Using Backwards Design to Create a Well-Engineered Curriculum

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November 3, 2016
What is curricular engineering?

• Learning is a design science
  – Sufficiently meeting stated goals
  – Satisficing solutions for how things ought to be
  – Satisfying existing conditions

A Well-Engineered Curriculum

• Apply backwards curricular design to re-envision curricular plans

• Analyze curricular plans considering situational factors, identification of intended learning outcomes, creation of opportunities for assessment and feedback, and selection of well-aligned teaching and learning methods.
Backwards Design

1. Identify desired results
2. Determine acceptable evidence (assessments)
3. Plan learning experiences

Wiggins, Understanding by Design
Agenda

• Prework- Explore program aims and situational factors
• Define outcomes and select best measures
• What are your key milestones?
• How will learners receive early and timely feedback?
• How might these outcomes be learned best?
• Test fit-What structure will allow these activities, assessments, feedback to all fit together well?
Pre-work

• Situational factors
  – What are your key aims in developing/re-designing this course/curriculum?
  – What are the key opportunities?
  – What are the motivations?
  – What other factors need to be considered?
Worksheet Activity #1

1. Identify desired results
2. Determine acceptable evidence (assessments)
Start with the End in Mind

• If you don’t know where you’re going, you might not get there.

  -YOGI BERRA (paraphrased)
Worksheet activity #1

TASKS

- Define outcomes (end)
  - Competency domains
  - Further detail competencies
  - Think about how this fits in with the larger learning experience (course or program)

- Select best assessments for these outcomes
Discussion- Worksheet #1
Worksheet # 2
Guide learning

TASKS:
- Identify essential milestones
- Indicate when might you use assessments (beginning, middle, end)
- Ensure learners receive timely feedback

Competency based learning and assessment-
- Multiple measures
- Direct observation in authentic settings (or simulation)
- Use competency framework for feedback

2, 3:30 for 5
Milestones, Assessments, and Feedback
Worksheet Activity #3

- Align with the design

Diagram:
- Competencies
- Learning Objectives
- Teaching/Learning
- Assessment

2:10, 3:40 for 10
Curriculum design challenges
How will you monitor for effectiveness of your program

• Re-examine aims
• What timely program evaluation is needed to allow you to adjust?
Lessons learned ...

• Clear goals and outcomes
• Draw on literature, be deliberate
• Engage and empower of team of faculty (design team), create a culture of learning
• Take risks, test- retest, go back to the drawing board, if indicated
• Short cycle evaluation and feedback- timely adjustments
• Hold the course, some innovations take persistence and time to develop
Your lessons learned?
Thank you