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Reflections

Can microteaching inform reflective practice?

REFLECTIONS

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ABSTRACT

Microteaching was first introduced by Dwight W. Allen in the sixties and since then has become a pivotal aspect of teacher training, particularly within medical education. As a form of teacher training, it enables teachers to reflect upon effective practice by implementing a deliberate cyclical reflection process. The importance of such reflective practice within medical education is well established. However, rarely is it regularly or successfully undertaken and the traditional 'see one, do one, teach one' approach to teaching and training is widely disputed and in need of revival so that it may better reflect the shifting cultural, social and political restrictions and expectations placed on medical professionals. A plan, do, reflect, re-plan, re-do and re-reflect schema as adapted from the practice of microteaching provides a clear framework on how best to reflect on one's own practice and therefore acts as a positive initial step towards improving self-reflection within medical education.

WHAT IS MICROTEACHING?

Microteaching is a globally recognised method of teacher training that enables teachers to reflect upon effective teaching practice. (1) It was first introduced by Dwight W. Allen in the sixties and since then it has become a critical aspect of teacher training, particularly within medical education. (2) Microteaching utilises immediate feedback within a real teaching environment to enable individuals to further develop their pedagogical abilities and is underpinned by the 'plan, teach, observe, re-plan, re-teach and re-observe' schema. (1) This method of teacher training therefore implements a deliberate recurring reflection process and consequentially may be considered an extension of reflective practice.

Microteaching's success can be partially attributed to its similarities with Klob's four stage experimental learning cycle. (3) Following teaching (concrete learning), the educator reflects on their teaching (reflective observation), generates new ideas of how to better their teaching (abstract conceptualization) and finally the teacher applies these new ideas to their teaching (active experimentation). This enables the development of more personalised teaching for their students and lets them emphasise the activities and techniques that yield the best results.

The process of microteaching actively involves the individual in their learning and encourages teachers to take responsibility for their learning and can therefore be considered a form of constructivist teaching and an adaption of Piaget's 1977 explanation of learning. (4) Piaget's explanation of learning states that an experience, in this case teaching feedback, that conflicts with and disrupts our current equilibria forces us to alter our behaviour. Microteaching can then be taken further and considered within the context of behaviourism as the teacher's behavioural changes are driven via reinforcement in the form of immediate feedback.

The irrefutable pedagogical basis for the implementation of microteaching and its supporting evidence base to-date begs the question, how else may the medical field learn from this practice beyond the remits of direct educational practice?

How can medical education learn from microteaching?
At the core of microteaching is reflective practice. Reflective practice is an essential and valued skill of health care professionals and whilst this multifaceted learning process supports extensive rationale for its implementation, rarely is adequate time spent on ensuring appropriate reflection is taken and it has been suggested that self-reflection is taught and undertaken insufficiently by those in medical education. (5)

As with most clinical measures, poor outcomes often stem from a lack of clear guidelines which inevitably result in inter-personnel variation. Reflective practice is no exception. There is a need for the development of a new framework to better inform medical undergraduates how to successfully reflect on their practice.

It is the opinion of the author that such a framework be adapted from those used within microteaching. Such that the plan, teach, observe, re-plan, re-teach and re-observe schema may be modified to become the plan, do, reflect, re-plan, re-do and re-reflect schema (figure 1). This may then be further supported in medical education by the well-established Kolb learning cycle as outlined above.

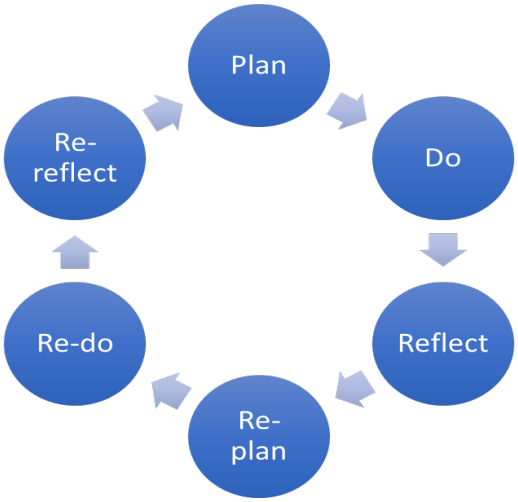

Figure 1: *Cyclical reflection schema for adapted from the practice of microteaching.*

The application of microteaching within medicine and medical education is not a novel concept as previous studies have demonstrated that the quality of medical teaching is significantly improved following attendance at microteaching sessions in both 2nd ($p=0.0001$), 3rd ($p=0.0001$), and 4th ($P=0.010$) year medical students. (6) Additional studies have evidenced that in a sample of 30 medical faculty personnel, 60% were rated to have significantly improved post-microteaching presentations and 80% felt it was easy to put together a peer group therefore suggesting that microteaching may not only be an effective method of improving medical education but also a convenient one. (7)

Just as microteaching actively involves the individual in their learning and encourages teachers to be autonomous, the same could be said if the theoretical basis is applied to medical reflection; the student would be actively involved in their training and encouraged to be autonomous in their clinical reflection. 'Despite much of undergraduate medical reflection focusing on clinical competencies and patient interactions. It may be suggested that applying this model beyond the clinical environment and to academic work and professional relationships will better equip students as scholars, practitioners and professionals as required by the General Medical Council's Outcomes for Graduates. (8)

HOW TO IMPLEMENT THE NEW REFLECTIVE SCHEMA WITHIN CURRENT MEDICAL CURRICULA

Having suggested a new model of medical reflection, it is important to explore how this may be implemented in a practical context. The potential effectiveness of this micro-teaching based schema is well evidenced by the example of breaking bad news to a patient:

Firstly, the individual must 'plan' how they will deliver the bad news to the patient. This may include confirming that their bleep is turned off, ensuring that they will not be disturbed by colleagues and identifying which words and phrases are best to use.

Secondly, the student will 'do', which involves performing the action (breaking the bad news) in a manner that implements what was learnt and planned during the previous phase.

Thirdly, the student must take adequate time to 'reflect' on how they performed in the 'do' phase and to critically evaluate the impact on all involved parties. It is advised here to use one of Gibbs, Kolb's or Schön's reflective models to better structure this phase.

Next, the student or healthcare professional should apply the lessons and insights gained from the previous reflection phase to 're-plan' for the next time they are required to repeat this skill. In the current example, this might include ensuring they leave more time for the patient to ask questions or confirming that the patient understands what has been said.

Finally, the student will be required to 're-do', which will involve applying the newly learnt methods from the previous 're-plan' phase the next time they break bad news.

The cycle then repeats with the final 're-reflect' phase. By using this 'plan, do, reflect, re-plan, re-do and re-reflect' model effectively and by unbiasedly and critically reflecting on one's own practice, a continual cycle of improvement is created based on self-reflection and self-evaluation.

CONCLUSIONS AND RECOMMENDATIONS

The traditional Halsted approach to teaching and training is widely disputed and in need of revival so that it may better reflect the shifting cultural, social and political restrictions and expectations placed on medical professionals. 'See one, do one, teach one' is no longer suitable for the acquisition of important and potentially dangerous clinical competencies as it fails to incorporate self-reflection into the model. Plan, do, reflect, re-plan, re-do and re-reflect is a more suitable model of learning and has the potential to improve the practice of self-reflection within medical education by offering a clearly defined and intuitive framework.

The importance of reflective practice within medical education is well established. However, rarely is it regularly undertaken. Inadequate reflective practice may be considered a reflection on the lack of clear guidelines on how to effectively do so. The plan, do, reflect, re-plan, re-do and re-reflect schema suggested in this article, as adapted from the practice of microteaching provides a clear framework on how best to reflect on one's own practice and therefore acts as a positive initial step towards improving self-reflection.

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