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Designing & Evaluating Courses

Edinburgh Summer School in Clinical Education 2016

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Friday PM

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What is a curriculum?

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"The curriculum is a sophisticated blend of educational strategies, course content, learning outcomes, educational experiences, assessment, the educational environment and the individual students' learning style, personal timetable and programme of work."

Harden RM 2001 AMEE Guide No.21: Curriculum mapping: a tool for transparent and authentic teaching and learning. Medical Teacher 23(2):123-137

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What are the key elements of a curriculum?

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Aspects of a curriculum

- Aims & outcomes
- Content
- Processes
- Teaching & learning strategies / methods
- Staff development
- Environment
- Assessment
- Evaluation, QA, review
- Model / map
- Individual timetables
- Recruitment
- Equality & diversity
- Student learning styles
- Student experiences
- Student support
- Policy & governance
- Level & accreditation
- Progression / interfaces
- Intended vs. taught vs. learned curricula
- 'Hidden curriculum'

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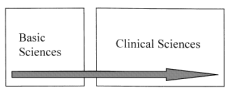
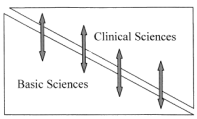
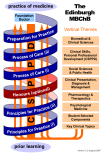
Describing processes



'Traditional'

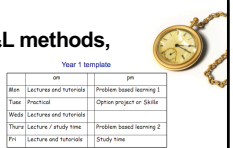


'Integrated' (vertically and horizontally)



'Spiral'

Modules, T&L methods, timetable …



Harden RM, Sowden S, Dunn WR (1984) ASME Booklet 18: Educational strategies in curriculum development: the SPICES model. Med Ed 18:284

Describing content

Aim / Intention: to build a house
Goal: to have a house to live in
Content / Syllabus: all materials in order
Outcomes framework: architect's plan & elevations
Objectives: precise location & function of each part
Alignment: materials, tasks & house all follow plan
Competency: tests confirm all parts complete
Capability: it's ready for someone to move in
Performance in Practice: it's nice to live in

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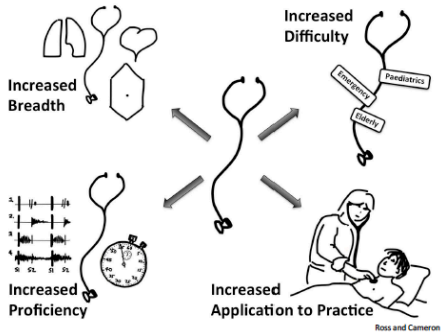
LO and progression



Adapted from: Harden, R.M., 2007 *Learning outcomes as a tool to assess progression.* Medical Teacher 29:678-682

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Also 5th dimension - 'Entrustability'

Ten Cate, O (2013) Entrustability of professional activities and competency-based training. Medical Education 39:1176-1177

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Learning outcomes are "Broad statements describing what students should possess on graduation from a course" (Harden 2002)

"It's got to have a bathroom, a kitchen, three bedrooms..."

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Core learning outcomes are required but not sufficient to develop an outcome-based curriculum. Must consider **level** of attainment and **process** for teaching, learning & assessment.

Graduates in medicine will be able to:

Carry out a consultation with a patient

- **take a history**
- **carry out physical examination**
- **make clinical judgements and decisions**
- **provide explanation and advice**
- **provide reassurance and support**
- **assess the patient's mental state**

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Bloom's Taxonomy

Cognitive Domain
- Evaluation
- Synthesis
- Analysis
- Application
- Understanding
- Knowledge

Affective Domain
Psychomotor Domain

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Advantages of Outcomes

- Comprehensiveness
- Transparency
- Stakeholder consultation
- Comparison / mapping
- Flexibility
- Framework for T.L.A.
- Regulation and QA
- 'Fitness for purpose'
- 'Graduateness'
- Self-directed learning
- Different levels
- Progression
- Branching design
- Integration
- Mobility
- Interdisciplinary

Potential disadvantages of LO

Potential for distortion towards easily-measurable

Risk pitching at 'lowest common denominator' vs excellence

May not know all capacities required for 'expert' performance

Risk of becoming too detailed & restrictive (cf objectives)

May be insufficient detail / ambiguity, not 'operationalisable'

Concerns about process of LO development

Impersonal requirements, without sense of ownership

Potential for manipulation by ignorant media / politicians / others

Social policy / 'authoritative allocation of values' (Easton 1953)

Constructive alignment

Define LO

Student-centred Teaching & Learning

Appropriate assessment

Apparent & 'hidden' curricula

'Described'
'Planned'
'Intended'
'On paper'

'Taught'
'Delivered'
'In action'

We seek to align planned, taught and learned curricula

'Learned'
'Received'
'Learner experienced'

Apparent & 'hidden' curricula

'Described'
'Planned'
'Intended'
'On paper'

'Taught'
'Delivered'
'In action'

The 'Hidden Curriculum' is that which is learned but not intended or taught
Snyder (1970) The Hidden Curriculum

'Learned'
'Received'
'Learner' s experiences'

TASK

You have been asked to submit a proposal for a new introductory ethics course for MBChB-Y1, to be delivered over 8 weeks and take up-to 6 hours per week alongside other courses, addressing the following learning outcome:

Demonstrate critical understanding of basic ethical principles and their application to medical practice

5 min steps - 1. "Operationalise" the learning outcome
2. How might students achieve the LO?
3. How might it be assessed?
4. Consider practical issues (e.g. cost, stakeholders, staff)

Reasons for Programme Evaluations

Some **models**

- Kirkpatrick (1959) – outcomes
- Durning et al. (2007) – performance
- Goodyear and Carvalho (2013) - ecological

Kirkpatrick (1959)

Four levels of evaluation:

- Reaction
- Learning
- Behaviour
- Results

Durning et al. (2007)

- Before
- During
- After

Goodyear and **Carvalho** (2013)

- Networked rather than linear relationships
- Ecological view
- Competence is distributed
- May act against standardisation

Why was it effective?

- Do we understand why and for whom this was or was not effective?
- Will it still be effective if the context changes?

What's the learning **environment** like?

- Learning culture
- Material resources
- Stakeholders and pressures
- Individual characteristics

Forgotten questions

When should I evaluate?

- When does learning sink in?
- When does the value of learning become evident?

Forgotten questions

What does everything **cost**?

- Did we measure how much things cost in money, resources, time?
- Was it worth it?
- What else could we have done with those resources?
- Could we do as well (or well enough) with lower cost?

Forgotten questions

Stakeholders

- University
- Health institutions (e.g. NHS)
- Students
- Teaching staff (inc. appraisal)
- Regulatory bodies (e.g. government agencies)
- Future employers / patients
- Conflicting needs / expectations

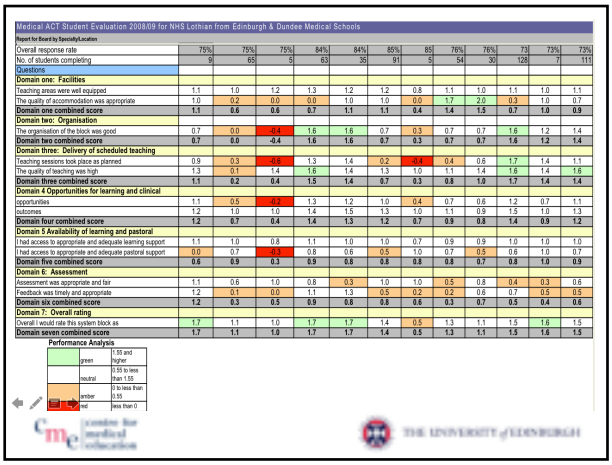
Performance indicators

Example 1

- Thing we're interested in: Year 5 feedback
- Performance indicator: feedback was timely and appropriate, Likert scale (1-5)
- Benchmark: (average 4/5)

Example 2

- Thing we're interested in: MSc tutorial timeliness
- Performance indicator: Did tutorials start on time?
- Benchmark: (90%)



Medical ACT Student Evaluation 2008/09 for NHS Lothian from Edinburgh & Dundee Medical Schools

Report for Board by Specialty/Location

Overall response rate	75%	75%	75%	84%	84%	85%	85	76%	76%	73	73%	73%
No. of students completing	9	65	5	63	35	91	5	54	30	128	7	111
Questions												
Domain one: Facilities												
Teaching areas were well equipped	1.1	1.0	1.2	1.3	1.2	1.2	0.8	1.1	1.0	1.1	1.0	1.1
The quality of accommodation was appropriate	1.0	0.2	0.0	0.0	1.0	1.0	0.0	1.7	2.0	0.3	1.0	0.7
Domain one combined score	**1.1**	**0.6**	**0.6**	**0.7**	**1.1**	**1.1**	**0.4**	**1.4**	**1.5**	**0.7**	**1.0**	**0.9**
Domain two: Organisation												
The organisation of the block was good	0.7	0.0	-0.4	1.6	1.6	0.7	0.3	0.7	0.7	1.6	1.2	1.4
Domain two combined score	**0.7**	**0.0**	**-0.4**	**1.6**	**1.6**	**0.7**	**0.3**	**0.7**	**0.7**	**1.6**	**1.2**	**1.4**
Domain three: Delivery of scheduled teaching												
Teaching sessions took place as planned	0.9	0.3	-0.8	1.3	1.4	0.2	-0.4	0.4	0.6	1.7	1.4	1.1
The quality of teaching was high	1.3	0.1	1.4	1.8	1.4	1.3	1.0	1.1	1.4	1.8	1.4	1.8
Domain three combined score	**1.1**	**0.2**	**0.4**	**1.5**	**1.4**	**0.7**	**0.3**	**0.8**	**1.0**	**1.7**	**1.4**	**1.4**
Domain 4 Opportunities for learning and clinical												
opportunities	1.1	0.5	-0.2	1.3	1.2	1.0	0.4	0.7	0.6	1.2	0.7	1.1
outcomes	1.2	1.0	1.0	1.4	1.5	1.3	1.0	1.1	0.9	1.5	1.0	1.3
Domain four combined score	**1.2**	**0.7**	**0.4**	**1.4**	**1.3**	**1.2**	**0.7**	**0.9**	**0.8**	**1.4**	**0.9**	**1.2**
Domain 5 Availability of learning and pastoral												
I had access to appropriate and adequate learning support	1.1	1.0	0.8	1.1	1.0	1.0	0.7	0.9	0.9	1.0	1.0	1.0
I had access to appropriate and adequate pastoral support	0.0	0.7	0.3	0.8	0.6	0.5	1.0	0.7	0.5	0.6	1.0	0.7
Domain five combined score	**0.6**	**0.9**	**0.3**	**0.9**	**0.8**	**0.8**	**0.8**	**0.8**	**0.7**	**0.8**	**1.0**	**0.9**
Domain 6: Assessment												
Assessment was appropriate and fair	1.1	0.8	1.0	0.8	0.3	1.0	1.0	0.5	0.8	0.4	0.3	0.6
Feedback was timely and appropriate	1.2	0.1	0.0	1.1	1.3	0.5	0.2	0.2	0.6	0.7	0.5	0.5
Domain six combined score	**1.2**	**0.3**	**0.5**	**0.9**	**0.8**	**0.8**	**0.6**	**0.3**	**0.7**	**0.5**	**0.4**	**0.6**
Domain 7: Overall rating												
Overall I would rate this system block as	1.7	1.1	1.0	1.7	1.7	1.4	0.5	1.3	1.1	1.5	1.6	1.5
Domain seven combined score	**1.7**	**1.1**	**1.0**	**1.7**	**1.7**	**1.4**	**0.5**	**1.3**	**1.1**	**1.5**	**1.6**	**1.5**

Performance Analysis

	green	1.85 and higher
	neutral	0.55 to less than 1.55
	amber	0 to less than 0.55
	red	less than 0

Collecting **student** feedback

- Questionnaires: effective design / format / flexibility
- Focus Groups
- Data: sampling / fatigue / validity / quantity
- Transparent reporting - closing the loop

Student **Surveys**

Different types:

- Student satisfaction
- Student perceptions of quality
- Student engagement

Not just student feedback

- Staff feedback - balanced view
- Exam results data
- External examiners reports
- Graduates in first job and their supervisors

Task

- Plan an evaluation of a curriculum (your group's or the top-voted group's)

Evaluation References

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