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Medical Education @ Cardiff

Use Questioning to Enhance Learning

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It is important for trainers to appreciate that the same questioning skills and strategies that are used in the clinical consultation can always be further developed and incorporated into teaching sessions, thereby greatly enhancing the learning experience for the trainee or the medical student. Frequently debates around the issue of questioning in educational settings will consider the role of Socratic dialogue in order to remind teachers that questioning is a well established tradition as an educational strategy and indeed, the Socratic method of using questions and answers to challenge assumptions, expose contradictions, and lead to new knowledge and wisdom is an undeniably powerful teaching approach.

Clinicians develop their questioning skills in relation to communicating with patients in order to elicit necessary information.

Unfortunately, some clinical educators and educational supervisors do not always recognise or use these skills in this area when it comes to working with trainees.

In addition to its long history and demonstrated effectiveness, questioning is also of interest to researchers and practitioners because of its widespread use as a contemporary teaching technique. Research indicates that questioning is second only to lecturing in popularity as a teaching method and that classroom teachers spend anywhere from thirty-five to fifty percent of their instructional time conducting questioning sessions. A considerable amount has been written about the differences between students approaches to deep and surface learning and the consequence of each approach for retention and assimilation of knowledge and skills. Over recent decades a variety of learning style inventories have been developed in order to analyse whether students take a deep or surface approach to learning and studying. With a surface approach the emphasis is on memorisation of facts or in order to meet assessment criteria. Whereas with a deep approach, the learners engage with a task in order to understand 'bigger' picture.

Questioning is a dialectical process and one which is incorporated into human interactions from a very early stage with questions and statements working together to form the basis of conversation. It can be argued, therefore, that the quality of learning is very much dependant upon the skill of questioning. Often in educational settings there is a lack of skilled questioning on the part of the teacher because we have developed an educational culture which expects students to know the 'right answer'. This over emphasis on the supposition that there is only one correct answer can result in educators focusing on asking only low level questions which seek factual responses, testing only recall ability and rather than knowledge application. Also the learners can be uncomfortable with the feeling that they do not know the correct answer. In order to avoid such a directive, teacher centred approach, trainers may find it useful to use Bloom's taxonomy, which divides types of learning into what may be seen as an ascending hierarchy, in order to analyse the types of questions they are asking.

Questions can be devised to cover these six areas in a teaching encounter in order to get the best from the medical student or the trainee. As a trainer it is helpful to consider during the planning stages prior to a teaching session, the ways in which different types of questions can be used to explore different types of learning. This process of incorporating Bloom's taxonomy into the learning process also helps encourage learners in the formulation of questions themselves in their own independent learning, since it highlights the importance of exploring the higher order thinking through the application of theory with practice.

One of the first things that you need to consider is why are you asking your learners questions in the clinical setting? Consider the following list of questions and reflect on:

1. Which you think have the greatest value for helping the trainee to learn?
2. How you might change or further develop these questions
3. What is the purpose of each question e.g. to identify baseline knowledge?

- ▶ What do we call this type of reaction?
- ▶ Can you list Schneider's first rank symptoms for Schizophrenia?
- ▶ Which cranial nerve is this?
- ▶ Do you know how to classify leukaemia?
- ▶ Does this barium enema show a stenosis?
- ▶ Would you inject this joint?
- ▶ What do you think are the key issues in managing this situation?
- ▶ How does this chest X-ray help you?
- ▶ Why do you think this ulcer will not heal?
- ▶ Which treatments would you consider for this young child with asthma?
- ▶ How could you tell if there is an underlying tumour?
- ▶ What options are there for management?
- ▶ Under what circumstances would you do a lumbar puncture?
- ▶ What are the key muscle groups involved?

There are many approaches to the use of questioning and the following is an example from McGill & Brockbank (2004):

Opening:

The supervisor's responses are accepting, clarifying and descriptive.

Examples

- ▶ Could you expand on what you mean by....?
- ▶ Could you give further explanation of.....?
- ▶ Are there any implications in what you said about....?
- ▶ Would you agree if I sum up what you're saying as....?

Development:

The supervisor probes the trainee's understanding and encourages the learner to move into an exploratory phase.

Examples

- ▶ Have you thought about...?
- ▶ How do you know that....?
- ▶ Does it follow from what you said that....?
- ▶ How does that compare with....?
- ▶ What if we look at it this way....?

Conclusion:

The trainee is asked to evaluate critically and to focus on action.

Examples

- ▶ Do you think/feel differently now about....?
- ▶ What specifically do you need to know/do about....?
- ▶ What is the point of looking into/doing....?
- ▶ Have you identified resources and planned how to....?
- ▶ Is there an alternative view/approach....?

Effective use of questioning can enhance learning and create a positive educational climate which will enable the trainee to explore different elements of a learning situation and engage fully with the learning process. The crucial component is to ensure that questions are selected which provide opportunity for the learner to carefully consider issues and explore them at a deeper level, to facilitate reflection and aid learning.

Further Information

Brockbank, A. McGill, I. (2006) *Facilitating reflective learning through mentoring and coaching*. London: Kogan Page

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