Content, Assessment and Pedagogy (CAP): An Integrated Design Approach

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Session 1 – June 30, 2009
It could well be that faculty members of the twenty-first century college or university will find it necessary to set aside their roles as teachers and instead become designers of learning experiences, processes and environments.

James Duderstadt, 1999 [Nuclear Engineering Professor Emeritus; Former Dean, Provost and President of the University of Michigan]
Session 1 Overview

- Welcome & Facilitator Introductions
- Overview & Workshop Model
- Participant Introductions
  - Participant “Think-Pair-Share” – Prior knowledge about CAP
- Design Site (Context) Selection
- Student Learning Outcomes Development
  - Especially enduring understanding
- Course Content Mapping
- Assignments & Next Steps
Welcome

- Your workshop facilitators
- Introduce yourself to two to three people you do not know
  - Name, institution, discipline
  - Your course design/redesign experience
  - Things that would make this workshop valuable for you.
- Please record name, institution, discipline and your course on an index card to be handed in
Desired Results (Outcomes)

- Start to get to know one another
- Describe key elements of CAP model
- Relate CAP model to inquiry model
- Embrace an integrated design approach
- Engage fully in reflection and small group (intellectual neighborhood) and large group dialogue
- Commit to course design/re-design
Think-Pair-Share about CAP

- Reflect on your experiences designing a course. Or your ideas for course redesign. What course or part of a course would you want to design or redesign? Very briefly describe your thoughts.

- Explain what you think is meant by:
  - Content
  - Assessment
  - Pedagogy

- As best as you can, describe how you think these elements relate to each other.
Partimos de los contenidos, la pedagogía es la forma de hacerlo y la evaluación es la forma de saber si el aprendizaje se da en el alumno.

El contenido es el objetivo, la pedagogía es como lo voy a enseñar y la evaluación es una retroalimentación para el alumno y el maestro

El contenido es lo que queremos lo que aprendan los alumnos, la evaluación es una medición del proceso y la pedagogía es la forma en que se enseña y evalúa

El contenido es la finalidad que debe tener una aplicación, la pedagogía depende del tipo de curso, y la evaluación implica que los estudiantes investiguen artículos científicos
Group response to Think-Pair-Share (TPS)

- Que el contenido sea relevante y genuino
- La evaluación identifica carencias lo que modifica el contenido y de esta forma puedan ser tomadas en cuenta en la pedagogía
- La meta (el objetivo) es lo primero, en base a ella se diseña todo lo demás
- La evaluación 5-5, redactar cinco renglones en cinco minutos, al final de la clase
Effective Course Design

(Felder & Brent, 1999)

Goals and Objectives

Students

Instruction

Assessment
Effective Course Design

(Felder & Brent, 1999)

Goals and Objectives

Students

Instruction

Assessment

Context
Effective Course Design

(Felder & Brent, 1999)

Accreditation

Learning Taxonomies

Course-specific goals & objectives

Technology

Cooperative learning

Classroom assessment techniques

Instruction

Goals and Objectives

Assessment

Students

Instructional measures:
- Lectures
- Labs
- Other experiences

Assessment measures:
- Tests
- Rubrics
- Other measures

(Felder & Brent, 1999)
A Self-Directed Guide to Designing Courses for Significant Learning
CAP Workshop Model Resources

- Backward Design Approach – Course, Class Session, and Learning Module Design: From Objectives and Evidence to Instruction (Wiggins & McTighe; Fink)

- Curriculum-Instruction-Assessment Triad (Pellegrino)

- Content-Assessment-Pedagogy: Argument, Claim/Evidence, Method
Designing Learning Environments Based on HPL (How People Learn)
Design Approach*

- How do you think you would go about designing a course, learning experience, class session, learning module, etc.?

- How do curriculum (content), assessment, and pedagogy relate to each other in a course? What is decided first?

- Are any of these aspects more important than the other?

*The engineering method is design under constraints
  – Wm. Wulf, Former President, US National Academy of Engineering
Backward Design Approach
Wiggins & McTighe

Stage 1. Identify Desired Results

Stage 2. Determine Acceptable Evidence

Stage 3. Plan Learning Experiences and Instruction

Backward design

- Good to be familiar with
- Important to know or understand
- Enduring understanding

Important to know or understand
Good to be familiar with
Enduring understanding
The research process and reasoning

Research Process

Practical Problem

and helps

Research Answer

leads to

Research Problem

motivates

Research Question

informs

Research Question

Warrant

Claim

Reason

Evidence

Acknowledgment and Response
Inquiry Model from
The Craft of Research

Content

Assessment

Pedagogy

Argument

Claim

Evidence

Method
Integrated Course Design (Fink, 2003)
Initial Design Phase

1. Situational Factors
2. Learning Goals
3. Feedback and Assessment
4. Teaching/Learning Activities
5. Integration
Exercise

- Determine for your design site

- Good to be familiar with
- Important to know or understand
- Enduring understanding
Course Concept Mapping

- Construct a concept map that represents the key concepts and relationships between ideas for the course you are re-designing
How to construct a concept map

- **Central Node**
  - BIG idea at the heart of the discipline
  - Most important outcome for the course

- **Surrounding Nodes**
  - Related ideas, topics, etc.

- **Nature of the connection (relationship) between the nodes**

Concept Maps Software Tools

- **Cmap Tools** (http://cmap.ihmc.us)
  - Institute for Human & Machine Cognition
  - Free downloadable program

- **C-Tools** (http://ctools.msu.edu)
  - Michigan State University (NSF)
  - Free web-based Java applet

- **SMART Ideas** (http://www2.smarttech.com)
  - SMART Tech
  - Free trial version (30 days)
Discuss your Concept Maps
Session Summary
(Minute Paper)

Reflect on the session:
1. Pace: Too slow 1 . . . . 5 Too fast
2. Relevance: Little 1 . . . 5 Lots
3. Interest: Low 1 . . . 5 High
Q1 – Pace: Too slow 1 . . . 5 Too fast (2.8)
Q2 – Relevance: Little 1 . . . 5 Lots (3.8)
Q3 – Format: Ugh 1 . . . 5 Ah (3.5)
Assignments & Next Steps

- Start to identify Desired Results (Outcomes, Objectives, Learning Goals)
  - Select most important student learning outcomes
    - BIG ideas at the heart of the discipline
    - Important to develop enduring understanding

- Begin filling out worksheet
  - Evidence (Assessment)
    - Learning Taxonomies
  - Plan Instruction
    - State-of-the-art, research-based instruction
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<th>Learning Goals for Course/Session/Learning Module:</th>
<th>Ways of Assessing This Kind of Learning:</th>
<th>Actual Teaching-Learning Activities:</th>
<th>Helpful Resources: (e.g., people, things)</th>
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