Principles for Designing a Curriculum to Develop and Assure Student Learning Outcomes

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Hunters & Gatherers: Strategies for Curriculum Mapping and Data Collection for Assurance of Learning

assuringlearning.com
Curriculum design for assuring learning in business education - leading the way

2013 OLT National Teaching Fellow

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University of Wollongong
New South Wales
Why are YOU here?

• Design assessment to assure
• Apply concepts on quality curriculum design
• Use info – program design
• Knowledge about improving current curriculum
• Make use of evidence about student learning – to improve
• QA/QE
What do we mean by Assurance of Learning (AoL)?
What do we mean by Assurance of Learning (AoL)?
Why do we do it?

• Assurance of Learning Standards evaluate how well the course accomplishes the educational aims at the core of its activities.

• Measures of learning can assure external constituents such as potential students, trustees, public officials, supporters, and accreditors, that the organization meets its goals (*Qualifications Framework*).

• Another important function for measures of learning is to assist the school and faculty members to improve courses and subjects.
Pedagogical Advantages of Process

• **Progression** – students will be introduced, and further developed in the graduate attributes before assessed for assurance

• **Clarity** – students will be able to see the links and development of graduate attributes through clearly stated learning objectives, and through the interactive use of assessment rubrics

• **Control** – due to progressive nature with explicit objectives students can take control of their learning through regular tutor feedback and self assessment
How do we assure learning?

- Write PILOS
- Map PILOS
- Collect Evidence
- Use Evidence
- Benchmark
How do we assure learning?

- Write PILOS
- Collect Evidence
- Use Evidence
- Benchmark
- Design Curriculum
- Engage Students
- Facilitate Learning
- Assess Learning
- Review Practice
- Design Curriculum
- Facilitate Learning
- Assess Learning
- Review Practice
- Use Evidence
- Benchmark
- Write PILOS
The problem

- Graduate attributes/course learning outcomes are an orienting statement of education outcomes used to inform curriculum design and the provision of learning experiences at a university (Barrie, Hughes & Smith, 2009).
- While all Australian universities make such claims in policy and curriculum documentation, the **effective integration** of these into courses and therefore virtual or physical classroom has been somewhat intangible (Taylor et al., 2009), resulting in students not fully engaging with the expectations of degree programs.
What academics say . . .

• “But I am not an English teacher . . .”

• The ALTC funded *B Factor* Project (2009) found that academic staff beliefs about graduate attributes/course learning outcomes and their low levels of confidence and willingness to teach and assess them must be acknowledged if universities are to progress in ensuring that graduates are equipped for the world of work.

The magic words . . .

- Holistic
- Integrated
- Collaborative
- Maintainable
The magic words . . .

• **Holistic** - a whole of program approach was important to ensure students' progress in a way that ensures graduate attributes can be introduced and then further developed before they are asked to demonstrate the standards expected in each graduate attribute on completion of their award.

• **Integrated** - in order for graduate attributes to be valued by academic teaching staff and students they had to be embedded into the curriculum, and linked to assessment.

• **Collaborative** - the process had to be developed in conjunction with the academic teaching staff in an inclusive rather than top down approach, so that staff engaged with, and recognized the importance of the process.

• **Maintainable** - any process that is implemented has to be sustainable to ensure it is not reliant on individuals or resources.
Which PILOS do you embed into your teaching?

- Analytical skills
- Teamwork
- Theory application
- Communication – oral, written
- Problem solving/ critical thinking
- Evaluation
- Ethical reasoning
- International perspectives
- Social responsibility
- Leadership
What are the main challenges?

• Teaching PILOS

• Assessing PILOS

• Providing PILOS Feedback
Principles for Design

- **Holistic:**
  - whole of program approach;
  - setting expectations;
  - creating rubrics;
  - calibrating understanding;
  - engaging students (whole of course)

- **Integrated:**
  - authentic, scaffolded assessment;
  - teaching activities;
    - embedded;
    - modeling & exemplars;
  - feedforward

- **Collaborative:**
  - vision
  - executive support
  - guiding team
  - training
  - reward and recognise
  - empowerment
  - communicate for buy-in
Whole of Program Approach

• The proposed whole of program approach model three parts to it:
  – Engaging students
  – Facilitating learning activities
  – Providing feedback/forward which then feeds into the engaging students for the next progressive task.

- Modelling
- Exemplars
- Discussion
- Practice
- Feedfoward

- Authentic
- Relevant
- Increasing Complexity

- Expert
- Peer
- Comparison
- Self-assessment

Engaging Students with Graduate Attribute Criteria & Standards

Learning Activity

Feedback/Feedforward
Teaching - Design

• Start at the end to identify the desired outcomes in a clear, authentic and contextual way
Setting Appropriate Performance Statements

• Clear, explicit criteria or objectives require:
  – clear indication of what the student needs to perform, for example, a critical analysis; an appraisal; a discussion
  – level that needs to be achieved in order to meet the standards of the learning task, for example, thorough analysis; comprehensive discussion; detailed examination.

• Making explicit the performance statements for both the task in hand as well as for the completion of the degree.
Streamlined Approach

GLD QF (External)

University GA

PILO
Streamlined Approach

PILO

CILO

Assessment
Streamlined Approach
Streamlined Approach

PILO + CILO → Assessment
1,2,3 - Writing Learning Outcomes

1. Begin your list of 3-5 learning objectives with a one-time lead-in statement like –

“Upon successfully completing this course, students will be able to – “

“After completing this lecture, you will be able to – “

“This tutorial will prepare you to be able to do the following:”

IT IS WHAT THE STUDENT WILL BE ABLE TO DO NOT WHAT YOU ARE GOING TO DO
2. Then, for each learning outcome that follows, start with an action verb that reflects the appropriate behaviour students should be able to demonstrate, e.g.,
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UNDERSTAND
Knowledge verbs - what students will need to know (cognitive behaviors).
Attitude verbs - describe what students should care about (affective behaviours).
Skill verbs - describe what students should be able to do (psychomotor behaviours).
3. After each action verb, include a qualifier to restrict the conditions and terms under which the objectives are met.

How often? How well? How many? How much? How will we know it has reached the required standard? What is given/not given? What are the variables? for example,

• to address unpredictable and complex problems
• with reference to the professional codes of conduct
• in diverse contexts
• with responsibility and accountability for own learning.
NB

• It should be noted that objectives for a unit of study/program should give a sense of the whole learning experience/expectations:
  – Therefore objectives should not be written in isolation but should show how they build/relate to each other
  – Objectives that are too focused may need a lead in statement – for example “In this subject the students will gain a deep understanding of X, this will be demonstrated by
    • Evaluating ..... 
    • Appraising ...... 
    • Applying .....
ACTIVITY

• Students will be able to . . .
  – Describe the impact of unethical behavior in the workplace;
  – Judge ethically in a business dilemma and conflict
  – Apply ethical standards of HKICPA in tax and financial reporting and auditing practice
Reading each learning objective - Yes/No

- Does it speak directly to the learner? (refer to what student might achieve, not what teacher will do)
- Is it measurable?
- Does it target one specific aspect of expected performance?
- Does it use an effective action verb?
- Does it match instructional activities and assessments?
- Is it written in terms of observable behavioural outcomes?
What does a graduate look like?

The Six Thinking Hats (de Bastardised Bono)

The White Hat
What do you think a graduate should look like.

The Red Hat
What do students want to achieve.

The Black Hat
What does industry/the profession want from graduates.

The Yellow Hat
What do regulatory bodies want your course to achieve.

The Green Hat
Who are you marketing the course at.

The Blue Hat
What does your institution want a graduate to look like?

Does the course achieve all this?
Why are YOU here?

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• QA/QE
Teaching - Design

• Start at the end to identify the desired outcomes in a clear, authentic and contextual way

• Whole of program design to facilitate progression of GAs;
<table>
<thead>
<tr>
<th>CLO</th>
<th>BX2051</th>
<th>BX2072</th>
<th>BX2061</th>
<th>BX2174</th>
<th>BX3051</th>
<th>BX3053</th>
<th>BX3054</th>
<th>BX3152</th>
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<td>Developed</td>
<td>Developed</td>
<td>Included</td>
<td>Assured</td>
<td>Developed</td>
<td>Assured</td>
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<tr>
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<tr>
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<td>S3</td>
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</table>
Measuring PILOs - Rubrics

• In order to ensure standardisation of assessing PILOs across courses a series of assessment rubrics have been developed to measure the PILOs.

• A rubric identifies the criteria that are to be used to evaluate competence in each PILO (along the left hand side) with a description of the expected level to achieve each standard (across the top).
# Assessment Task

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>STANDARD</th>
<th>BELOW EXPECTATIONS</th>
<th>MEETS EXPECTATIONS</th>
<th>EXCEEDS EXPECTATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstration of inter-relationships between differing business related</td>
<td>Z</td>
<td>Limited demonstration of integration between disciplines.</td>
<td>Sound demonstration of integration between disciplines.</td>
<td>Comprehensive demonstration of integration between disciplines.</td>
</tr>
<tr>
<td>disciplines</td>
<td></td>
<td>e.g. identification or description only.</td>
<td>e.g. examination, explanation, interpretation, application or analysis of interrelationships.</td>
<td>e.g. detailed examination, insightful analysis or interpretation, synthesis, extrapolation, evaluation and/or recommendations.</td>
</tr>
<tr>
<td>Application of critical understandings of theoretical concepts underpinning</td>
<td></td>
<td>No / little application of critical understandings demonstrated.</td>
<td>Application of critical understandings demonstrated.</td>
<td>Convincing application of critical understandings demonstrated.</td>
</tr>
<tr>
<td>perspectives in industry based scenarios.</td>
<td></td>
<td>e.g. Only one perspective drawn on to demonstrate concepts.</td>
<td>e.g. 2-3 perspectives drawn on to demonstrate concepts.</td>
<td>e.g. Relevant and innovative application drawn from multiple / global perspectives.</td>
</tr>
</tbody>
</table>
## Whole of Course

<table>
<thead>
<tr>
<th><strong>K1 Demonstrate essential knowledge necessary for a career in business related professions</strong></th>
<th>Year 1: Foundation</th>
<th>Year 2: Intermediate</th>
<th>Year 3: Competent</th>
<th>Proficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appreciation of essential concepts necessary for a career in business and related professions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>Demonstrates some critical analysis/evaluation of essential concepts. e.g. Reference to concepts through definition or description only.</td>
<td>Demonstrates sound critical analysis / evaluation of essential concepts. e.g. analysis demonstrated through explanation, discussion, investigation, application, interpretation of concepts.</td>
<td>Demonstrates thoughtful critical analysis and evaluation of essential concepts. e.g. involvement of reflection, judgment, problem-solving, synthesis, assessment, prediction.</td>
<td></td>
</tr>
<tr>
<td>Critical analysis and evaluation of essential concepts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>Demonstrates some consideration of the economic, social and cultural aspects of international business context.</td>
<td>Demonstrates sound consideration of international economic, social and cultural differences between cultures and how these differences impact ways that business operates.</td>
<td>Demonstrates high level understanding of international economic, social and cultural environmental issues in an international business situation. e.g. accurate explanation of relevant actions and prediction of responses.</td>
<td></td>
</tr>
<tr>
<td>Consideration of the economic, social and cultural environments within which international businesses operate.</td>
<td></td>
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</table>
## K1 Demonstrate essential knowledge necessary for a career in business related professions

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<th>Proficient</th>
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</table>

| B | Critical analysis and evaluation of essential concepts.                                       | Demonstrates some critical analysis/evaluation of essential concepts. e.g. Reference to concepts through definition or description only. | Demonstrates sound critical analysis / evaluation of essential concepts. e.g. analysis demonstrated through explanation, discussion, investigation, application, interpretation of concepts. | Demonstrates thoughtful critical analysis and evaluation of essential concepts. e.g. involvement of reflection, judgment, problem-solving, synthesis, assessment, prediction. |                     |

<p>| C | Consideration of the economic, social and cultural environments within which international businesses operate. | Demonstrates some consideration of the economic, social and cultural aspects of international business context. | Demonstrates sound consideration of international economic, social and cultural differences between cultures and how these differences impact ways that business operates. | Demonstrates high level understanding of international economic, social and cultural environmental issues in an international business situation. e.g. accurate explanation of relevant actions and prediction of responses. |                     |</p>
<table>
<thead>
<tr>
<th>SLO</th>
<th>Below F</th>
<th>Meets P</th>
<th>Meets C</th>
<th>Exceeds D</th>
<th>Exceeds HD</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>Describes essential concepts of business</td>
<td>Explains essential concepts of business, demonstrating application of concepts.</td>
<td>Interprets essential concepts of business hypothesising, and assessing aspects of the concepts.</td>
<td></td>
<td></td>
</tr>
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<td>Demonstrates some consideration of the economic, social and cultural aspects of international business context.</td>
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Calibration

Calibrating and grading to the standard

Pre-F2F

Assess → Enter → Compare

Consensus → Agree

F2F

Post-F2F

Apply
- to assignment if student
- to marking if faculty
Engagement through Social Constructivism

• Students often do not understand what a higher standard piece of work looks like and do not understand what is being asked of them (O’Donovan et al., 2008).

• An indispensable condition for improvement in student learning is that ‘the student comes to hold a concept of quality roughly similar to that held by the teacher’ (Sadler, 1989, p. 121).

• Therefore it is vital that students are engaged in order to achieve a shared understanding of performance statements with teachers.
The Social Constructivist Process Model

- Assessment Design & Development of Explicit Criteria
- Tutor Discussion of Criteria
- Explicit Criteria
- Active Engagement with Feedback
- Active Engagement with Criteria
- Complete & Submit Work
- Assessment Guidance to Staff
- Marking & Moderation
- Review

Rust et al, 2005
Teaching - Facilitation

- Allow practice (formative/with reflection)
- Provide a risk free environment (low weighting)
- Make GAs explicit, linking to industry, assessments, outcomes, professional body requirements
- Emphasise the value of GAs to students making the connection to practice
ACTIVITY
Assessing

- Clear articulation of criteria/standard/weightings in order to foster a shared understanding
- Design should start with the desired outcomes
- Design should draw on tasks that provide authentic evidence of these outcomes
- Need to build in a reflective process to generate information about how the task worked to generate evidence of learning
- Assessment should be embedded in the content of the units
- Should reflect a whole of program view, including scaffolding of tasks.
ACTIVITY
Whole of Program Marking

Hi achiever in 1\textsuperscript{st} yr subject

• 1st year student achieved at 2nd year level. This version allows markers to grade using a 100% scale but still reveal to the student that their work is really at a 2nd year level. Obviously their mark on this criteria would be constrained to 100% for this actual task.

Hi achiever in 2\textsuperscript{nd} yr subject

• 2nd year student achieved at 3rd year level. This version allows markers to grade using a 100% scale but still reveal to the student that their work is really at a 3rd year level. Obviously their mark on this criteria would be constrained to 100% for this actual task.

Poor achiever in 3\textsuperscript{rd} yr subject

• 3rd year student achieved at 1st year level. This version allows markers to grade using a 100% scale but still reveal to the student that their work is really at a 1st year level. Obviously their mark on this criteria would be constrained to 0% for this actual task.
What have we achieved?

• Overview of teaching, assessing and providing feedback on GAs

• A worked example of how to implement these ideas for ethical awareness

• A demonstration of how GA skills can be developed in a context – critical thinking.
Why are YOU here?

- Design assessment to assure
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- Make use of evidence about student learning – to improve
- QA/QE
Resources

• Website:
  – [Teaching & Assessmen](http://assuringlearning.com/)

"WE OFFER TWO MAJORS, HUNTING AND GATHERING."
References