

## REFLECTION IN MEDICAL EDUCATION : DRIVING INTO THE FUTURE WITH AN EYE ON THE REAR VIEW MIRROR

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### ABSTRACT

Reflection is a metacognitive process that occurs before, during and after situations with the purpose of developing greater understanding of both the self and the situation so that future encounters with the situation are informed from previous encounters.

Reflective practice is considered to be an important strategy for health professionals as it promotes clinical reasoning, personal and professional development and closes the gap between theory and practice of medicine. Hence, it is imperative that medical students develop the ability to reflect on practice. This necessitates incorporation of curricular interventions and innovations which foster reflective exercises in undergraduate and postgraduate medical education.

Many models of reflection exist, which provide a foundation for building learning activities which improve reflective abilities. The activities which nurture reflection include learning contracts, writing reflective journals, questioning and discussion. Assessment tools can be designed to appraise the levels of reflection attained.

The drawbacks of reflection may be that it is time-consuming, confusion may prevail over which situations to reflect upon or reflection may be inadequate to resolve a clinical problem but it cannot be denied that reflection can influence patient care. This establishes reflection as an essential component of medical education.

**Key words:** Problem solving, critical thinking, clinical reasoning

*'If we teach today as we taught yesterday, we rob our children of tomorrow.'*

- John Dewey

### INTRODUCTION:

Two strategies of the cognitive process are acknowledged as essential to the practice of medicine; the first being clinical reasoning which is synonymous with problem solving and the second is scientific/critical thinking which involves problem solving using research based evidence. The third valuable strategy of the cognitive process is reflection, which is partially acknowledged and has not yet been accepted in a big way in the practice of medicine<sup>1</sup>. Hence, it is imperative that an awareness be created regarding reflection

amongst health professionals.

### *What is reflection?*

#### **Definition:**

There are several definitions of reflection in literature but the most widely accepted one states that 'Reflection is an intellectual and affective activity in which individuals engage to explore their experiences in order to lead to new understanding and appreciation'<sup>1,2</sup>

In simpler terms, as described by Donald

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Schon, reflection is not just looking back on past events, but is a three step process in which you look back on a past event, analyse it and project it into future events.<sup>3</sup> (Fig.1)

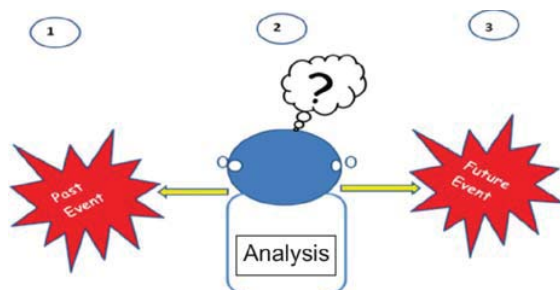


Figure 1. Donald Schon's three step process of reflection.

When the cognitive process with respect to an event that has occurred involves what happened? When did it happen? Who was present when it happened? And where it happened?, it is called as a descriptive process. It is referred to as a reflective process when in addition to all that is involved in the descriptive process, thoughts and feelings are added to it and includes why it happened? How did it happen? And now that it has happened, so what? Was it important? Is more information needed? What can be learnt from the experience? And finally, now what? What could be done? What needs to be done? What is the consequence of the action taken? (Fig. 2)

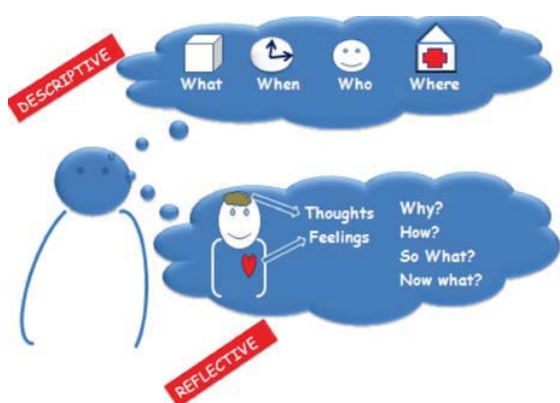


Figure 2. Descriptive and Reflective processes of cognition.

### ***Why reflection needs to be done in medicine?***

A systematic review of literature on reflection and reflective practice in health professions education concluded that it is one of the most important adult learning tools and promotes better learning and understanding. However, it is least formalised and generally not taught in medical colleges. It is not easily learned and like any other cognitive process, requires practice.<sup>4</sup>

It is important in today's times to create awareness of a learning and assessment tool which will probably find its place in the near future in the revised medical curriculum of 2016 in which professionalism and ethics are being introduced. One of the methods of practising professionalism is by reflection.<sup>5</sup>

### ***How is reflection done? What are the different methods employed to do it?***

As stated by the well established Kolb's cycle of experiential learning, a person performs an activity, then thinks about how it went and comes to a conclusion of whether it was correct or incorrect and then adapts to the situation. i.e., if it was correct, he continues doing it and if it was incorrect, he finds a solution to the problem and then re-does, re-thinks, re-concludes and re-adapts. According to Kolb's cycle, doing is concrete experience, thinking is reflective observation, concluding is abstract conceptualization and adapting is active experimentation. This is one method of reflection.<sup>6</sup>

(Fig. 3a)

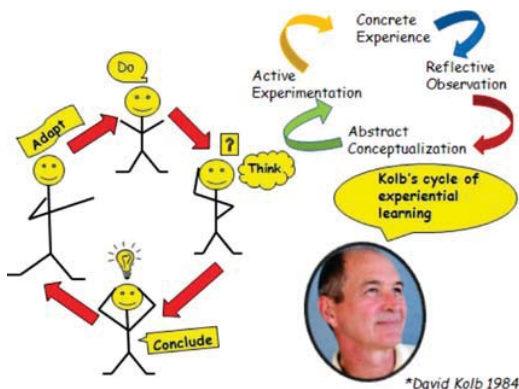


Figure 3a. Kolb's cycle of experiential learning



Figure 3b. Rolfe's model (2001)



Figure 3c. Mezirow's model (1991)

Rolfe's iterative minimal model is simple and is about What? So what? And Now what? (Fig. 3b). Mezirow's vertical model is a stepwise reflective practice with habitual action at the bottom of the rung. Next is thoughtful action followed by reflection and critical reflection<sup>3</sup> (Fig. 3c).

Gibb's reflective cycle starts with a description of what happened during an event, which is followed by feelings. i.e., what was being thought and felt at the time of the event. Then comes evaluation of what was good and bad about the experience followed by analysis of what sense in general could be made of the situation and specifically, what else could have been done, followed by a conclusion of what should have been done and finally, an action plan on – if the situation arose again, what would be done.<sup>7</sup> (Fig. 4)

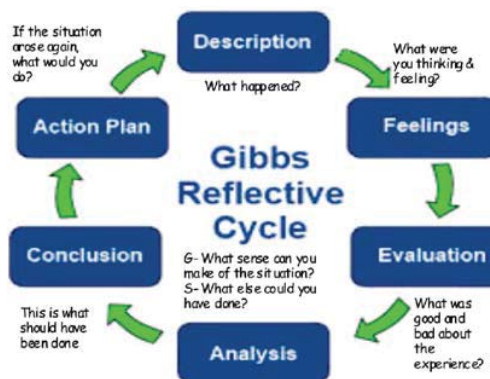


Figure 4. The Gibbs Reflective Cycle

### When should reflection be done?

Reflection can be used as a learning tool for better understanding of the experience and the documentation of reflection can be used for assessment. There are several ways of grading reflective practice. A validated rubric using items based on Gibb's reflective cycle is indicated in Figure 5.

Awareness of the experience	Understanding the experience	Impact on future actions
Descriptions & Feelings	Evaluation & Analysis	Conclusion & Action plan
<ul style="list-style-type: none"> <li>•No description: 0</li> <li>•Incorrect: 1</li> <li>•Incomplete: 2</li> <li>•Complete &amp; accurate: 3</li> </ul>	<ul style="list-style-type: none"> <li>•No explanation: 0</li> <li>•Insignificant: 1</li> <li>•Significant: 2</li> <li>•Multiple significant: 3</li> </ul>	<ul style="list-style-type: none"> <li>•No description: 0</li> <li>•Insignificant: 1</li> <li>•Brief: 2</li> <li>•Extensive: 3</li> </ul>

Figure 5. Grading of Reflective practice

### ***Where is reflection documented?***

The activities that promote reflective practice are: Student Learning Contract, Reflective Journal, Questioning, Discussion.

### ***Who should do reflection?***

Both students and teachers can reflect on their respective activities.

### ***How to make reflective practice effective?'***

Reflective practice can be made effective by:

- a. Keeping the description short as a lengthy description loses its way.
- b. Sharing the reflection with a colleague to get better ideas and understanding.
- c. Making the reflection structured so as not to lose focus.
- d. Documenting it in a scholarly fashion by accessing information through literature, exercising intellect and seeing things from a different perspective.

The advantages of promoting reflective practice are: it leads to a deeper understanding, improves teaching, helps connect theory with practice and transforms perspectives.

The disadvantages of reflective practice are: It is time consuming, the structured approach adopted for practising reflection limits thinking, it may be considered to be just a fad, events may not be remembered as they actually were and there may be resentment to participate in reflective practice as it may be seen as being disconnected with learner needs.<sup>8</sup>

### **FINAL THOUGHTS:**

Reflection is critical for the growth of the individual and society. It is the process by which

humanity evolves. It is, as quoted by Donald A Schon, a dialogue of thinking and doing through which a person becomes more skilful. Its importance in the practice of medicine is that it can influence patient care. This establishes reflection as an essential component of medical education.

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