EDITORIAL

Reflection As An Essential Component of Medical Education

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Medical education has taken many turns in the last 2 decades. For centuries the teaching and learning of the science and art of Medicine as a discipline has been pedagogic. A figure of authority taught from personal experience and knowledge, garnered in time, most of it from former teachers and passed on verbatim to students. There was no need for proof, experimentation, change or the challenge of inquiry or skepticism on the part of the learner. Additional knowledge crept in but again went unchallenged. This system still accounts for a large part of education or information transfer worldwide albeit with an increasing tendency to seek a more solid basis for the knowledge than the pronouncement of a pedagogue or the words of a pedagogic textbook. Further refinement came when it was recognized and accepted that teachers needed to learn how to teach hence arose the need for developing departments of Medical Education. Different teaching methodologies were developed: interactive learning; problem based learning; problem solving interactive learning; evidence based learning, making association maps and more significantly reflection, reflective learning and reflective practice.

AMEE(Association of Medical Educators of Europe) guideline 44 defines reflection as "a meta cognitive 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". Metacognition is thinking about thinking. Points for reflection are: the basis of decisions making, actions taken or behavioral changes made, the results of the action taken. Reflection may not result in immediate improvement in patient care but will certainly help to develop better decision making in an individual and in a team. Reflection can only be successful when there is experiential learning. A child also learns by experience, we all do. The basic three stage model of reflection is DO > REVIEW > PLAN. A child touches a hot plate, feels the searing pain of burning fingers, and learns that hot plates, indeed all hot objects must never be touched. Can we learn before touching a hot plate? Can we apply the experience of getting burnt to other situations? Can we translate experimental learning to reflection?

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How do we learn from experience? According to Kolb(1984) there are 4 phases; having an experience; reflection; abstract conceptualization; application. An example is: a patient is brought to the ER with a generalized fit: reflection- what made him have this fit; was it a drug or injury or diet or brain disorder: he has an insulin pen in his pocket; conceptualization - too much insulin; not enough food: application- reduce the dose of insulin when discharging him and make sure he carries food with him at all times and a card in his pocket saying that he is a diabetic on insulin. If application is restricted to checking his blood sugar and giving him intravenous glucose then reflection has not helped because the situation will occur again. In the majority of cases the situation will be restricted to the correction of hypoglycemia only.Critical reflection is the process of analyzing, questioning, and reframing an experience in order to make an assessment of it for the purposes of learning (reflective learning) and/or to improve practice (reflective practice).

How can reflection be practiced in clinical life? One form of reflection is group reflection. Healthcare workers do not work in isolation. The team that shares patient care includes doctors from different disciplines, nurses, technicians, auxiliary workers. An input from each member, especially those who are not heard or involved during a ward round or clinical decision making session, will make the reflective session meaningful. The group reflection is not a critique nor is it meant to apportion blame or praise.That is how it differs from a formal postmortem or clinical audit session. An input from each member is meant to include personal values and observations. The input from each member of the group is of value as moral and social values, perceptions of priority are as important as clinical management. A conclusion may or may not be reached. Some areas of change will usually be identified and the group can decide formally or informally whether behavior changes in the group or its members are needed. This may be formal i.e. written down or informal i.e. communicated during the discussion. Every patient or clinical situation need not be reflected on but a group member can request a reflection session, which a group leader can arrange. Reflection can be a solo exercise. A person can reflect on a situation or encounter with the help of a mentor. This has the advantage that an input from the mentor can be obtained. The individual carrying out the reflective exercise can maintain a journal or audio record of the session and can use this record later to review the performance.

There is increasing emphasis on the use of reflection in both undergraduate, postgraduate and continuing medical education, but often the nature and intentions of reflection are nebulous. Does reflection have a definite purpose? Will reflection be useful in the practice of medicine? If reflection can shape our actions in the future it has a definite purpose. If we can use reflection to make sense of a situation or an encounter and improve our reaction to it then reflection will become a tool that can be used to improve medical care and medical practice. What is an encounter? It is an interaction with another person or group of people i.e. a patient, or a cohort under study, or a group for a therapy session, pertaining to healthcare in any way, a medical encounter is said to have taken place. A medical event such as a road traffic accident, cardiac arrest, decision to turn off a ventilator is a medical situation.

The aim of being a clinician par excellence requires knowledge, clinical skills and renewal or updating of knowledge. To interact with a patient and the patient's care givers requires reflection on the part of the clinician. An essential part of the relationship between a patient and a doctor, is to preserve, respect and maintain the value system held by both of them. An essential part of the development of a doctor is to become a self-regulated life-long learner. Self-regulated learners use metacognitive processes i.e. think about their own approach to thinking, to select, monitor and evaluate their approach to a task, hence reflection is essential. The terms used for reflection, the processes used for it are often ambiguous and an overlap in usage occurs.

A powerful shift in learning occurs when an individual's strongly held view of self-worth or world view changes; as the individual realizes that the learning or other skills which were successfully applied previously do not apply any longer. This is a phenomenon encountered by medical students when they encounter their peers in college i.e. students who are equally good or better and realize that they are no longer the "best" student in the class by default and that the cognitive skills at which they excelled and which helped them enter a medical college are no longer sufficient. These students encounter embarrassment, shame, sadness, anger. Reflection will help them realize that the skills required to survive in medical college are diverse and angled towards application and understanding.

How can reflection be used in undergraduate and postgraduate learning in a medical college?Guided reflection, with help of a mentor who is experienced in reflective activities can be very useful. A facilitator can provide the necessary supportive environment to enable the individual to notice and make sense of their experience. The facilitator can provide this support through key counselling and mentoring skills, such as non-judgmental questioning and acceptance of differences. Attention to the physical environment is also important, ensuring that the discussion can occur in privacy and is free from interruption. To gain maximum support from reflection the individual must first notice that they need more than information from their education. Being able to ask questions such as

. Does anything surprise me about the situation?

. Do I have the information or skills to deal with this situation?

. Do I need to have further information or skills to deal with this situation, either now or in the future?

The ethical and emotional effects of medical education, clinical encounters and emergency situations can be enormous. An experienced mentor with time and empathy is required. The use of portfolios, structured clinical storytelling are useful and it is necessary to include the ability to reflect in the assessment plan can be used to improve and include reflection in medical education. It can be argued that the human race would not have reached its present state of civilization without reflection but it can also be argued that insufficient use of reflection has slowed the process of civilization perhaps by millennia.

REFERENCES:

1. Bolton G. Reflections through the looking-glass: The story of a course of writing as a reflexive practitioner. Teach High Educ 1999; 4(2):193-212.
2. DasGupta S, Charon R. Personal illness narratives: Using reflective writing to teach empathy. Acad Med 2004;79:351-6.
3. Epstein RM. Mindful practice. JAMA1999; 282:833-9.
4. Flavell JH. Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. Am Psychol1979 ; 34(10):906-11.
5. Gordon MJ. Review of the validity and accuracy of self assessments in health professions training. Acad Med. 1994; 66:762-9.
6. Grant A, Kinnersley P, Metcalf E, Pill R, Houston H. Students' views of reflective learning techniques: An efficacy study at a UK medical school. Med Educ 2006; 40(4):379-88.
7. Hampshire AJ, Avery AJ. What can students learn from studying medicine in literature? Med Educ2001;35:687-90.
8. Henderson E, Berlin A, Freeman G, Fuller J. Twelve tips for promoting significant event analysis to enhance reflection in undergraduate medical students. Med Teach2002; 24(2):121-4.
9. Henderson E, Hogan H, Grant A, Berlin A. Conflict and coping strategies: A qualitative study of student attitudes to significant event analysis. Med Educ 2003; 37:438-46.

10. Lonka K, Slotte V, Halttunen M, Kurki T, Tiitinen A, Vaara L, Paavonen J. Portfolios as a learning tool in obstetrics and gynaecology undergraduate training. Med Educ 2001; 35:1125-30.
11. Niemi PM. Medical students' professional identity: Self-reflection during the pre-clinical years. Med Educ1997;31:408-15.
12. Li STT, Paterniti DA, Co JPT, West DC. Successful Self-Directed Lifelong Learning in Medicine: A Conceptual Model Derived From Qualitative Analysis of a National Survey of Pediatric Residents.Academic Medicine 2010; 85(7):1229-36.