

GP Summer Education Day

Workshop D

Making the implicit, explicit. Learning **from** work activity

Metaphors for learning (after Sfard 1998)

Learning as acquisition

- Focus on individual learner
- Emphasis acquisition of knowledge and skills
- Transfer of learning from one context to another is assumed

Learning as participation

- Focus on community of practice
- Learning also includes processes of identity formation and fosters a sense of belonging
- Context and culture are key

Learning working relationships



Learning *for* work



Learning *at* work



Learning *from* work

Learning from work

“Learning in work-based contexts involves students having to come to terms with a dual agenda. They not only have to learn how to draw upon their formal learning and use it to interrogate workplace practices; they also have to learn how to participate within workplace activities and cultures”

Griffiths and Guile, 1999 page 170

Learning working relationships



Learning *for* work



Learning *at* work



Learning *from* work

Some specific strategies

1. Active & purposeful observation
2. Developing reasoning skills
3. Teaching through questioning

Active & purposeful observation



What do you see?



Imagine...

We think Mr X might be showing early signs of Parkinson's Disease, he is coming in with his wife today.

Just sit in with this consultation and observe what goes on...we can talk about it afterwards.

What would you observe...



What does that suggest?

- There are different ways of looking at the same situation influenced by the professional background and experience of the observer
- Unless a structure is given there is a risk that students either try to observe everything (at a superficial level) or observe something quite different from intended learning task
- Observation is not an objective or theoretically neutral activity

Purposeful observation

Clearly the instruction ‘observe!’ is absurd. Observation is always selective. It needs a chosen object, a definite task, an interest, a point of view, a problem.

Karl Popper 1972, page 46.

Use advance organisers

We think Mr X might be showing early signs of Parkinson's Disease, he is coming in with his wife today.

What did you notice about...



Provide a template

- Templates help structure observations, structure thinking and guide practice
- E.g. taking a clinical history



The screenshot shows the top portion of a journal article page. At the top is a dark blue header with the journal title 'ACADEMIC MEDICINE' and the AAMC logo. Below this is a navigation bar with links for 'Articles & Issues', 'Collections', 'For Authors', and 'Journal Info'. The main content area includes a breadcrumb trail: 'Home > June 2010 - Volume 85 - Issue 6 > Transferring Clinical Communication Skills From the Classroo...'. There are also links for '< Previous Article | Next Article >'. Below these are social media icons for Facebook, Twitter, LinkedIn, and Google+. The article title is 'Transferring Clinical Communication Skills From the Classroom to the Clinical Environment: Perceptions of a Group of Medical Students in the United Kingdom'. The author is listed as 'Brown, Jo MSc'. The journal information includes 'Academic Medicine: June 2010 - Volume 85 - Issue 6 - pp 1052-1059' and the DOI '10.1097/ACM.0b013e3181db776f'. A 'FREE' badge is present. At the bottom, there are tabs for 'Abstract' and 'Author Information', with the 'Abstract' tab selected. The abstract text reads: 'Purpose: To better understand the transfer of classroom-learned clinical communication skills (CCS) to the clinical environment of the hospital ward, where they are practiced and refined by students.'

Active & purposeful observation



Useful to

- Structure learning in opportunistic settings
- Draw on formal learning to interrogate workplace practices
- Help students make deliberative connections
- Help develop skills in making routine observations
- Compare practice(s)

Developing reasoning skills

- What strategies do you currently use to help your learners develop their clinical reasoning skills?



Foster pattern recognition

- Foster pattern recognition by repeated exposure to typical presentations
- Utilise compare and contrast methods in teaching
- E.g. to what extent is this similar to what you have seen before, to what extent is it different etc



The screenshot shows the top portion of a web page for The New England Journal of Medicine. At the top left is the journal's logo, a circular seal with the text 'The NEW ENGLAND JOURNAL OF MEDICINE' and the years '1812', '1823', and '1858'. To the right of the logo is the journal's title 'The NEW ENGLAND JOURNAL of MEDICINE'. Below the title is a navigation bar with links for 'HOME', 'ARTICLES & MULTIMEDIA', 'ISSUES', 'SPECIALTIES & TOPICS', 'FOR AUTHORS', and 'CME'. The main content area is titled 'REVIEW ARTICLE' and 'MEDICAL EDUCATION'. It lists the editors 'Malcolm Cox, M.D., Editor, David M. Irby, Ph.D., Editor' and the article title 'Educational Strategies to Promote Clinical Diagnostic Reasoning' by 'Judith L. Bowen, M.D.'. The article is dated 'November 23, 2006' and has a DOI of '10.1056/NEJMra054782'. There are social media share icons for Facebook, Twitter, LinkedIn, and a plus sign. Below the article title is a tabbed interface with 'Article' selected, and other tabs for 'References', 'Citing Articles (254)', and 'Letters'. The first sentence of the article is: 'Clinical teachers differ from clinicians in a fundamental way. They must simultaneously foster high-quality patient care and assess the clinical skills and reasoning of learners in order to promote their progress toward independence in the clinical setting.¹ Clinical teachers must diagnose both the patient's clinical problem and the learner's ability and skill.'

Foster pattern recognition



Think aloud techniques

Use ‘think aloud’ techniques to make your thinking visible!

- ‘I am wondering if’
- ‘I am puzzled by’
- ‘I am weighing up x over y’
- ‘My instinct tells me x’
- ‘This is fairly typical’



The screenshot shows the ASME medical education journal page for the article "Self-explanation in learning clinical reasoning: the added value of examples and prompts". The page includes the journal logo, title, authors (Martine Chamberland, Sílvia Mamede, Christina St-Onge, Jean Setrakian, Linda Bergeron, Henk Schmidt), publication date (27 January 2015), DOI (10.1111/medu.12623), citation information (3 articles), and an abstract section. The abstract discusses the impact of self-explanation (SE) on clinical reasoning in medical students, comparing SE with and without prompts.

ASME **medical education**
www.mededuc.com
Explore this journal >

Example-based Learning

Self-explanation in learning clinical reasoning: the added value of examples and prompts

Martine Chamberland [✉](#), Sílvia Mamede, Christina St-Onge, Jean Setrakian, Linda Bergeron, Henk Schmidt

First published: 27 January 2015 [Full publication history](#)

DOI: 10.1111/medu.12623 [View/save citation](#)

Cited by: 3 articles [Citation tools](#)

[Altmetrics](#) 1

[Funding information](#)

Abstract

Context

Recent studies suggest that self-explanation (SE) while diagnosing cases fosters the development of clinical reasoning in medical students; however, the conditions that optimise the impact of SE remain unknown. The example-based learning framework justifies an exploration of students' use of their own SEs combined with the study of examples. This study aimed to assess the impact on medical students' diagnostic performance of: (i) combining students' SEs with their listening to examples of residents' SEs, and (ii) the addition of prompts (specific questions) while working with examples.

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Volume 49, Issue 2
February 2015
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Make your thinking visible



Encourage use of self-explanation

- Use student self-explanation when diagnosing ‘paper cases’
- Students who have worked through paper cases before meeting real patients have better diagnostic performance



The screenshot shows the front page of a journal article in the journal 'medical education'. The journal logo is ASME. The website is www.mededuc.com. The article title is 'Self-explanation in learning clinical reasoning: the added value of examples and prompts'. The authors are Martine Chamberland, Silvia Mamede, Christina St-Onge, Jean Setrakian, Linda Bergeron, and Henk Schmidt. The article was first published on 27 January 2015. The DOI is 10.1111/medu.12623. The article has been cited by 3 articles. The abstract is visible, discussing the impact of self-explanation (SE) on clinical reasoning in medical students.

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Use prompts.

- Use prompts when working with examples
 - Justification prompts
 - *What principle is being applied here?*
 - Mental model revision prompts
 - *How does it relate to what you already know?*
 - *Does it help you gain more insight into how to solve the problem?*



The screenshot shows the journal article page for "Self-explanation in learning clinical reasoning: the added value of examples and prompts" in the journal "Medical Education". The page includes the ASME logo, the journal title "medical education", and the website "www.mededuc.com". The article title is prominently displayed, followed by the authors: Martine Chamberland, Sílvia Mamede, Christina St-Onge, Jean Setrakian, Linda Bergeron, and Henk Schmidt. It provides publication details: "First published: 27 January 2015" and "DOI: 10.1111/medu.12623". There is also a section for "Cited by: 3 articles" and a small "Web of Science" icon showing a score of 1. The abstract section is visible, starting with "Context" and "Recent studies suggest that self-explanation (SE) while diagnosing cases fosters the development of clinical reasoning in medical students; however, the conditions that optimise the impact of SE remain unknown. The example-based learning framework justifies an exploration of students' use of their own SEs combined with the study of examples. This study aimed to assess the impact on medical students' diagnostic performance of: (i) combining students' SEs with their listening to examples of residents' SEs, and (ii) the addition of prompts (specific questions) while working with examples."

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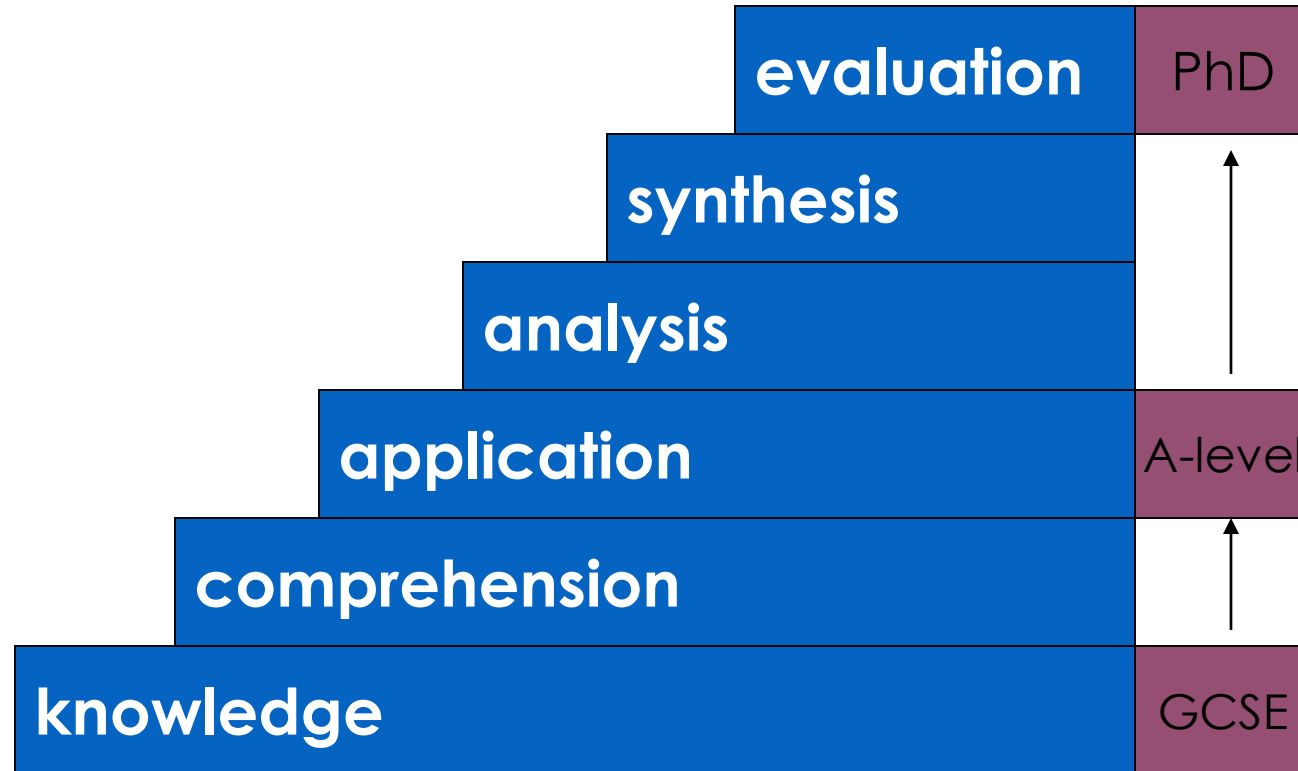
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Develop your questioning skills...

- The next patient has diabetes...
- Think of a really good question to get students thinking about diabetes...one for each year of the MBBS



Thinking like a professional?



Adapted from Bloom's Taxonomy

The elephant's child – Rudyard Kipling

I KEEP six honest serving-men

(They taught me all I knew);

**Their names are What and Why
and When**

And How and Where and Who.

I send them over land and sea,

I send them east and west;

But after they have worked for me,

I give them all a rest.



Making the implicit, explicit



Learning *for* work



Learning *at* work



Learning *from* work

A cognitive apprenticeship

- **Modelling:** allow the learner to observe your practice in order to build up a conceptualisation of that practice,
- **Coaching:** watch the learner practise, offering them guidance, critique and feedback.
- **Scaffolding:** offer the learner more opportunities to practise, gradually and purposefully increasing complexity of the work undertaken while slowly fading out your input.
- **Articulation:** use questioning and supervision time to encourage the learner to talk you through what they are doing, why and how, providing a rationale for the approaches taken.
- **Reflection:** encourage the learner to consider their performance analytically and to compare it with that of the expert to identify ways to further enhance their own performance.
- **Exploration:** provide opportunities for the learner to undertake new tasks and activities, prompting the learner to become independent in their activity and their thinking.

Source: After Collins, from Morris and Blaney (2014)

Some general principles...



BOX 7.5 HOW TO: Make the implicit 'explicit'

- Label the learning opportunities that arise spontaneously in day-to-day work.
- Signal expectations in terms of culture (dress code, ways of addressing members of the team and patients), practices (preferred ways of doing things and why) and participation.
- Encourage learners to articulate and discuss observed differences in culture and practice in different settings or specialties, and consider why these may occur.(39,40)
- Be clear about the importance given to learning from work and set aside time to consider lessons learned (brief and debrief).
- Prime learners for observation and shadowing (using advanced organisers), making clear what it is possible to learn.
- Adopt the principles of 'articulation and reflection' in your approaches to clinical teaching cognitive apprenticeship.
- Talk about what you are role-modelling and why.

Morris & Blaney (2014) Work-based Learning in Swanwick, T (Ed) (2014) Understanding Medical Education.