What kind of evidence (data) will persuade key stakeholders?

- How should the evidence be summarized for different stakeholder groups?

Examples Of Evidence

**Institutional Mission, Vision, Objectives, and Value**

- Mission statement
- Faculty and students who can articulate mission

Program Learning Outcomes

- Program learning outcomes
- Validation for content and proficiency levels with key stakeholders

Integrated Curriculum

- Document plan integrating personal and professional skills
- Inclusion of personal and professional skills in courses
- Student acquisition of essential skills
- High student interest in their chosen career area
- Two or more project-based courses in the curriculum
- Co-curricular opportunities
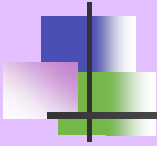
Examples Of Evidence (cont.)

Teaching and Learning Experiences

- Evidence of personal and professional skills and disciplinary skills in learning experiences
- Successful implementation of active learning methods
- High levels of student achievement and satisfaction

Engineering Workspaces

- Adequate spaces and engineering tools
- High levels of satisfaction with workspaces
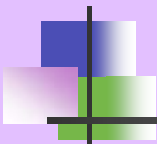
Examples Of Evidence (cont.)

Faculty Development

- Commitment of resources to faculty development
- Majority of faculty with competence in personal and professional skills
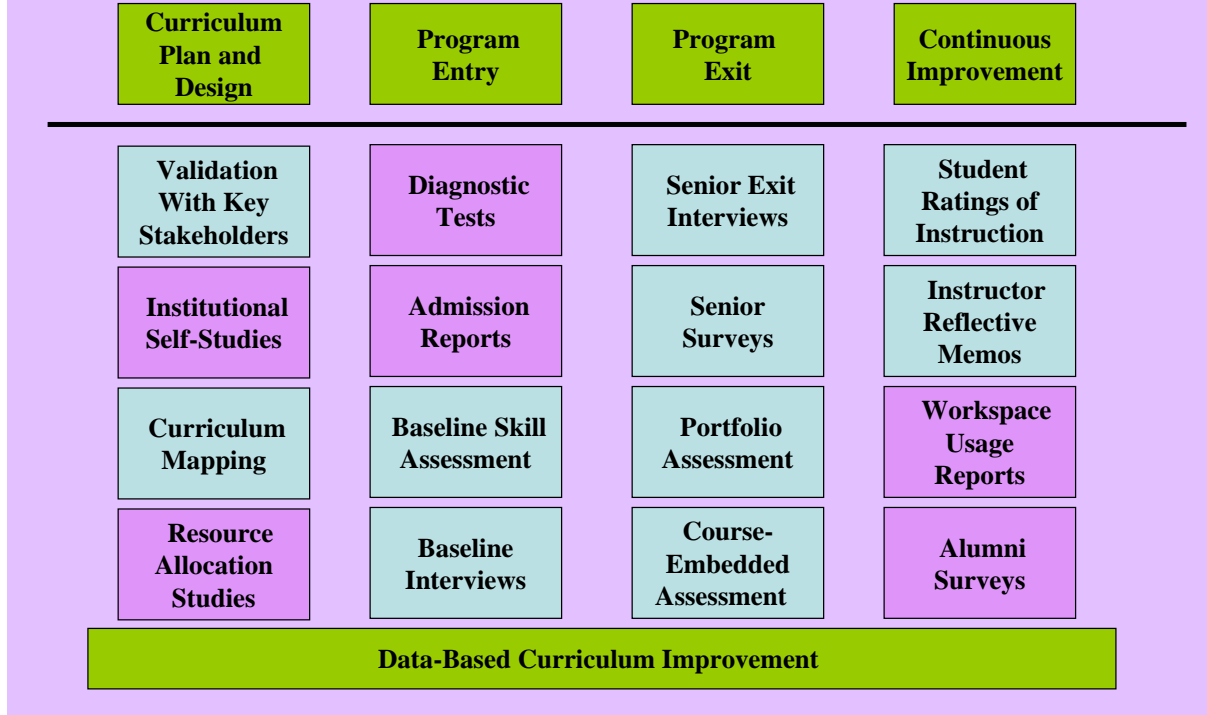- Majority of faculty with competence in teaching and assessment methods

Learning Assessment

- Assessment methods matched to learning outcomes
- Successful implementation of assessment methods

Program Evaluation

- Documented continuous improvement process
- Evidence of data-driven changes

Evaluation Methods for Continuous Curriculum Improvement

Curriculum Plan and Design	Program Entry	Program Exit	Continuous Improvement

Validation With Key Stakeholders	Diagnostic Tests	Senior Exit Interviews	Student Ratings of Instruction
Institutional Self-Studies	Admission Reports	Senior Surveys	Instructor Reflective Memos
Curriculum Mapping	Baseline Skill Assessment	Portfolio Assessment	Workspace Usage Reports
Resource Allocation Studies	Baseline Interviews	Course-Embedded Assessment	Alumni Surveys

Data-Based Curriculum Improvement

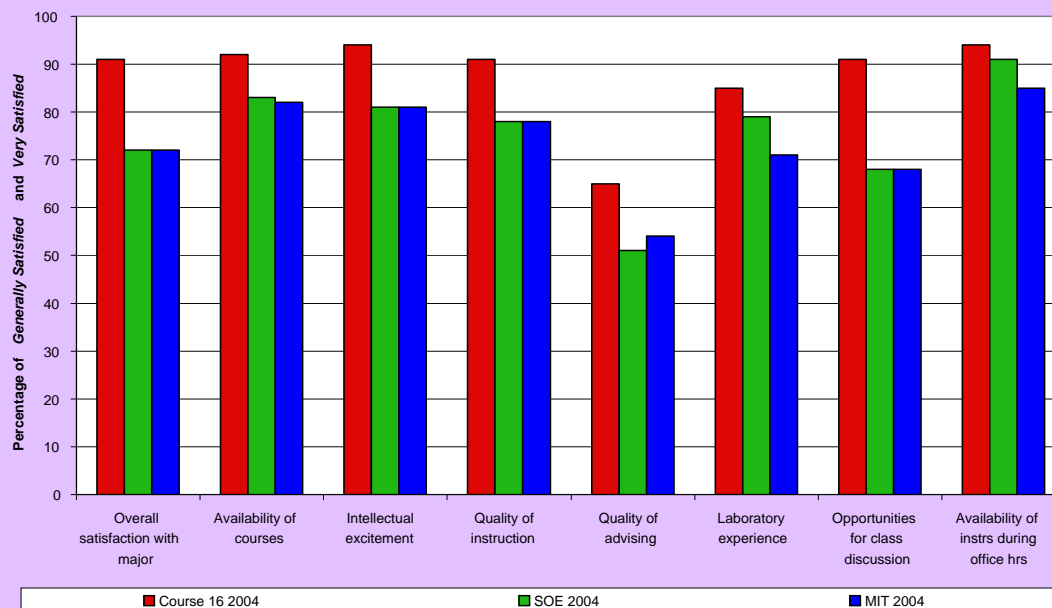
Sample Data Summary: Senior Survey

Course 16 Program Learning Outcomes
Source: EBI Senior Survey 2003
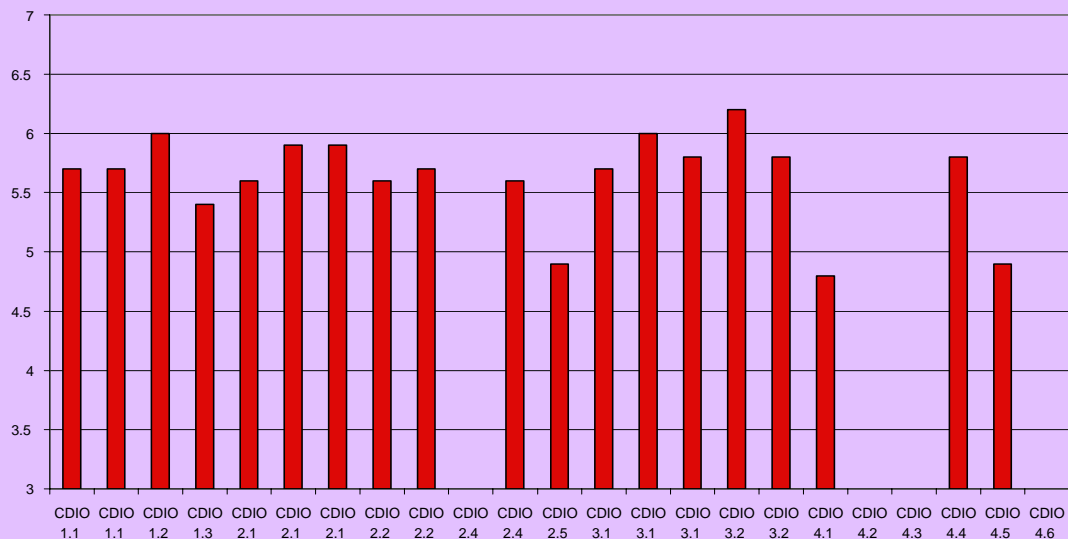
"To what extent did Course 16 help you to develop your abilities in...?"

Sample Data Summary: Senior Survey

Satisfaction with Course 16 Major (1 of 2)
Source: COFHE Senior Survey 2004

Legend
■ Course 16 2004   ■ SOE 2004   ■ MIT 2004

Student Ratings of Instruction

Massachusetts Institute of Technology

SD = Strongly Disagree **D** = Disagree **N** = Neutral **A** = Agree **SA** = Strongly Agree					
The Subject	SD	D	N	A	SA
Subject learning objectives are clear.					
The subject is well organized.					
The subject stimulates my interest to learn more.					
The subject is relevant.					
Feedback about my work is helpful.					
Grading criteria are fair.					
I am achieving the subject learning objectives.					
The overall quality of this subject is good.					
Instructor 1 *(name)*_____	SD	D	N	A	SA
gives clear explanations.					
maintains a pace that is (too slow -- just right -- too fast)					
encourages me to take an active part in my own learning.					
is available outside of class to answer questions.					
Overall, the instructor contributes to my learning.					

Student Ratings of Instruction (cont.)

Massachusetts Institute of Technology

How effective are these *teaching and learning strategies* in helping you achieve the learning objectives in this subject? (If the strategy is *not* used in the subject, check *Strategy Not Used.*)
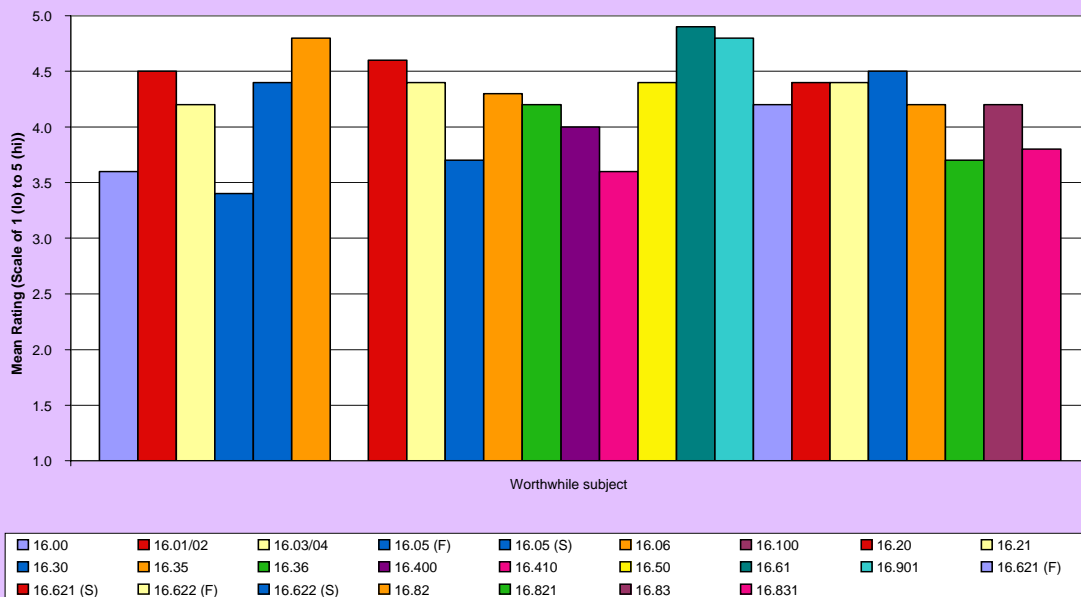
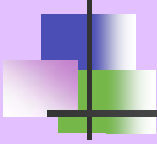| Teaching and Learning Strategies	Not at all Effective	Generally Ineffective	Generally Effective	Very Effective	Strategy Not Used
Lectures					
"Muddiest part" cards					
Concept questions with PRS					
In-class group discussion					
Recitations					
Prepared lecture notes					
Subject web page					
Lab projects					
Term projects					
Working in teams					

How effective are these *assessment strategies* in measuring your learning in this subject? (If the strategy is *not* used in the subject, check *Strategy Not Used.)*

| Assessment Strategies	Not at all Effective	Generally Ineffective	Generally Effective	Very Effective	Strategy Not Used
Quizzes and exams					
Oral exams					
Homework and problem sets					
Peer assessment					
Lab notebooks					
Oral reports					
Written reports					

Student Ratings of Instruction

Overall Satisfaction with Course 16 Undergraduate Subjects
Source: Subject Evaluations 2003 - 2004

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16.00, 16.01/02, 16.03/04, 16.05 (F), 16.05 (S), 16.06, 16.100, 16.20, 16.21
16.30, 16.35, 16.36, 16.400, 16.410, 16.50, 16.61, 16.901, 16.621 (F)
16.621 (S), 16.622 (F), 16.622 (S), 16.82, 16.821, 16.83, 16.831

Instructor Reflective Memos

- To what extent were you able to integrate the personal and professional skills specified in the curriculum plan?
- What teaching and assessment methods did you use and what evidence indicates these methods were successful or not?
- How well did students perform on each of the course learning outcomes?
- What actions actions do you recommend to improve this course in the future?
- To whom have you forwarded this memo?
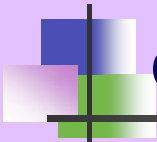
Curriculum Evaluation at UCSC
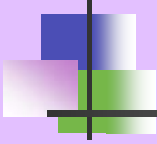
Indicators of the Effectiveness of an Outcomes-Based Curriculum

- An integrated curriculum deepened students' understanding of disciplinary knowledge
- Annual surveys of graduating students indicated that they had developed the intended program learning outcomes
- Areas of most developed abilities were those that are important to program stakeholders, and conversely
- Areas of least developed abilities were those that are least important to program stakeholders
- Students showed progress in key areas from start to finish in a student-centered outcomes-based curriculum

Based on CDIO programs from 2000 - 2008
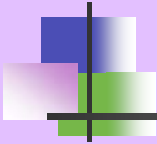
Indicators of the Effectiveness of an Outcomes-Based Curriculum (cont.)

- Course evaluation results indicated that instructors are using a variety of teaching and assessment methods
- Student self-report data indicated high student satisfaction with project-based learning experiences, and with workspaces that promote a sense of community among students
- Longitudinal studies of students are showing increases in program enrollment, decreasing failing rates particularly among underrepresented populations, and increased student satisfaction with their learning experiences
- Results are being used to improve programs

Based on CDIO programs from 2000 - 2008

Summary Discussion

Outcomes
Curriculum
Faculty
Teaching
Stud
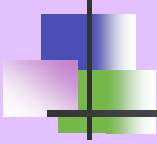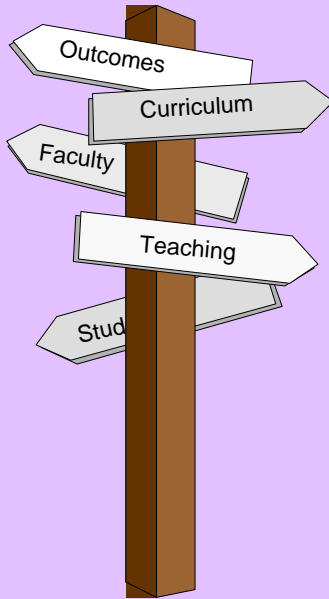
How do you use evaluation results to improve curriculum, teaching and learning, student and instructor satisfaction, and learning spaces in your programs?

What would be the major impact of implementing an outcomes-based curriculum in your programs at UCSC?

Activity: Rating The Challenges

What are your main challenges to designing and implementing an outcomes-based approach into your curriculum?

CHALLENGE	A BIG CHALLENGE	A MODERATE CHALLENGE	NOT SO DIFFICULT

Activity: Rating The Challenges

What are your main challenges to designing and implementing an outcomes-based approach into your curriculum?

CHALLENGE	A BIG CHALLENGE	A MODERATE CHALLENGE	NOT SO DIFFICULT
Mapping intended learning outcomes to courses in the curriculum			
Persuading faculty to include of personal and professional skills in the curriculum			
Providing relevant experiences in a cost-effective way			
Enhancing faculty competence in personal and professional skills			
Sustaining enthusiasm for curriculum reform beyond the initial stages			