Core Concepts
for
Module Design

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Plan:

1. Discuss the basic principles of constructive alignment

2. Write learning outcomes that are conducive to constructive alignment

3. Sketch a skeleton for a constructively aligned module

4. Consider factors that go beyond or disrupt constructive alignment as a design theory

Intro: how do we decide what goes in a module?

INSTITUTION	LECTURER	STUDENT
● Curriculum	● AoS, AoC	● Interest
● Outcome	● Perspective	● Ability
● Regulation	● Workload	● Difference

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Lecturer-centred design:

Content $\longrightarrow$ Learning $\longrightarrow$ Performance

"What content does the module need to have?"
"How will I teach that?"
"How will I test whether students have learned it?"

Lecturer-centred design:

Content $\longrightarrow$ Learning $\longrightarrow$ Performance

What is the relationship between content, learning and performance?

Student-centred (a.k.a "backwards") design:

Content ← Learning ← Performance

"What do I want students to be able to do?"
"How can they learn to do that?"
"What do they need to understand in order to do that?"

Student-centred (a.k.a "backwards") design:

Content ← Learning ← Performance

i.e., what students will be able to do on successful completion of the course.

Student-centred (a.k.a "backwards") design:

Content ⟵ Learning ⟵ Performance

How will students learn
to do those things?

What will they do in
order to learn? Practice?

How will you support
their learning?

i.e., what students will be
able to do on successful
completion of the course.

Student-centred (a.k.a "backwards") design:

Content ⟵ Learning ⟵ Performance

Content	Learning	Performance
What will students need to know or understand in order to be able to perform well?	How will students learn to do those things? What will they do in order to learn? Practice? How will you support their learning?	i.e., what students will be able to do on successful completion of the course.

Why constructive alignment?

"Whether or not what it is that assessment is trying to assess is clearly specified in documentation, students work out for themselves what counts — or at least what they think counts, and orient their effort accordingly. They are strategic in their use of time and 'selectively negligent' in avoiding content that they believe is not likely to be assessed. It has been claimed that students have become more strategic with their use of time and energies since the 1970s and more, rather than less, influenced by the perceived demands of the assessment system in the way they negotiate their way through their studies"

(Gibbs and Simpson, 2005, p.6)

Why constructive alignment?

"Without taking away from the important role played by the teacher, it is helpful to remember that what the student does is actually more important in determining what is learned than what the teacher does... [E]ffective teachers must know how to get students actively engaged in learning activities that are appropriate for the desired outcome(s)."

(Schuel 1986, p.429-430)

Why constructive alignment?

"This study provided evidence that a more constructively aligned teaching and learning environment would lead students to adjust their learning approaches in a way that a more deep situational learning approach and a less surface situational learning approach would be employed in their study, despite their pre-existing individual differences"

(Wang et *al* 2012)

Activity

Given complete freedom of choice and whatever resources or support you require, what would you most want to teach students <u>to be able to do</u>?

Take 2 minutes to think and make notes, then briefly discuss your ideas with your group.

How is this focus on student performance expressed in the design process?

- (Principal/Intended) Learning Outcomes

- From MA1 form: "By the end of the module students should be able to..."

- Learning activities support ability to achieve LOs in performance

- Content supports ability to engage in learning activities

Content ⟵ Learning ⟵ Performance

Writing learning outcomes:

Sheffield Hallam:

LOs start with a phrase such as 'by successfully engaging with this course/module, the learner will be able to……….', followed by:

- an active verb or phrase
- an object of the verb
- a clause or phrase that provides the context or condition.

For e.g.:

Explain and evaluate // the relationship between // the company directors and shareholders

Writing learning outcomes:

Newcastle:

A well written learning or skills outcome has three sections:

- what the student will be able to do, and in what context
- an active verb usually, with a clear object for the verb
- how well they will do it

The learning outcomes should be observable and measurable. Learning outcomes describe observable behaviours and actions, invisible activity may well be vitally important but we can only assess how the invisible becomes, or impacts on, observable actions.

Writing learning outcomes:

Warwick:

Intended learning outcomes capture the answer to the essential questions:

- What do you want your students to know or to be able to do?
- What will the student do that demonstrates learning?
- What is the context within which that learning will be demonstrated?
- How well will that student be required to demonstrate that learning?

Therefore the very first thing to determine when constructing learning outcomes is the behaviour that you wish your student to demonstrate. As one of the main points of intended learning outcomes is to assess whether and how well students have achieved them, this behaviour must necessarily be observable (and therefore assessable). As demonstration tends to mean doing something, the verb in the learning outcome assumes central significance.

Writing learning outcomes: Revised Revised Bloom's Taxonomy

Type of Knowledge

Thinking Process	FACTUAL	CONCEPTUAL	PROCEDURAL	METACOGNITIVE
REMEMBER	List	Recognise	Recall how	Identify
UNDERSTAND	Summarise	Classify	Clarify	Predict
APPLY	Respond	Advise	Carry out	Use
ANALYZE	Select	Differentiate	Optimise	Deconstruct
EVALUATE	Rank	Determine	Judge	Reflect
CREATE	Generate	Facilitate	Design	Construct

Adapted from (Krathwohl et *al*, 2001)

Activity

✔ Given complete freedom of choice and whatever resources or support you require, what would you most want to teach students <u>to be able to do</u>?

Following your discussion, specify your idea in two to five Principal Learning Outcomes.

Take 2 minutes to think and make notes, then briefly discuss your ideas with your group.

Assessment Diversification Ideas

Essay

Exam

Assessment Diversification Ideas

Essay

Critical thinking and analysis
Academic writing
Presenting an argument
Engagement with literature

Exam

Assessment Diversification Ideas

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Critical thinking and analysis
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Exam

Verifiability (hard to cheat)
Fair (...in what sense?)
Retention and access

Assessment Diversification Ideas

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Critical thinking and analysis
Academic writing
Presenting an argument
Engagement with literature

Reflective journal
Report or briefing
Case study
Video, audio recording

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Verifiability (hard to cheat)
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Assessment Diversification Ideas

Essay
- Critical thinking and analysis
- Academic writing
- Presenting an argument
- Engagement with literature

Reflective journal
Report or briefing
Case study
Video, audio recording

Exam
- Verifiability (hard to cheat)
- Fair (...in what sense?)
- Retention and access

Oral presentation
Viva
Time-limited coursework

Assessment Diversification Ideas

Elements:

Essay   Exam   Presentation   Blog   Journal

Case Study   Authentic Project   Review   Viva

Simulation   Participation   Video Recording

Briefing   IRP   Artefact

Assessment Diversification Ideas

Relationships:

Portfolio - multiple smaller pieces with different strategies and purposes, meeting different LOs

Patchwork - multiple smaller pieces organised around a central theme, task or question, with unifying perspective piece

Negotiated Assessment - students decide how to be assessed, with guidance and within boundaries of the LOs

Activity

✔ Given complete freedom of choice and whatever resources or support you require, what would you most want to teach students <u>to be able to do</u>?

✔ Following your discussion, specify your idea in two to five Principle Learning Outcomes.

Take two or more of your PLOs. Think about what would count as evidence that these outcomes had been met.

Think about what your students would need to do to assemble that evidence. Discuss your ideas with your group.

Summing up:

Starting question: what do I want students to be able to do?

LOs express what the student should be able to do

Learning activities support the student's ability to meet LOs

Content is determined by the requirements of learning activities (and assessed performance, i.e., LOs)

When a module is designed in this way, it is <u>constructively aligned</u>

Limitations:

Does constructive alignment entail "teaching to the test"?
Is backwards design implicitly behaviourist?

Limitations:

Does constructive alignment amount to "teaching to the test"?
Is backwards design implicitly behaviourist?

- Depends a lot on what the "test" is, and on decisions about teaching activities
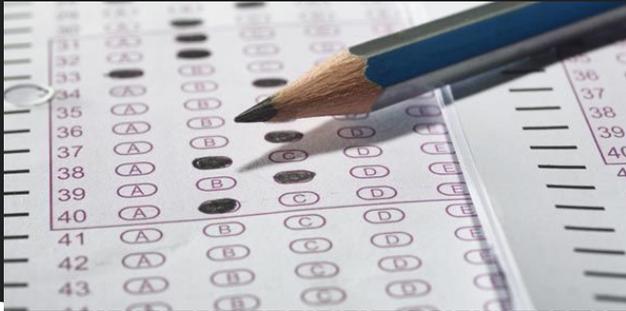
- Objection does show that constructive alignment should be achieved through backwards design, not through tweaking pre-existing module plans

Limitations:

Does constructively alignment tend to suppress originality?

"It is...unclear from the advice on determining learning outcomes, in the context of radical alignment positions which simply allow 'assessment to drive learning,' (Fowell and Bligh, 2001; Gibbs et al 2003), what strategies enable students to be given credit for originality, or outcomes which have not been defined in advance...[A]s long as we continue to assess student work as the work of individuals, and keep trying to identify and reward the exceptionally talented original thinkers, absolute alignment and strictly specified outcomes cannot be helpful."

(Jervis and Jervis 2005)

Limitations:

Do constructively aligned courses tend to suppress originality?

- Not w.r.t. giving credit, since originality is typically included in grading criteria, not LOs (i.e., it is a facet of performance quality, not performance type)

- ...as such, LOs have to be written in such a way as to allow for originality <u>within </u>the scope of the module, as defined by the LOs

- So the real question is how tightly defined the module has to be; might as well be asking - *does modularised education tend to suppress originality?*

Limitations:

Are constructivist theories relativist (or subjectivist)?
Is backwards design therefore inimical to (at least) STEM education?

Behaviourism

- Behavioural modification brought about by application of pos. and neg. reinforcement
- Operant conditioning - highly effective!
- Learning is learning <u>to do</u>
- No role for metacognition
- No appeal to context or development
- Impact on education: classroom management techniques and (allegedly) LOs

Pigeon Operant Chamber
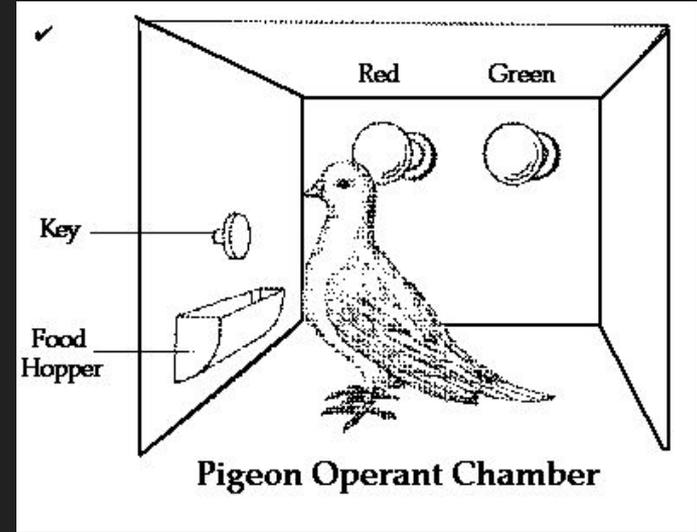
Constructivism

Jean Piaget, 1896-1980

- concerned with development in early childhood
- stages of development (sensorimotor, preoperational, concrete operational, formal operational)
- sees foundational learning as driven by development, which is internal to the individual, and the outcome of simple, biological processes

Constructivism

Lev Vygotsky, 1897-1934

- concerned with development in early childhood
- knowledge is conceptual, language-based
- learning is concept acquisition/mastery
- languages themselves are social constructs
- therefore there is a strong social component to (individual) learning

Limitations:

Are constructivist theories relativist (or subjectivist)?
Is backwards design therefore inimical to (at least) STEM education?

- "Constructivism" names theories of knowledge, learning, education; answers will not be the same in all cases

- Constructivism about learning and education not necessarily wedded to constructivism about knowledge

- In any case, constructivism about knowledge is not necessarily relativist in a problematic sense (e.g., Vygotsky).

Works cited:

Jervis, L. M and Jervis, L. (2005) "What is the constructivism in constructive alignment?" in *Bioscience Education* vol.6, no.1, p.1-14.

Schuell, T.J. (1986) "Cognitive Conceptions of Learning" in *Review of Educational Research*, vol.56, no.4, p.411-436.

Wang, X., Yelin, S., Cheung, S., Wong, E., and Kwong, T. (2013) "An exploration of Biggs' constructive alignment in course design and its impact on students' learning approaches" in *Assessment and Evaluation in Higher Education*, vol.38, no.4, p.477-491.

Further reading:

Biggs, J. (1996) "Enhancing teaching through constructive alignment" in *Higher Education* vol. 32, no.3, p.347-364

Blackie, M. A. L. (2010) et a*l* "Student-centredness: the link between transforming students and transforming ourselves" in *Teaching in Higher Education* vol.15, no.6, p.637-646

Bourner , T. (2003) "Assessing Reflective Learning" in *Education and Training* vol.45, no.5, p.262-272

Cain, A. et *al* (2018) "Focusing on learning through constructive alignment with task-oriented portfolio assessment" in *European Journal of Engineering Education,* vol.43, no.4, 569-584.

Castan, M. et a*l* (2017) "Blended Learning in the Law Classroom: Design, Implementation and Evaluation of an Intervention in the First Year Curriculum Design" in *Legal Education Review,* vol.27, p.143-161

Daugherty, R. et a*l* (2008) "Alternative perspectives on learning outcomes: challenges for assessment" in *Curriculum Journal,* vol.19, no.4, p.243-254.

Gibbs, G. and Simpson, C. (2005) "Conditions Under Which Assessment Supports Students' Learning" in *Learning and Teaching in Higher Education* vol.1, p. 3-31.

Hussey, T. & Smith, P. (2003) "The Uses of Learning Outcomes" in *Teaching in Higher Education,* vol.8, no.3, p.357-368

Larkin, H. and Richardson, B. (2013) "Creating high challenge/high support academic environments through constructive alignment: student outcomes" in *Teaching in Higher Education,* Vol. 18, No. 2, p.192-204

Trigwell, K. and Prosser, M. (2014) "Qualitative variation in constructive alignment in curriculum design" *Higher Education* vol.67, p.141–154

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