Applying the Backwards Design Framework

2019 CAS Faculty Focus Workshop

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INTRODUCTION
Polling Questions

• How many of you are from Academic Units?
• Administrative Units?
• Have many of you are familiar with the Backwards Design framework?
• How many of you have taught online courses or plan to teach online courses?
• What do you hope to get out of today’s workshop?
What is Backward Design?

Backward - *in reverse or contrary direction or way...done or executed backward.*

Design – *to create, fashion, execute or construct according to plan...to conceive and plan out...to have a purpose.*

*Teachers are Designers.*

~Wiggins& McTighe
“You haven’t mastered a subject if you only possess skills and facts in isolation and can only produce them on demand in response to prompts. Mastery must be tested using authentic tasks and scenarios at the heart of “doing” the subject. And instruction for mastery must be designed backward from these cornerstone tasks.” ~Grant Wiggins

“To gauge different types of learning, we need a broader collection of measures, with a greater emphasis on authentic, performance-based projects”. ~Jay McTighe

“To begin with the end in mind means to start with a clear understanding of your destination. It means to know where you’re going so that you better understand where you are now so that the steps you take are always in the right direction.” ~Stephen Covey

“Integration is more important than volume of content. Course design integrates goals, activities and assessment.” ~Jose Bowen
Perspectives

Teacher Perspective

- Learning Outcomes
- Teaching and Learning Activities
- Assessment

Student Perspective

- Assessment
- Teaching and Learning Activities
- Learning Outcomes
Backwards Design Framework

- **Stage 1: Identify the desired results**
  - Outcomes focused
- **Stage 2: Determine acceptable evidences of learning**
  - Assessment focused
- **Stage 3: Design the learning experience**
  - Pedagogy focused
Intentional Alignment

Outcomes

Assessment

Pedagogy

Backwards Design Framework

Learning

- Program Level Outcome
- Course Level Outcome
- Unit/Lesson Level Outcome
- Assessment
- Instructional Activities

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Design Backward

Assessment | Lesson | Unit | Course | Program

Deliver Forward

IDENTIFY THE DESIRED RESULTS

STAGE 1
Applications in Higher Education

- Curriculum or co-curriculum development
  - New academic programs or revision of existing programs
  - New administrative programs or revisions of existing programs (i.e. student affairs).
- General Education
  - Courses – online, traditional, hybrid
- The process begins with a clear understanding of the desired results in mind – Outcomes
New Program Development

• Employer survey indicates a need for graduates with a combination of:
  • Chemical engineering skills
  • Biology
  • Strong interpersonal skills
Biochemical Engineering

- Interdisciplinary online BSc in Biotechnology
Program Design

• Develop an integrated Biotechnology curriculum not just half Biology & half chemistry

• Faculty (and curriculum content) drawn from:
  • Chemistry
  • Biology
  • Mathematics
  • Physics
Program Design

• Challenges:
  • Different Perspectives (e.g., epistemology, pedagogy)
  • Different proclivities and priorities
  • Department idiosyncrasies - stakeholder “buy-in”

• This is where Backward Design becomes really important

• The planning process begins with the end in mind (i.e., overarching desired outcomes for graduates
Learning Outcomes

• Describe what students are expected to know and be able to do upon completion of a course or the program

• Organized according to three broad domains/types of learning
  • **Content Knowledge** = cognitive (what students are expected to know)
  • **Abilities, skills, competencies** = behavioral (what students are expected to do)
  • **Values, dispositions/attitudes** = affective (what students are expected to care about)

• Learning outcomes are the results of the intervention/intentional experience.
SMART Outcomes are…

• **Specific** outcomes must be very explicit on what you are wanting the students to know and be able to do. Each outcome should address only one achievement.

• **Measurable** outcomes should be written in a way that can produce quantifiable evidence; using overt verbs.

• **Attainable** outcomes should be aggressive; consider what your target will be. Don’t create an outcome that would be difficult for undergraduate students to achieve.

• **Results-oriented** outcomes must be aligned to the department, college, university goals and mission.

• **Time-bound** outcomes are written in a way that can achieved within a certain timeframe (Certificate, Bachelor, Master, or PhD level).
Key Questions

- What are students expected to know, understand, and be able to do?
- What **enduring understandings** are desired?
  - The big ideas that anchor the course or program
  - They frame the core of desired results
  - Focus on “transfer of learning” to other contexts (e.g., writing for various audiences or data analysis - heuristics).
Key Questions

• What essential questions will be explored to provide focus to all learning and foster “meaning making?”
  • Focus on big ideas & frame teaching and learning
  • Engage students and spur inquiry and meaning making (not simple answers)
  • Revisited throughout the course/program

• These questions and considerations help bring clarity and focus to the curriculum design and development process
Key Questions

- **Worth being familiar with**
- **Important to know and do**
- **Enduring Understandings**
Alignment

• Program Outcome
  • Write clear and effective prose in several forms, using conventions appropriate to audience (including academic audiences), purpose, and genre.

• Course Outcome
  • Describe the history, role, and purpose of homeland security.

• Lesson Objectives (Week 2)
  • Know, understand and discuss the role of the Department of Homeland Security
  • Review the structure of DHS
  • Know, understand and discuss legal aspects related to homeland security
Remembering (know, define, repeat, describe, identify, recall, list, tell, locate match)

Understanding (comprehend, classify, convert, explain, summarize, predict, discuss, compare)

Applying (demonstrate, modify, arrange, solve, relate, apply, examine, classify, illustrate)

Analyzing (infer, estimate, order, separate, subdivide, distinguish, contrast, categorize)

Evaluating (critique, justify, discriminate, support, conclude, judge, verify, assess, argue)

Creating (synthesize, design, formulate, revise, construct, compose, invent, imagine, propose)
Activity 1
DETERMINE ACCEPTABLE EVIDENCES

Stage 2
Key Questions

• How will I know if students have achieved the desired results?
• What evidence will I use to gauge whether students have achieved the desired results?
• What will I accept as appropriate evidence?
• What criteria will I use to evaluate the evidence?
Performance Task vs Other Evidences

Performance Tasks
- Summative
- Performance-based
- Constructed-response
- Photo Album

Other Evidences
- Formative
- Content-based
- Selected-response
- Snapshot (or Selfie)
Types of Evidence

Performance Task(s)
- Case Study
- Essay
- Skill demonstration
- Project paper
- Presentation
- Portfolios
- Research Paper
- Reflective writing
- Open-ended tests

Other Evidences
- Classroom Assessment Techniques (CATs)
- Homework prompts
- Observation
- Discussions
- Quizzes
- Tests (fill-in-blank, true-false, multiple-choice)
I TAUGHT STRIPE HOW TO WHISTLE

I DON'T HEAR HIM WHISTLING

I SAID I TAUGHT HIM. I DIDN'T SAY HE LEARNED IT
Evaluative Criteria

• Consider the desired result and what students must know and do to achieve the desired result.
• Identify the criteria for achievement.
• Determine the type of rubric will you use:
  • Checklist
  • Scoring Guide
  • Descriptive
Checklist Rubric

- Checklist rubrics generally provide criteria, but there is not a scale or any performance indicators

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Scoring Guide Rubric

• Scoring guide rubrics generally provide a scale, but not performance indicators

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Descriptive Rubric

• Learning Outcome
• Criteria for achievement of Learning Outcome (generally listed on the Y-axis)
• Scale
  • generally placed on the X-axis
  • 3-6 point scales
• Performance indicators
  • Descriptions of observable behaviors/performances that indicate each point on the scale for each criterion
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• Assessment Evidence
  • Students will complete, through writing and using critical thinking skills, the note-taking guide using the 11 elements of reasoning for chapters 1 and 4.
  • Students will write a 4-6 page essay on a legal aspects topic in Higher Education.
Consider...

- List the types of evidences you typically use to track student progress.
- What is it about the evidence, that shows you and the students about their growth as learners?
- What will the student’s work on the activity tell you about their level of achievement towards the desired result?
- How will the evidence of their work help guide students’ practice and improve the quality of their work?
- How will the evidence of their work help guide your teaching practices?
- Are there ways to revise or rethink its use to make it more effective?
Activity 2
DESIGN THE LEARNING ACTIVITIES

Stage 3
Key Questions

• What learning experiences, instruction, pedagogical strategies can I use to enable students to achieve the desired results?

• What will need to be taught and how best should I teach it in order for students to learn the desired results?

• What materials or resources are best suited to accomplish the desired results?

• Is the overall design coherent and effective?
New Labels: Professor/Lecturer as...

- Designer
- Supporter
- Facilitator
- Motivational Coach
Type of Strategies

- Group discussions
- Interactive lecturing
- Role playing
- Team-based learning
- Guided note-taking
- Reflection
- Studios/Labs
- Flipped Classroom
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• **Instructional activities**
  • Read Chapter 1 and Chapter 4
  • Watch the week two video
  • Post a response to the Discussion Board question posed by the instructor.
  • Post two additional responses to your classmates in the discussion board.
Activity 3
We’d love to hear from you!

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8:00 AM - 4:30 PM, Monday – Friday, 336 T. Boyd Hall, 225-578-4935 or www.lsu.edu/oie

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