Student Centered Learning: Building & Delivering Competency Based Education Programs

By: Rhonda D Blackburn, PhD
Hello! My Name Is…

- Introductions!
- What is competency based education?
- How do you plan for it?
- Where do you find them?
- What does an initiative look like?
Skills

- Turn to your neighbor, introduce yourself and ask:

  What skill are you considered a master?
Break down that skill

- What ways can you demonstrate that you know that skill?
- How can I evaluate you on it?
- What would you do if you wanted to teach your neighbor that skill?
- How do you know that they mastered it?
Now...

- From what you talked about, what is a behavior and what is a competency?
Metacognitive Model

- Competent
- Incompetent
- Conscious
- Unconscious

Study Plan
- Sprinting
- Voyaging

Mastery
What is Outcomes Based vs Competency Based Education

Outcomes Based
- Content
- then
- Assessment

Adaptive Learning, Skills, Occupational Outlook

Competency Based
- Assessment
- then
- Content
Key Features of Competency Based Education

- Mastery of learning
- Granular learning units
- Mapping to competencies
- Assessments
- Accelerate learning pathways
- Reallocation of faculty time
- Decrease cost
- Admit more qualified students
- Personalized learning
- Grow enrollment
Building on the Learning Platform

- Competency Structure
- Flexible Design
- Personalized Path
- Opportunities for Collaboration
- Study / Adaptive Planner
- Competency / Grade Achievement
- Alerts and Notifications
- Non-Term Enrollment
- Integrated Dashboard
Before You Begin: Plan!

High-level competencies based on occupational skills and knowledge drill-down to measurable course-level learning objectives

<table>
<thead>
<tr>
<th>Domain/Specialty Framework</th>
<th>Linked to program goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency Maps</td>
<td>Articulate the skills and knowledge required for mastery of a domain</td>
</tr>
<tr>
<td></td>
<td>Identify the relationships (predecessor/successor) across competencies</td>
</tr>
<tr>
<td>Objectives</td>
<td>Drill-down from competencies</td>
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<td></td>
<td>Used to frame assessment and study materials</td>
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</table>
Building a Competency Map

Build a competency map and align course level competencies to occupational standards.
Where do you find competencies?

- http://www.onetonline.com
- http://www.hrsg.ca
- http://www.hr.wa.gov
- http://www.workforce.co
- Talk to employers in your area.
Example of a Competency Structure
**GROWTH-L2-LO1** Describes physical, cognitive, social, and emotional stages of child and youth development.

- **Assignment**
- **Quiz**
- **Discussion Question**

Tie one learning object / competency to many assessments.

Tie one assessment to many learning objectives / competencies.

- **Assignment**

**GROWTH-L2-LO1** Describes physical, cognitive, social, and emotional stages of child and youth development.

**GROWTH-L2-LO2** Recognizes individual differences in personalities and development and the ways in which those differences impact individual needs and participation in the program.

**GROWTH-L2-LO3** Adapts experiences to participants’ individual and group needs, including different learning styles.
### Criteria of a Rubric

<table>
<thead>
<tr>
<th>Description</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety and Equipment</td>
<td>9.0</td>
</tr>
<tr>
<td>LO 1.1a Demonstrate the ability to select the right bicycle depending on circumstance and personality.</td>
<td>3.0</td>
</tr>
<tr>
<td>LO 1.1b Analyze and demonstrate how to properly tune a bicycle depending on make and model.</td>
<td>3.0</td>
</tr>
<tr>
<td>LO 1.1c Demonstrate the proper use of safety equipment.</td>
<td>3.0</td>
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### Competency Alignment

#### Measurable Competencies

- **LO 1.1a**: Demonstrate the ability to select the right bicycle depending on circumstance and personality. 1 question required out of 4 **
- **LO 1.1b**: Analyze and demonstrate how to properly tune a bicycle depending on make and model. 1 question required out of 6 **
- **LO 1.1c**: Demonstrate the proper use of safety equipment. 1 question required out of 4 **

### Resources

Tied to Questions
Let’s think about your initiative!

- What are the things you need to think about?
Direct Assessment vs Credit Equivalency

- Direct Assessment
  - Assessment drives the content (if needed)
  - “Testing out”
  - Competencies (bundled or independent)

- Credit Equivalency
  - Tied to credit hour
  - Assessment may drive path
  - Content may be more central
  - Competencies bundled into course
  - Can “Test out”
  - Cohort model
Design Principles

- Self-paced
  - Flexibility – time bound
  - Flexibility – content or assessment driven
  - Flexibility – open at once or restricted
  - Mastery completion

- Traditional-paced
  - Time bound
  - Content driven
  - Flexibility – open at once or restricted
  - Grade and seat-time completion
Independent vs Cohort

Independent
- Open course materials and Study Planner
  - Work at their speed
  - Work in their order
- Pre-assessment
  - Work with only the competencies they need
- Receive feedback and support when needed
  - Students may not be in the same module/competency

Cohort
- Content released by date, topic, completion
- Students work in same order and mostly in same pace
- Receive feedback and support throughout course
Competency Structure

- Create multiple sets

- Flexible tree structure
  - Competency – Sub-competency – Learning Objective
  - Competency – Learning Objective
  - Program Outcome – Competency – Sub-competency – Learning Objective
  - Program Outcome – Competency – Sub-competency

- Link Academic and Occupational Competencies
Competency vs Traditional Course Definitions

- **Assessments**
  - Quizzes – knowledge checks, practice quizzes
    - Questions tied to competencies
  - Assignments – authentic assessments, activities, practice, case studies
    - Rubrics tied to competencies

- **Resources**
  - Content, resource, materials, remedial, supplementary
    - Tied to competencies
Assessments Are Critical

- Authoring robust assessments
- Aligning to competencies
- Aligning to resources
- Tied to time?
### Mastery Learning Cycle

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<tr>
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<th>Cycle 1</th>
<th>Additional Cycles</th>
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<tbody>
<tr>
<td>Evaluate</td>
<td>Pre-Assessment and Determine Mastery</td>
<td>Re-evaluate mastery</td>
</tr>
<tr>
<td>Plan</td>
<td>Study Planner</td>
<td>Evaluate Study Planner</td>
</tr>
<tr>
<td>Learn</td>
<td>Content Resources, Activities, Flash Cards</td>
<td>Same or Additional Resources</td>
</tr>
<tr>
<td>Practice</td>
<td>Practice Quizzes, Knowledge Checks, Activities</td>
<td>Same or Additional Practices Quizzes, Knowledge Checks, Activities</td>
</tr>
<tr>
<td>Perform</td>
<td>Summative Assessment</td>
<td>Re-take or Additional Summative Assessment</td>
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How to track and manage student achievement through the competency structure.
Example of an Implementation

- Institution
  - Program
    - Pilot 2 courses within program
    - Build rest of program
  - Logistics
    - Accreditation
    - Financial Aid
    - Competency structure
    - Develop content and structure
- Lessons Learned
  - Pace of students
  - Pace of development
  - Motivation
Characteristics of CBE Offerings

- Learning units structured on the basis of competencies
- Mentors and faculty play a facilitative role – changing roles?
- Formative assessments to identify prior and continual mastery
- Learners allowed to “test out” of competencies
- Competencies may be tested as they are taught, not solely in a summative manner
- Mastery of a competency or its absence determines the path
- Multiple opportunities to practice
- Assessments that involve application and creation of knowledge (e.g., e-portfolios) are encouraged
- Grade “F” (Failed) is never an option
- Ability to create unique grading systems
- Using data to improve on curriculum
Personalized, Adaptive Learning Plans

- Pre-author learning paths
  - Conditional Release

- Curate and recommend learning pathways and resources through data based on
  - Performance
  - Achievement
  - Longitudinal
  - Behavioral
  - Key Words

- Study Planner
  - Building different study plans
Individualized Learning Path

Child & Youth Development Professional Program
3 Competencies

Amy Hill
Pre-Assessment – Met 3/3

Linda Odea
Pre-Assessment – Met 2/3

John Black
Pre-Assessment – Met 0/3

Already achieved all competencies – straight to Post-Assessment

Achieves Competency 2

Competency 1
Competency 2
Competency 3

Conditional Release

Post-Assessment
Post-Assessment
Post-Assessment

Program Mastery of all 3 Competencies
Behaviors

What behaviors do you look at to determine mastery or path?

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<th>Speed of completion</th>
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<tr>
<td>What content is accessed</td>
<td>Showing mastery before accessing</td>
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<td>How often is content accessed</td>
<td>Checking knowledge</td>
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<tr>
<td>Interacting with content</td>
<td>Check of mastery</td>
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- Accessing content
- What content is accessed
- How often is content accessed
- Interacting with content
- Collaborating about content
- Speed of completion
- Showing mastery before accessing
- Checking knowledge
- Check of mastery
How can a system help?

- Aid in a student's learning, motivation, and speed
- Build a student profile
- Can build to any pedagogy
Aid in student learning

- Study planner
- Recommendations
- Clear path
- Feedback mechanism
- Assessment profile
- Content when they need it
- Collaborative opportunities
Aid in student motivation

- Faculty / student support
- Badges
- PLA
- Collaboration
Aid in student speed

- Course design
- User experience
- “Testing out”
- Encouragement
- Collaboration
- Content curation
- Understandable pathways
Intersection of competencies and behaviors

Provides evidence of student learning and achievement!
Thank you!

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