

Curriculum Development

KING'S
College
LONDON



What is a curriculum?

“Everything that happens in relation to the educational programme.”

(Genn J, 1995)

How and where do we learn?

On the job

Accidental learning
at work

Making and taking
learning opportunities at
work

Unconscious

Conscious

Accidental learning at
home and socially

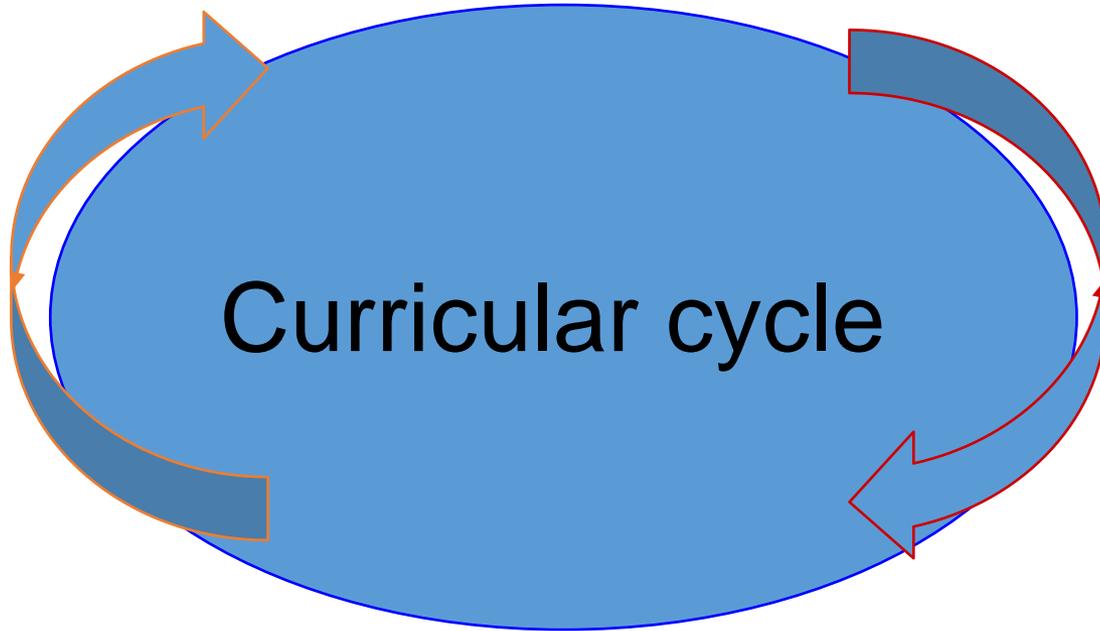
Structured learning
experiences e.g. courses,
workshops

Off-the-job

Curriculum planning cycle

Needs assessment

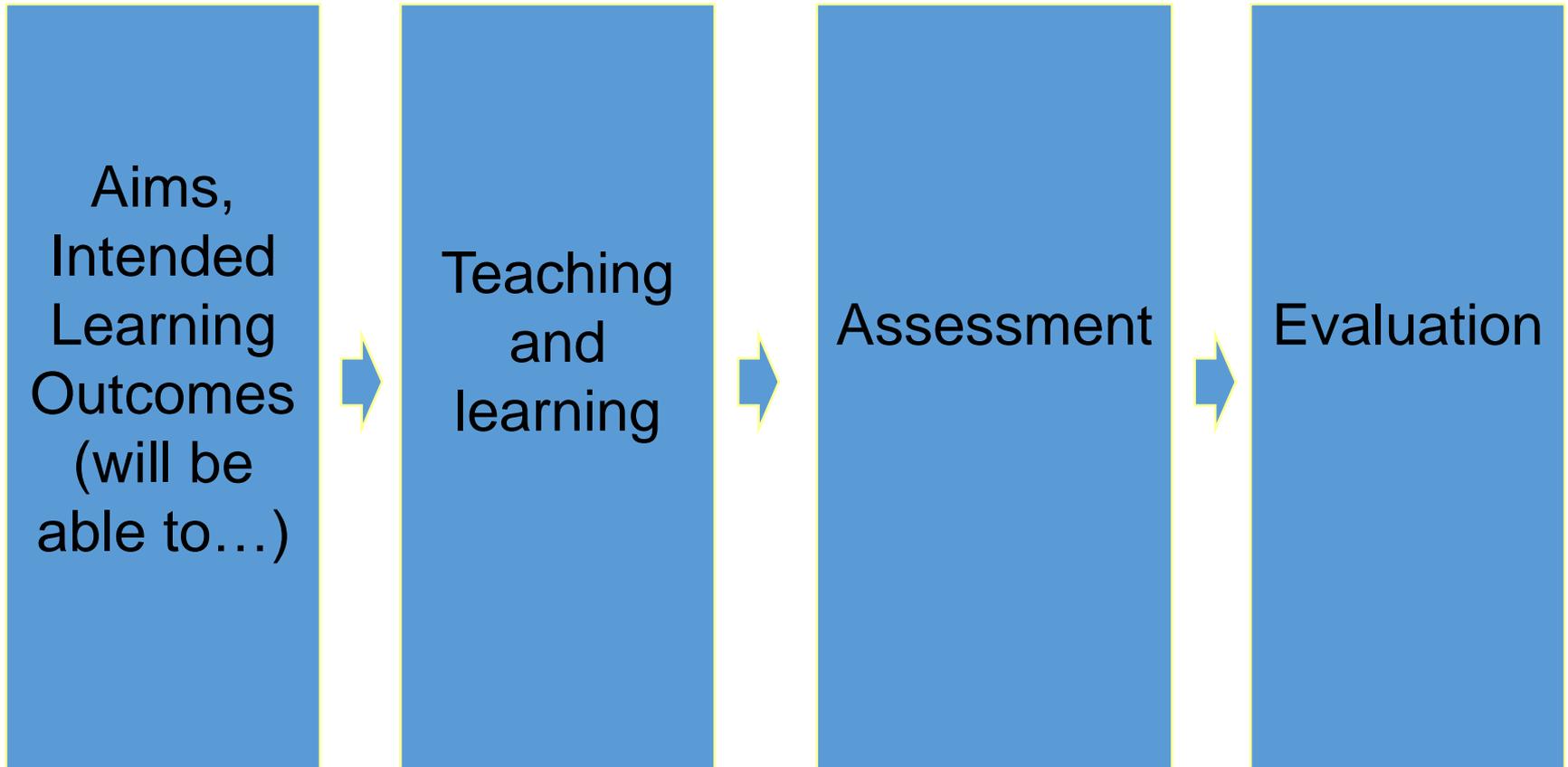
Output



Design

Implementation

Outcome-based curricula



Curriculum development

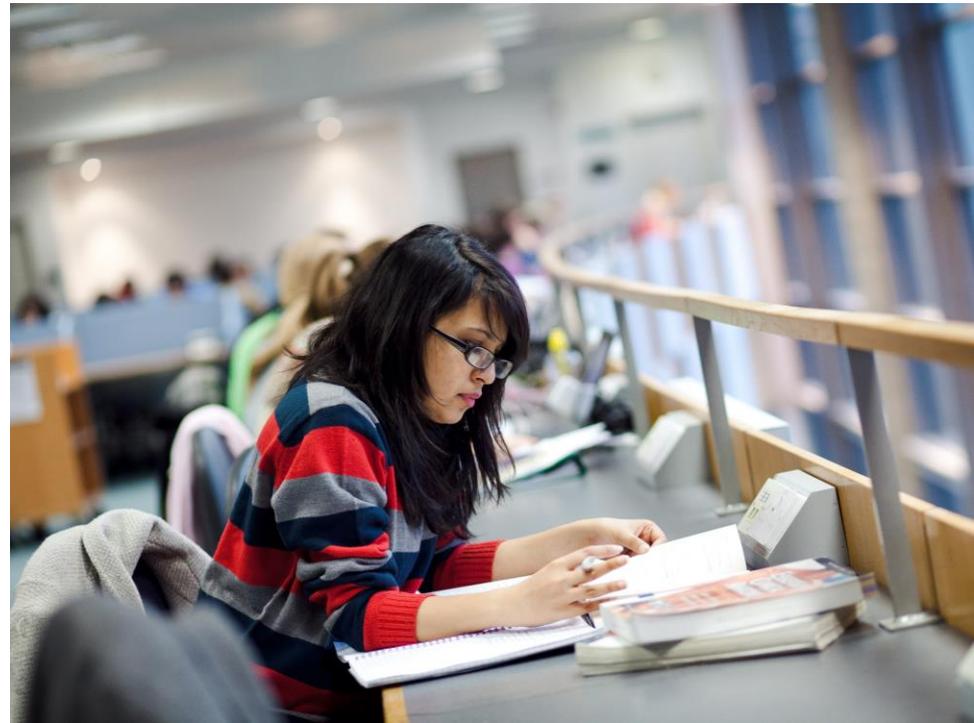
- What sort of healthcare worker do we want?
- How will we reflect demands from external agencies?
- What learning outcomes should we include?
- What teaching and learning methods should we use?
- How will we assess learners?
- How should we establish links to evaluation?

Curriculum development

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Learning outcomes should:

- Be written in the future tense
- Identify important learning requirements
- Use language which students can understand
- Be achievable
- Be assessable



Learning outcomes

Acceptable verbs:

- To describe
- To compare
- To analyse
- To plan
- To critically appraise

Unacceptable verbs:

- To know
- To understand
- To appreciate
- To enjoy
- To believe

Evidence-based practice

1. **Ask** an answerable question
2. **Access** the evidence
3. **Appraise** the evidence
4. **Apply** the appropriate evidence
5. **Assess** the process



Taught components		Yr 1		Yr 2		Yr 3		Yr 4		Yr 5		yr 6	
		Statistics course	Pre clinical course	Statistics course	Pre clinical course	Final Honour Schools		Pathology/lab course	EBM thread		Public Health	Primary care	Specialty modules
Competencies													
Principles and Basic Practices of Evidence Based Medicine													
1. Describe and apply to a clinical case the basic principles of EBM.									Y		Y ¹		
2. Describe how EBM, clinical experience and individual patient issues interact.									Y		Y ¹		
3. Describe the limitations of EBM.									Y		Y ¹		
4. Describe the interaction of EBM and health care policies.									Y		Y ¹		
Question formulation													
1. Describe how to formulate an answerable, searchable question.									Y				
2. Identify the type of clinical question (e.g. treatment, prognosis, etiology).									Y		Y ¹		
3. Describe where and how to look for information to answer different types of clinical questions at the point of care (when answers are needed quickly).									Y				
4. Describe where and how to look for answers to different types of clinical questions when clinical decisions can wait.									Y				
Critical Appraisal													
1. How to read a scientific paper - what are the component parts of a basic scientific paper? ²		Y		Y	Y	Y							
2. Assess the primary literature - how to retrieve primary studies and how to design studies of effectiveness for basic sciences.		Y		Y	Y	Y							
3. Distinguish relevant from irrelevant evidence		Y		Y	Y	Y		Y		Y			
4. Define and apply criteria to medical information to determine relevance when answering clinical questions.								Y		Y			
5. Describe a hierarchical approach to levels of evidence specific to types of conclusions.								Y		Y			
6. Identify the most valid study design for studies of therapy, prognosis, and diagnosis.		Y		Y				Y		Y			
7. Determine methodologic quality of evidence, assessing the following types of studies for validity (identify important threats to validity and identify critical flaws in studies of...)								Y		Y			

Critical Appraisal																				
1. How to read a scientific paper - what are the component parts of a basic scientific paper?			Y		Y	Y		Y												
2. Assess the primary literature - how to retrieve primary studies and how to design studies of effectiveness for basic sciences.			Y		Y	Y		Y												
3. Distinguish relevant from irrelevant evidence			Y		Y	Y		Y			Y		Y							
4. Define and apply criteria to medical information to determine relevance when answering clinical questions.											Y		Y							
5. Describe a hierarchical approach to levels of evidence specific to types of conclusions.											Y		Y							
6. Identify the diagnosis.																				
7. Determine studies for valid study design):																				
· a therapeutic																				
· a prognosis																				
· a diagnostic																				
· a clinical prediction																				
· a practice guideline																				
· a systematic review																				
· a health economic evaluation																				
· a case-control study																				

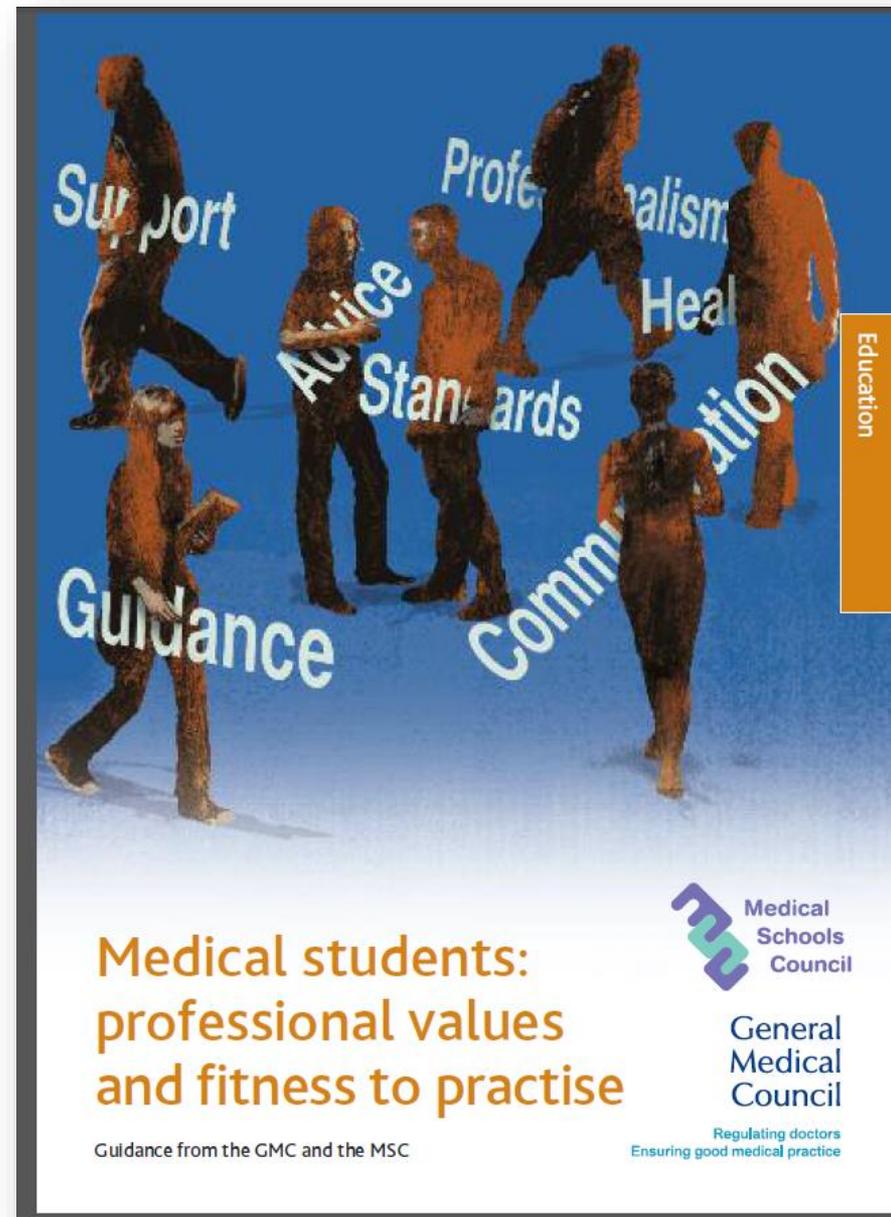
Implementing Evidence for patient care

1. Communicate evidence to patients, describing how values can introduce appropriate and inappropriate biases into patient-physician communications.
2. Integrate evidence into common clinical presentations
3. Use the information in relation to patient care, health promotion, giving advice and information to patients, and research and education
4. Understand and have experience of the principles and methods of improvement, including audit
5. Access information sources and use the information in relation to patient care, health promotion, giving advice and information to patients, and research and education

The core competencies for EBM map to the GMC tomorrow's doctor in the following areas:

Outcomes 1: The doctor as a scholar and a scientist	
Domain 11	Apply to medical practice the principle, methods and knowledge of population health and improvement of health and healthcare
c	Describe measurement methods relevant to the improvement of clinical effectiveness and care
d	Discuss the principles underlying the development of health and health services policy, including issues relating to health economics and equity, and clinical guidelines.
Domain 12	Apply scientific methods and approaches to medical research
a	Critically appraise the results of relevant diagnostic prognostic and treatment trial and other qualitative and quantitative studies as reported in the medical literature
b	Formulate simple relevant research question on biomedical sciences, psychosocial science or population science, and design appropriate studies or experiments to address these questions
c	Apply findings from the literature to answer questions raised by specific clinical problems
Outcomes 2: The doctor as a practitioner	
Domain 14	Diagnose and manage clinical presentations
f	Make clinical judgments and decisions based on the level of evidence, in conjunction with colleagues and as appropriate for the graduate's level of training and experience, this may include situations of uncertainty
Domain 19	Use information effectively in a medical context
d	Access information sources and use the information in relation to patient care, health promotion, giving advice and information to patients, and research and education
Outcomes 3: The doctor as a professional	
Domain 21	Reflect, learn and teach others
a	Acquire, assess apply and integrate new knowledge, learn to adapt to changing circumstances and ensure that patients receive the highest level of professional care.
c	Continually and systematically reflect on practice and, whenever necessary, translate that reflection into action, using improvement techniques and audit appropriately for example, by critically appraising the prescribing of others.
Domain 23	Protect patients and improve care
e	Understand and have experience of the principles and methods of improvement, including audit, adverse incidence reporting and quality improvement, and how to use the results of audit to improve practice

EBM as a medical student?



The cover features a blue background with silhouettes of medical students in various poses. Overlaid on the silhouettes are the words: Support, Advice, Standards, Communication, Professionalism, and Health. A vertical orange bar on the right side contains the word 'Education'.

**Medical students:
professional values
and fitness to practise**

Guidance from the GMC and the MSC

Medical Schools Council

General Medical Council

Regulating doctors
Ensuring good medical practice

Good clinical care

- 15 Being able to provide good clinical care is fundamental to becoming a doctor. This objective should guide a student's behaviour in both their clinical and academic work. Medical students should reflect on how they can support and promote good clinical care as part of their medical education.
- 16 In order to demonstrate that they are fit to practise, students should:
- (a) recognise and work within the limits of their competence and ask for help when necessary
 - (b) accurately represent their position or abilities
 - (c) make sure they are supervised appropriately for any clinical task they perform
 - (d) respect the decisions and rights of patients
 - (e) be aware that treatment should be based on clinical need and the effectiveness of treatment options, and that decisions should be arrived at through assessment and discussion with the patient
 - (f) not unfairly discriminate against patients by allowing their personal views to affect adversely their professional relationship or the treatment they provide or arrange (this includes their views about a patient's age, colour, culture, disability, ethnic or national origin, gender, lifestyle, marital or parental status, race, religion or beliefs, sex, sexual orientation, and social or economic status)
 - (g) behave with courtesy
 - (h) report any concerns they have about patient safety to the appropriate person.³

Be aware that **treatment options should be based on clinical need and the effectiveness of treatment options**, and that decisions should be arrived at through assessment and discussion with the patient

Maintaining good medical practice

- 17 Students must be aware of their responsibility to maintain their knowledge and skills throughout their careers.
- 18 Students are expected to keep up to date and to apply knowledge necessary for good clinical care. They should understand that as doctors they will have to participate in audit, assessments and performance review throughout their careers as part of revalidation and licensing.
- 19 In order to demonstrate that they are fit to practise, students should:
- (a) reflect regularly on standards of medical practice in accordance with *Good medical practice and Tomorrow's Doctors*
 - (b) attend compulsory teaching sessions or make other arrangements with the medical school
 - (c) complete and submit course work on time
 - (d) be responsible for their own learning
 - (e) reflect on feedback about their performance and achievements and respond constructively
 - (f) be familiar with guidance from the GMC and other organisations, such as medical schools, hospitals, trusts and health boards
 - (g) respect the knowledge and skills of those involved in their education
 - (h) make sure they can be contacted and always respond to messages in relation to care of patients or their own education.

Must be aware of **their responsibility to maintain their knowledge and skills throughout their careers.**

Students are expected to keep **up to date and to apply knowledge necessary for good clinical care.**

UK Quality Code for Higher Education

Part A: Setting and Maintaining Academic Standards

The Frameworks for
Higher Education Qualifications
of UK Degree-Awarding Bodies

October 2014

Qualification descriptors

The UK frameworks for higher education qualifications use qualification descriptors (as does the QF-EHEA) to exemplify the general nature and outcomes of the main type of qualification at each framework level.

The qualification descriptors are generic in nature and can be applied across subjects and modes of learning. They make clear how the qualification differs from other qualifications, both at that level and at other levels.

They provide clear points of reference for each level and cover the great majority of existing qualifications.

4.17 Descriptor for a higher education qualification at level 7 on the FHEQ and SCQF level 11 on the FQHEIS: master's degree

The descriptor provided for this level of the frameworks is for any master's degree which should meet the descriptor in full. This qualification descriptor should also be used as a reference point for other qualifications at level 7/ SCQF level 11 on the FQHEIS, including postgraduate certificates and postgraduate diplomas.

Master's degrees are awarded to students who have demonstrated:

- a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study or area of professional practice
- a comprehensive understanding of techniques applicable to their own research or advanced scholarship
- originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline
- conceptual understanding that enables the student:
 - to evaluate critically current research and advanced scholarship in the discipline
 - to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.

Typically, holders of the qualification will be able to:

- deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences
- demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level
- continue to advance their knowledge and understanding, and to develop new skills to a high level.

And holders will have:

- the qualities and transferable skills necessary for employment requiring:
 - the exercise of initiative and personal responsibility
 - decision-making in complex and unpredictable situations
 - the independent learning ability required for continuing professional development.

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Teaching and learning

	Knowledge	Skills	Attitudes	Behaviours
Stand-alone teaching	√			
Integrated teaching	√	√	√	√

Coomarasamy A, Khan K. What is the evidence that postgraduate teaching in EBM changes anything? A systematic review. *BMJ* 2004;329

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Assessment (Miller's Pyramid)

Performance review

Workplace-based assessment

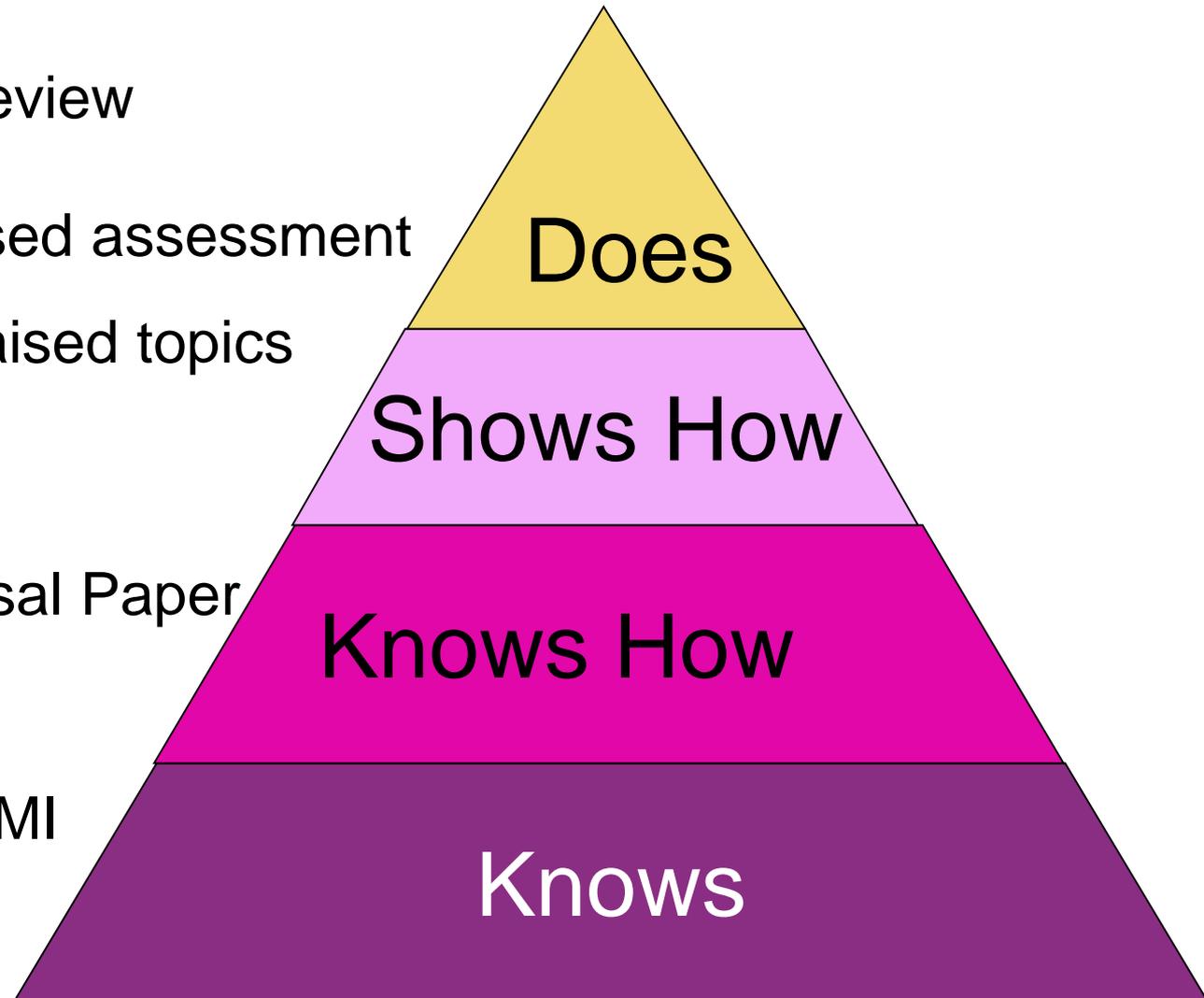
Critically Appraised topics

OSCE

Critical Appraisal Paper

Essay papers

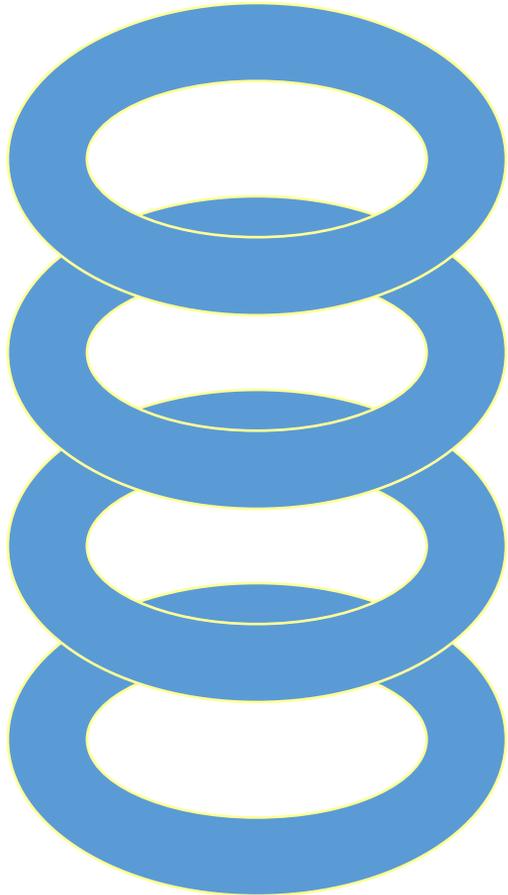
MCQ, SBA, EMI



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Kirkpatrick's hierarchy



Level 4: Performance change

Level 3: Behaviour change

Level 2: Knowledge change

Level 1: Reaction

Kirkpatrick D, 1967

QUESTIONS?