Designing (effective) Curricula 101

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Effective curriculum design depends on:

Step 1: ➔Your knowledge and understanding of:

Step 1: Learning theory (especially "Constructivism")

Step 2: Curriculum design principles (esp. "Alignment")

(Hence "Constructive Alignment" as a concept)

Step 3: Awareness of AQF levels

And …

And … (not possible to cover today):

Step 4: è Your ability to integrate the three steps above in practice Developing your skills takes time and practice.

Step 5: è Learning from mistakes (via evaluation and scholarship)

Step 6: è Your use of resources to further your learning and skill

My approach to teaching you:
Theory ➔ principles ➔ practice

I'll do the "theory to principles" bit – you do the "principles to practice" bit.

1. A simple model for learning

   – ➔ *Principles* for good practice in curriculum design

2. Relational curriculum design model

   – ➔ *Principles* for good practice in curriculum design

- *These principles can guide your practice.*

- *Try to think about <u>how</u> as we proceed because … well, that's the point of learning this stuff.* ☺

1. Simple Learning Theory

- Please be aware that what follows is deliberately oversimplified. It's meant to help to _illustrate_ some points about learning - and the implications for assessment.

- But … it's a powerful and useful model that will take you a long way toward best practice.
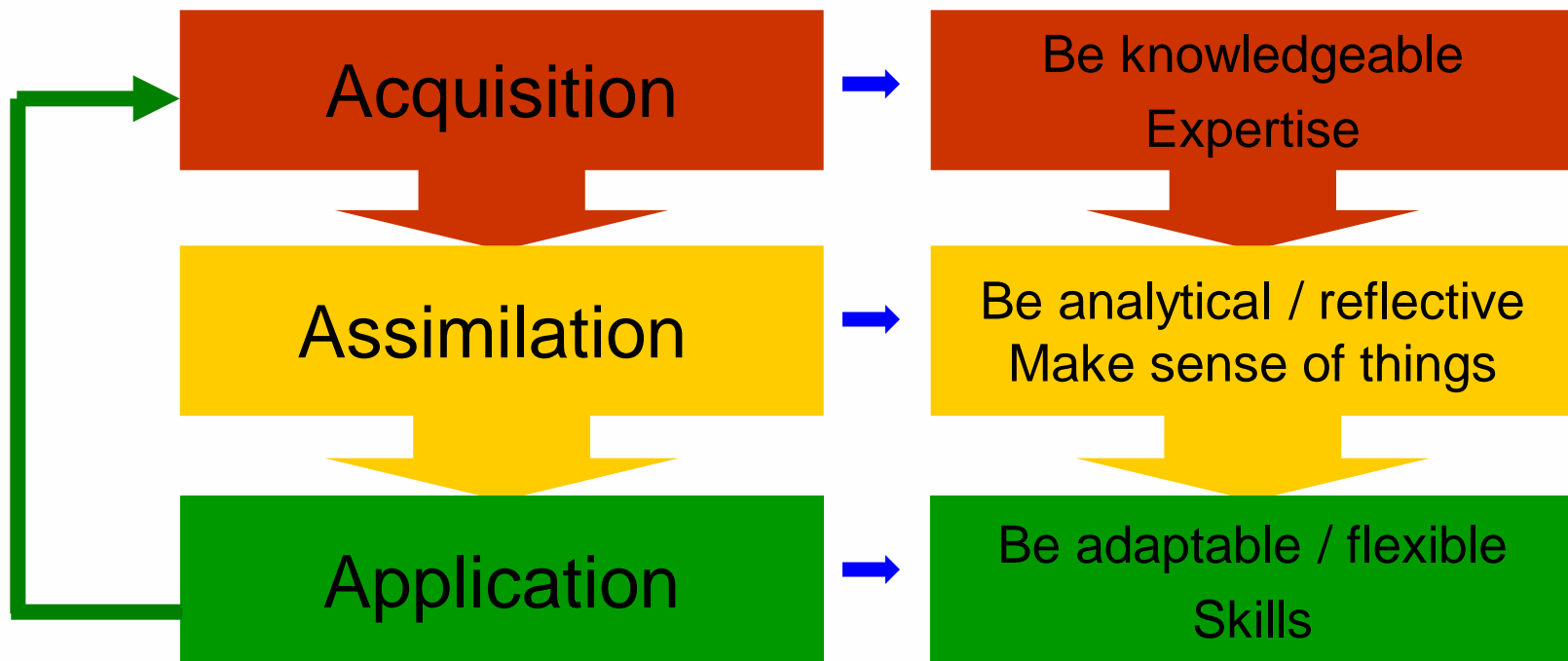
Constructive alignment?

- Who's heard of this?

- First I'm going to go over the theory behind it.

- Let's start with the first half: "constructivism".

- To begin, ask yourself: "How do people learn?"

Traffic Light Learning theory: A 3 stage learning model

Learning

Outcomes

Acquisition	Be knowledgeable Expertise
Assimilation	Be analytical / reflective Make sense of things
Application	Be adaptable / flexible Skills

Three powerful principles for effective curriculum design from this model.

1. There are different <u>kinds of learning</u> and therefore different <u>kinds of</u> teaching that you use.

   – Don't attempt to support a process of "assimilation" in the same way you would support a process of "acquisition" or "application". Use teaching methods that are appropriate.

   – This especially applies to the way you use *assessment*. You should not use assessment methods to assess learning outcomes they are not suited to (if you do, you'll end up assessing something other than what you *want* to assess, or *say* you are assessing, and you'll also encourage the *kind* of learning that is *not* what you want.)

   – Be sure the assessment methods you use are appropriate to the kind of learning you are assessing.

Example: Bicycle riding

- <u>A quiz</u> to check if a person knows about the different components of a bicycle

- <u>A short answer paper</u> to check if a person understands the principle of centrifugal force as a component of achieving balance on a bicycle when it is moving.

- <u>A practical test</u> (involving a person actually riding a bicycle) to check if their knowledge and understanding has linked to development of the skill of bicycle riding.

NB: The quiz and short answer paper cannot test if a person can actually ride a bicycle!

Three powerful principles for effective curriculum design from this model.

2. There is a **constructive** sequence to the way most people learn most of the time – so use it.

 – Constructivism is the idea that learning proceeds in a progressively such that learning outcomes are built or developed in a constructive sequence. A person cannot run before they can walk nor walk before they can crawl.

 – There is no shame in crawling first, so, start simple and build from there towards more complex things. Build on what students already know.

 – Match the *kinds* of assessment/learning activities to the kinds of cognitions/learning behaviours and outcomes you desire and match the constructive *sequence* of the learning. (It's not just "what" you ask students to do, it is the order you ask them to do it in that is important.)

Three powerful principles for effective curriculum design from this model.

3. What is <u>learned later is (should be) more valuable</u> than what is learned early – so design your courses and units in ways that recognise this. In particular, weight your assessments accordingly.

  – Be sure that the marks awarded through the assessment match the relative importance of the learning you assess: Don't award lots of marks for unimportant learning outcomes. (Watch for this one! It's a common error because it *quicker, easier, and cheaper* to assess low level learning outcomes.)

  – <u>*Do*</u> assess difficult and important learning outcomes, but don't then allocate few marks to them.

  – (Note, <u>some</u> highly structured modular courses may achieve learning outcomes of equal value in each successive module.)

Limitations of this model …

1. There′s no time frame on each iteration
   – An iteration may take an instant, a lecture, a semester, a year, a whole program or a lifetime. Learning is happening across all these time-frames.

Limitations of this model …

2. There's no account for learning by insight or intuition.

– The ″Eureka!″ moments, or ″It came to me in a dream″.

– For example ………

Eureka!

Hmm, … yes, let me see now … a *body* … immersed in a *fluid* … is buoyed up by a *force* … equal to the *mass* of the fluid displaced!

Of course!

This might have happened, but, are you going to design your course/ unit on the presumption that your students will "get it" it – in the bath? I don't think so!
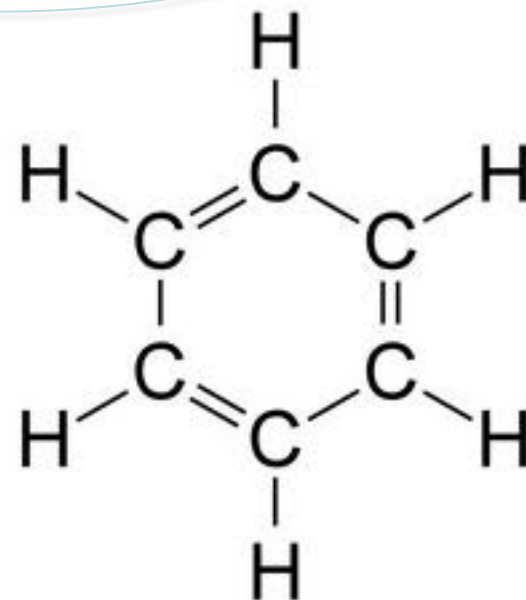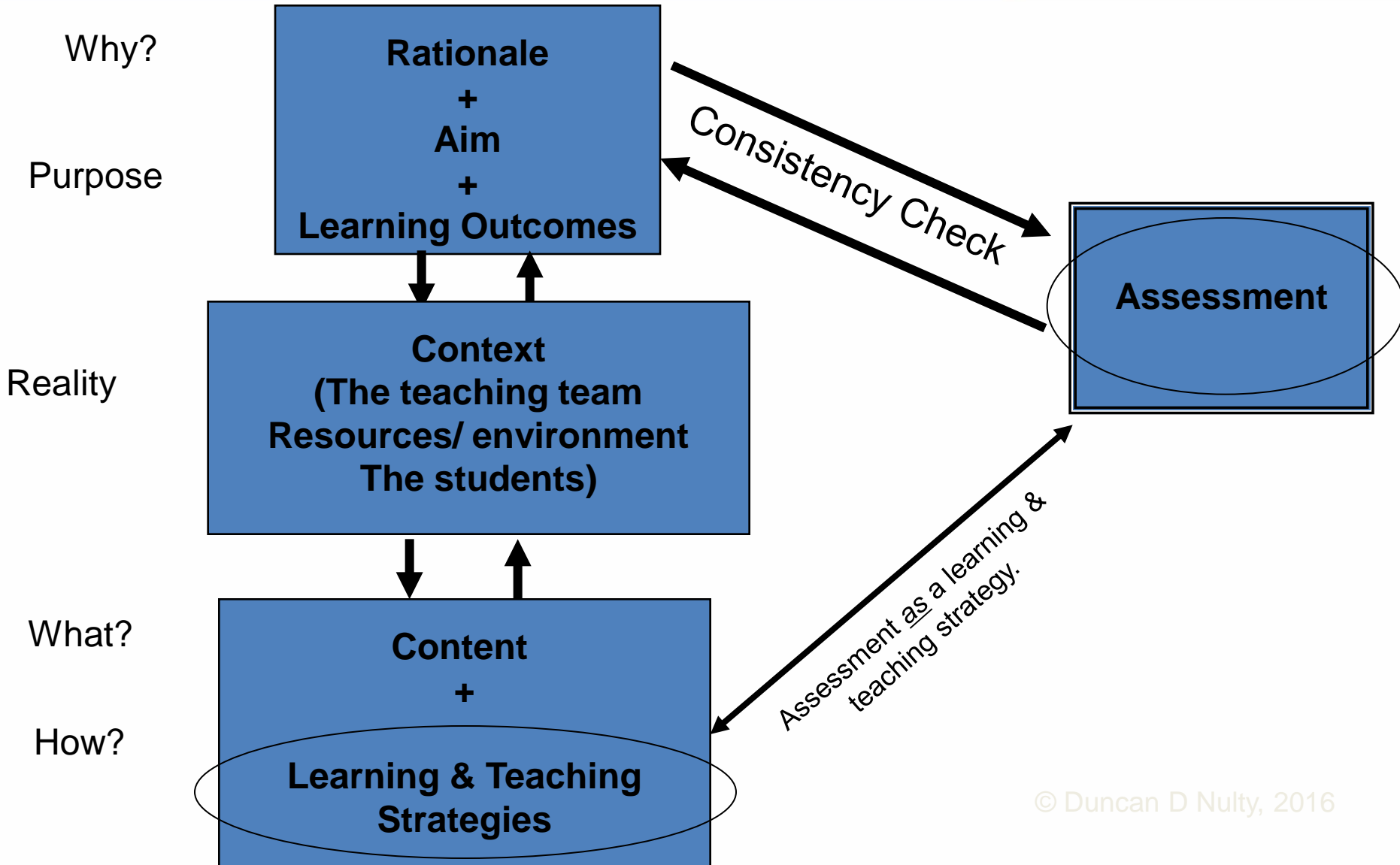
Limitations of this model …

3. The model implies linearity about learning
   - There may often (perhaps usually) be a linear sequence to learning, but, not all learning happens that way for all people all the time.
4. Students do not arrive as empty vessels, or blank slates.
   - The acquisition phase needs to take account of what students already know, and their motives for learning more. It needs to treat them as active agents, not passive receptacles.
5. There are several different ways to "understand" something.
   - "making sense" of something is often a better way to conceptualise learning than "understanding" because its less absolute.
6. The model is silent on disciplinary differences.
   - How does learning in health compare with engineering, or arts?

Progress Summary

- In this section, we've looked at how learning theory informs our design of _constructive_ units/ courses.

- Now let's think about how to design our courses and units <u>effectively</u> by linking the concept of constructivism with "alignment" – especially utilising assessment to achieve "<u>constructive</u> _<u>alignment</u>_".

Relational Curriculum Design
(Course level, unit level, module level …)

Why?

Purpose

Reality

What?

How?

**Rationale
+
Aim
+
Learning Outcomes**

**Context
(The teaching team
Resources/ environment
The students)**

**Content
+**

**Learning & Teaching
Strategies**

Consistency Check

Assessment

Assessment *as* a learning &
teaching strategy.

The primary principle

- It all starts with a rationale.

- What <u>reasons</u> can you give to students to explain <u>why</u> they will <u>need</u> what they will learn in this unit, first now, and then when they graduate? (If *you* can't do this, they certainly can't! – and they will be less engaged in their learning as a result.)

- Write a short, real-world, justification for the unit. Try to include words like "need", "require" or "necessary" in it.

- Remember students are active, purposeful agents of their own lives: you need them to read the rationale and have them saying "Sounds useful! I've got to do that!"

Example rationale:

- **OTHY104 Introduction to Evidence Based Practice & Measurement in Occupational Therapy**

- Occupational therapists work to effect change in individuals, community groups or systems, <u>therefore</u> methods of measuring this change are necessary.

- This one sentence really provides the justification/ rationale for the unit. It illustrates how real world needs provide the basis for designing a learning experience that relates directly to those needs. This engages and motivates students, and provides a strong sense of purpose. It answers the question "why would I study this unit?" or "Why do I need it?" or "What's in it for me?"

Example rationale:

- **OTHY306 Clinical Counselling and Group Work:**

- Counselling and group facilitation skills are essential core competencies [needed by] Occupational Therapists. [Therefore, in this unit, you will ...] participate in individual counselling learning activities to develop foundation counselling skills. In the group work activities, [you will] develop competencies in the design, facilitation and evaluation of therapeutic groups.

Example rationale:

- In order for business to operate successfully in today's global market place, its practitioners will **need** to become knowledgeable about aspects of the international business environment.

Example rationale

- Students wishing to be employed in the hospitality industry in Japan will **need** to have a thorough understanding of and fluency in appropriate terms of address in Japanese.

Example rationale

- The effective implementation of programs and policies in early childhood education **requires** teachers to have sound knowledge of current theory and research in early childhood development.
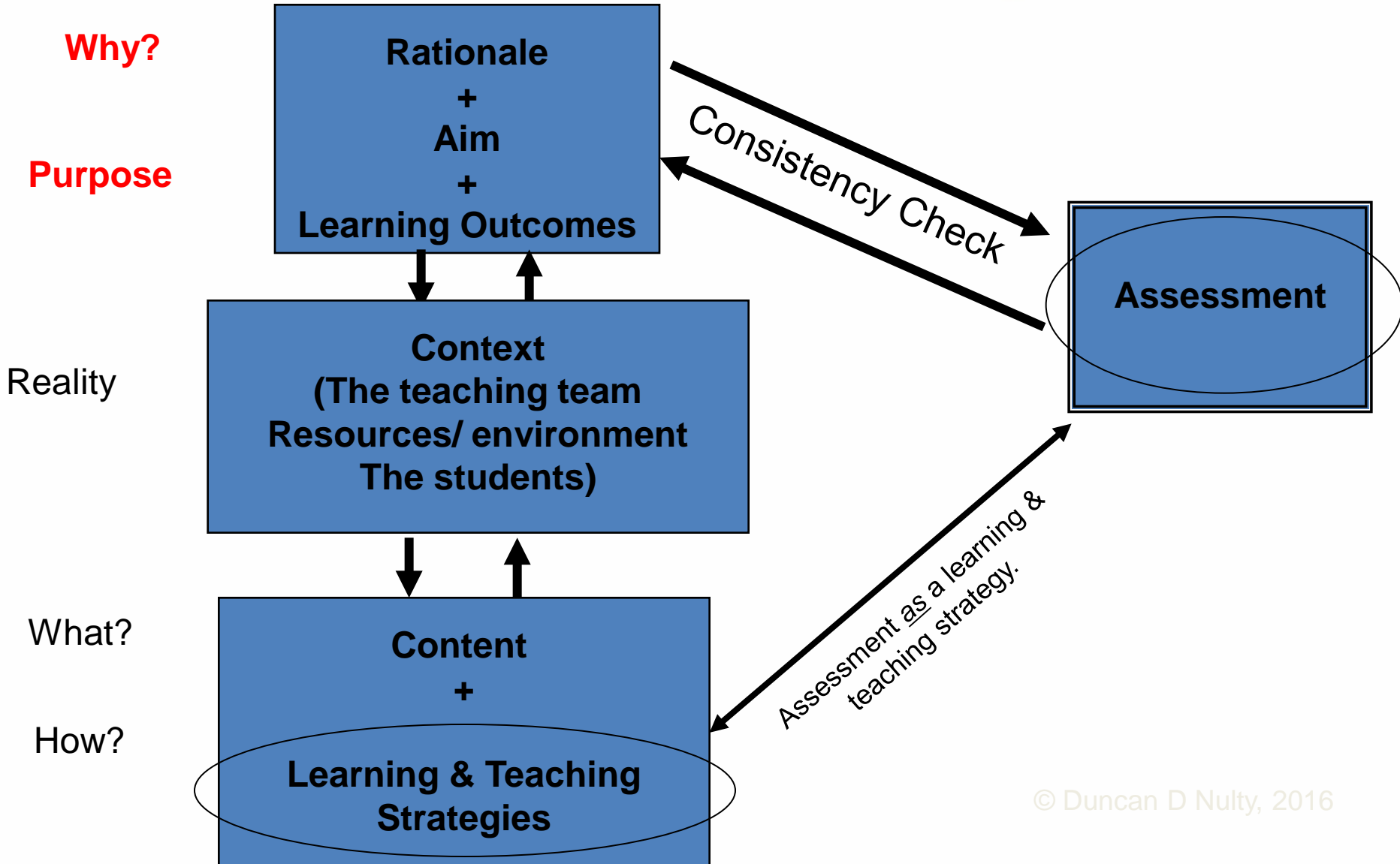
5 key curriculum design principles

1. **Alignment / interdependence**
   - all elements are in alignment, they are all inter-dependent, they form a _system,_ together they send the same message

2. **Strategy**
   - teaching (and learning) is deliberate and purposeful, therefore it is strategic and directed – and that means, it is _aligned with the rationale._

3. **What′s driving the learning? … the assessment!**
   - Should be an <u>integral</u> part of your teaching strategy (it _is_ a teaching method).
   - Should be seamlessly integrated with the rationale+ aim + learning outcomes.

4. **Each assessment item:**
   - Should map to specific learning outcomes by actually involving cognitions/behaviours that relate to achieving the learning outcomes, and therefore …
   - Should validly assess the desired learning outcomes.
   - Each assessment item should have a clear _purpose_.

5. **Validity check the assessment**
   - Did you assess something not specified in the learning outcomes? Why?
   - Did the learning outcomes specify something you did not assess? Why?
   - Do the assessments measure what they purport to? (Ill return to this point)

All making sense? Or …

The impossible dream?

Nailing jelly to the ceiling;
Pushing water up hill;
Playing snooker with a rope;
Turning water into wine;
Pleasing everyone all the time;
40% Teaching:40% Service: 20% Research;
Work life in balance;
Finding a parking space near your office;
Herding cats;
Or worse: consensus moderation =
Getting a group of academics to
<u>agree</u> with each other!

… … …
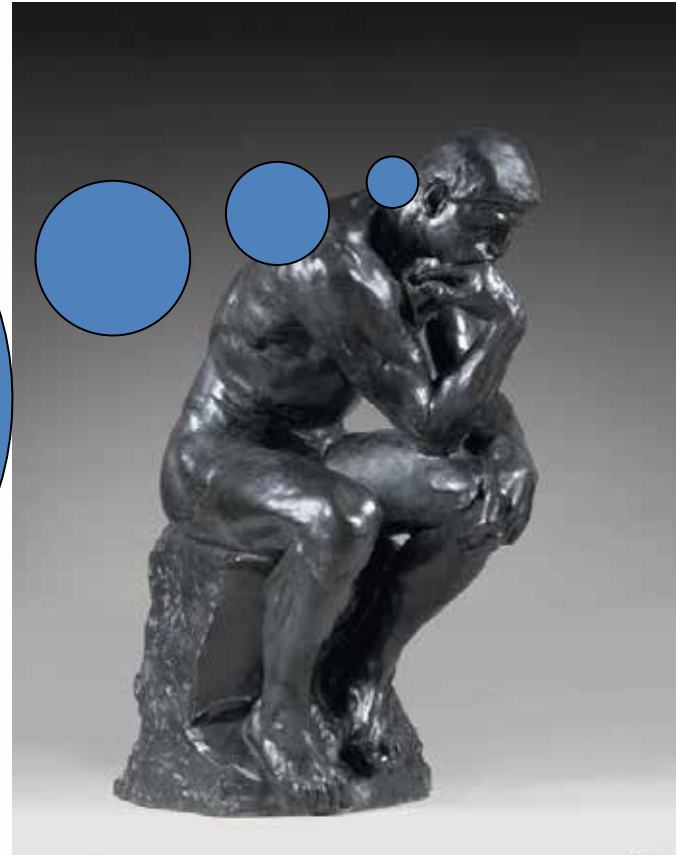
Questions to focus your course/ unit design.

- Are learning outcomes based on a rationale that talks about real-world imperatives the course/ unit responds to?
- Are learning outcomes in the same order as the 3A's traffic light model?
- Does the progression of the teaching and learning strategy match the 3A's traffic light model?
- Does the progression of assessment match the 3A's traffic light model?
- Do the later assessments assess more valuable learning outcomes?
- Are they weighted accordingly?
- Are the assessment items clearly linked with each other?
- Are the assessment items timed to facilitate students' learning?
- Do all the components line up?

Progress Summary

- In this section, we've looked at how to make our curriculum design <u>effective</u> by embedding appropriately designed assessment – achieving "*constructive <u>alignment</u>*".

- So, we know a bit about learning theory (constructivism) and we know about curriculum design and the place of assessment (alignment).

- You're ready to practise applying this to your courses and units.

Step 3: Awareness of AQF

AQF Level 8 criteria
(Bachelor honours degree)

Summary Graduates at this level will have advanced knowledge and skills for professional or highly skilled work and/or further learning

Knowledge Graduates at this level will have advanced theoretical and technical knowledge in one or more disciplines or areas of practice

Skills Graduates at this level will have advanced cognitive, technical and communication skills to select and apply methods and technologies to:

- analyse critically, evaluate and transform information to complete a range of activities
- analyse, generate and transmit solutions to complex problems
- transmit knowledge, skills and ideas to others

Application of knowledge and skills

Graduates at this level will apply knowledge and skills to demonstrate autonomy, well-developed judgement, adaptability and responsibility as a practitioner or learner

AQF Level 9 criteria (Masters)

Summary   Graduates at this level will have specialised knowledge and skills for research, and/or professional practice and/or further learning

Knowledge   Graduates at this level will have advanced and integrated understanding of a complex body of knowledge in one or more disciplines or areas of practice

Skills   Graduates at this level will have expert, specialised cognitive and technical skills in a body of knowledge or practice to independently:

- analyse critically, reflect on and synthesise complex information, problems, concepts and theories
- research and apply established theories to a body of knowledge or practice
- interpret and transmit knowledge, skills and ideas to specialist and non-specialist audiences

Application of knowledge and skills

Graduates at this level will apply knowledge and skills to demonstrate autonomy, expert judgement, adaptability and responsibility as a practitioner or learner

Lastly: Designing effective curriculum and assessment also depends on:

Step 3: Learning from your mistakes (so remember to take a scholarly approach to reviewing how things and to make improvements as you go in the future);

And,

Step 4: Your use of resources to <u>further your learning and skill</u>:

- Have a look at the "Assessment Matters!" Website at Griffith:
- http://app.griffith.edu.au/assessment-matters/
- Have a look at the collection of resources on LTC's web-site =>>>
- https://www.acu.edu.au/ltc
- <assessment website>
- <course review/ design/ development website>
- <curriculum design web site>

Your questions?

Comments/Suggestions/ Questions?

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