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Rising to the Surface: Re-designing Curriculum to
Accentuate Research Skills

Rising to the surface: Re-designing curriculum to accentuate research skills in second year pathology and clinical science



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Endeavour College of Natural health
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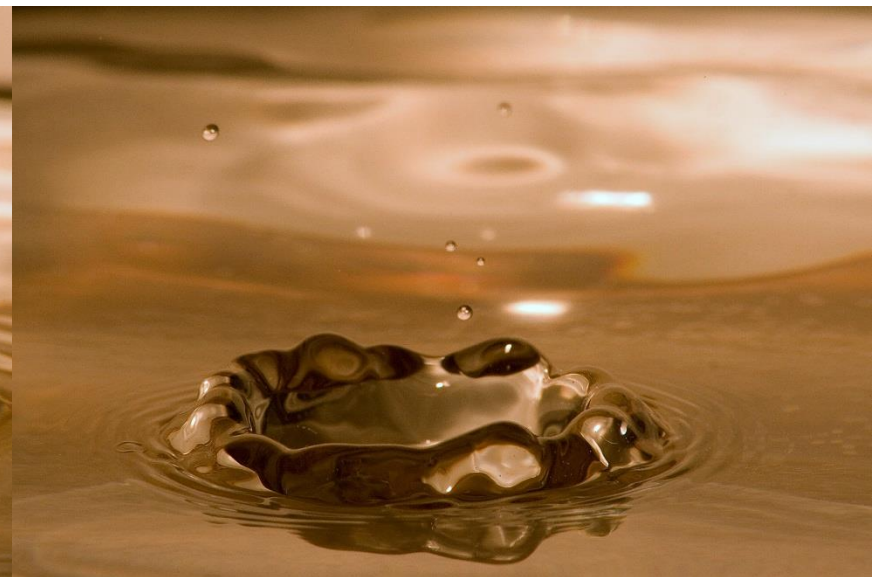
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Rising to the surface: Re-designing curriculum to accentuate research skills in second year pathology and clinical science

The outline





Pathology and Clinical Science MELT: The Development

Clinical Management Skills

Observe and ask

Find and Generate

Analyse and Interpret

Investigate and Reflect

Synthesize and apply

Organise, Manage and
Communicate

Facets of RSD

Embark and clarify

Find and generate

Analyse and synthesize

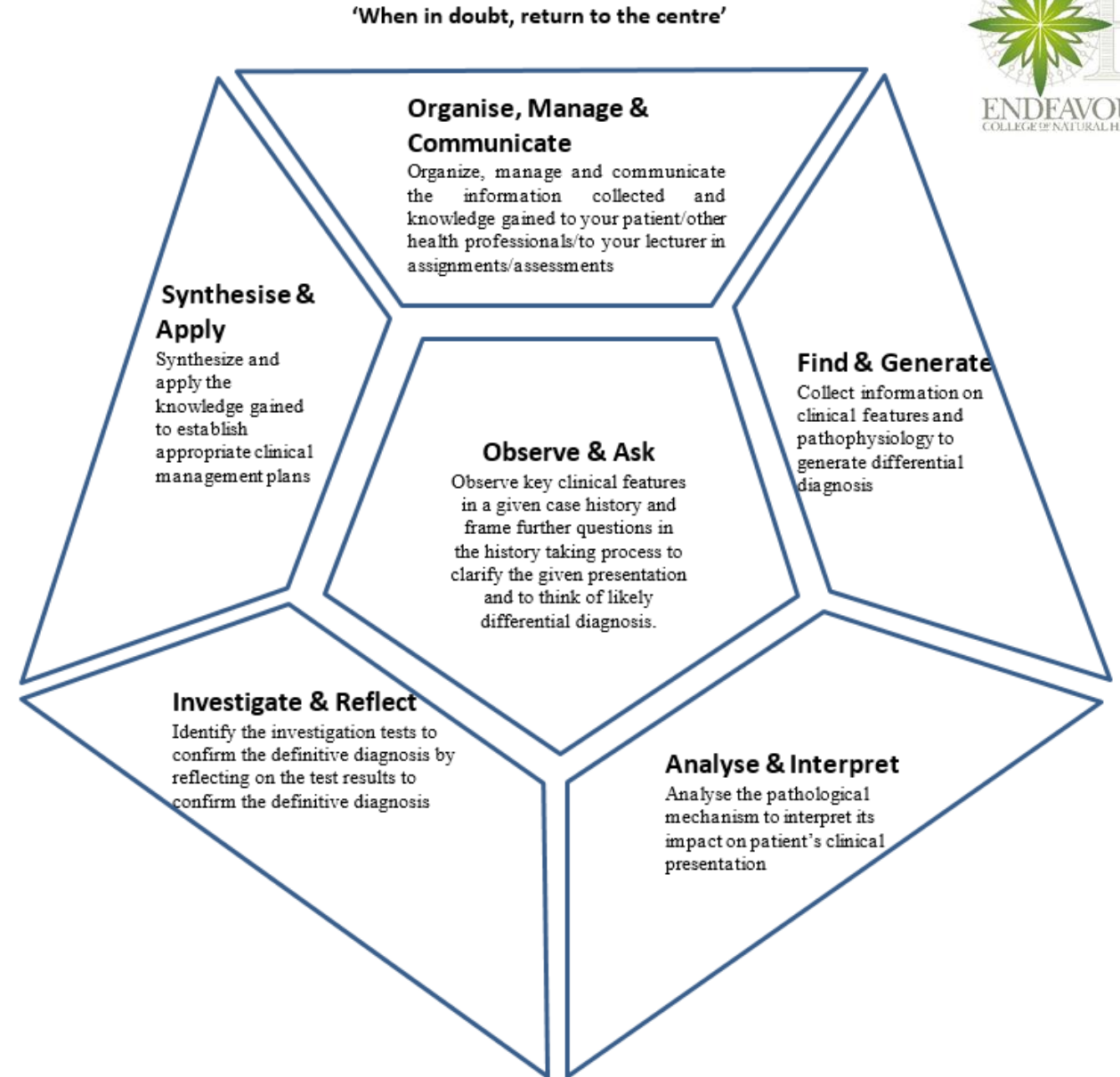
Evaluate and reflect

Organise and manage

Communicate and apply



Clinical Management Pentagon (CMP)





Clinical Management Pentagon (CMP): The Implementation

“Curriculum redesign” -A three step approach:

- Reframing the marking of an existing assessment
- Developing a diagnostic assessment
- Modifying and revising the emphasis of other existing resources



Marking rubrics in Pathology and clinical science

Facets of clinical management pentagon	Marking Rubrics	Level 0 <i>Student attempts task but do not achieve minimal requirements</i>	Level 1 <i>Student requires a high degree of structure/ guidance</i>	Level 2 <i>Student requires some structure and guidance</i>	Level 3 <i>Student works independently and satisfactorily fulfil the requirements</i>	Lecturer's comments and marks			
		CRITERIA				MARKS			
A. Student task determine knowledge (5 marks)	Appropriate differential diagnoses		0	1	2	3			
	Illustrate and analyse the role of symptomatology in process of differential diagnosis		0	1	2	3	4	5	6
	Conceptualise how mechanism of disease pathology contributes to the loss of normal functions and the clinical presentations.		0	1	2	3	4	5	
	Demonstrate the selection, application and interpretation of correct diagnostic testing.		0	1	2	3	4		
	Discuss appropriate management for the patient		0	1	2	3	4		
	Appropriate referencing and bibliography		0	1	2				
Presentation and word count		0	1						
B. Students Find and generate needed information/data using appropriate methodology (22 marks)	Ability to find information to generate differential diagnosis with appropriate rationale (6 marks)	Unable to identify any correct differential diagnosis (0 marks) AND Unable to provide appropriate rationale for all the correct differential diagnosis (0 marks)	Identifies at least one correct differential diagnosis (1 marks) AND Provides appropriate rationale for one correct differential diagnosis (1 mark)	Identifies at least two correct differential diagnosis (2 marks) AND Provides appropriate rationale for up to two correct differential diagnosis (1-2 marks)	Identifies three correct differential diagnosis (3 marks) AND Provides exceptional rationale for up to three correct differential diagnosis (1-3 marks)				



Clinical Management Pentagon (CMP): The Evaluation



Outcome measure

- Improvement in students' research and analytical skills

Tools

- Pre and Post exposure Student survey
 - Willison, Lievre and Lee, (2010)
 - 14 Likert scale questions, 2 open response questions
 - Self assessment of research skills



Data analysis: Student survey

Questions	Mean Likert Score Pre-Post (n=40)	Diff ¹ (Post-pre)
My general research skills are good	3.83-4.08	0.25
My Research Skills in pathology and clinical science are good	3.60-4.05	0.45
I am able to ask clear, researchable questions in pathology and clinical science	3.78-4.05	0.28
I can devise procedures in pathology and clinical science to generate relevant and high quality information	3.45-3.90	0.45
I can effectively evaluate the credibility of sources of information in pathology and clinical science	3.95-4.18	0.23
I can organise information from multiple sources effectively in pathology and clinical science	3.75-4.13	0.38
I am able to analyse information from different sources effectively in pathology and clinical science	3.85-4.10	0.25
I can clearly communicate in writing what I understand from my research in pathology and clinical science	3.675-3.975	0.3



Data analysis: Student survey

Open response questions:

- Facets of research: Shift observed in students' understanding or attitude to research.
- Facilitating factors for research skills development: Repeated use of research based assessments and study materials, practice and support/feedback from academics.
- Obstacles in research skills development : Access to credible information and lack of time, Lack of clear criteria/direction



Conclusion & Recommendations

Conclusion

- Improvement observed in student's perception of subject specific research skills.
- No substantial change was observed in students' perception of research skills applicability to their future studies or career.
- Research skills development may be explicitly supported by repetitions, practice and clear directions.

Recommendations

- Incorporate RSD/MELT based curriculum in all courses from the foundational years through to the whole degree programme

Questions and Answers



Thank you!

