

EDITORIAL

ASSESSMENT IN MEDICAL EDUCATION IN THE 21ST CENTURY

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Definition and Context

The Oxford Dictionary¹ defines assessment as ‘the action of assessing’. Here ‘assessing’ implies evaluating the nature, ability or quality of someone or something. Evaluation, on the other hand, is defined as ‘forming an idea of the amount, number or value’. It follows, that the purpose of assessment is to determine the worth or value of something.² In the context of medical education, assessment could be defined as determining the competence of the product, that is, the Health Professional. It would also reflect on the quality of the medical education program itself and the standard of the teaching/ learning methodologies applied in the medical education program.

Oxford dictionary defines context as, ‘the circumstances that form the setting for an event, statement, or idea, and in terms of which it can be fully understood’. Assessment in terms of medical education has to be relevant to the context and the setting in which it is applied. Traditionally, assessment has been divided broadly into either formative or summative. Whereas the purpose of formative assessment is to provide feedback to one or more stakeholders concerned, summative assessment is largely used to define the value of the product in relation to standardised criteria and goals.³ Research in education including medical education has proved the worth of providing feedback to the stakeholders, which in the context of medical education would include the administrators, the students, the program developers and the public. These stakeholders use feedback including the outcomes of formative and summative assessments in different ways and for different purposes relevant to their own context.

To the administrator, the results of the assessment, either formative or summative, provide data that will help establish current policies or bring changes in them. To the program developers, the same results establish the worth of the program or otherwise. To the trainee, the scores or feedback help in understanding his deficiencies in relation to the clearly predefined goals and objectives of the educational program. Naturally, the public places great emphasis on the nature of assessment and the outcomes related to it since it is the public that is going to use the product of the medical education programs and confidence in the product will be related to their acceptability of the assessment and its outcomes.⁴

An effective assessment that meets the requirements of all stakeholders must be valid, reliable, consistent and feasible, so that, it has a direct positive

effect on all stakeholders and is able to enhance the educational experience. When the assessment meets all these criteria, it will be found to be acceptable to all stakeholders.^{4,5}

The Evolution of Assessment

Assessment has been part and parcel of medical education from time immemorial.⁶ From the time of Hippocrates, assessment of cognitive, affective and psychomotor domains have formed the pillars of assessment goals.⁷ However, these three domains were explained scientifically only recently by Bloom in 1956.⁸ Research in assessment has largely helped the shift from categories and domains of assessment to techniques and elaborating these domains in understanding the context validity of assessment. This has extended from the need to revise the medical education curricula into more competency-based product and outcome oriented curricula.⁹ These shifts have been driven by the need to redefine the product of medical education to a bio-psychosocial healthcare provider.¹⁰ Central to this shift have been the development of strategies worldwide, modelling the health professional into a self-directed, life-long learner who is an excellent team-worker and does not hesitate to take initiatives to overcome new challenges that hinder his progress. The context of assessment therefore, has changed over the last half century, keeping pace with the changing context of Medical Education world-wide.

Medical Assessment in the 21st Century

Interestingly, evolution in medical education presently has turned the entire assessment pyramid upside down. A brave initiative in the 1960s at McMaster University took the power of assessment away from the teachers.¹¹ By doing so they showed the rest of the world how this shift of power can wake up the students from their passive role as learners to individuals who are able to guide their own teaching and learning strategies to meet the program goals. In doing so, these students actively learned the skill of self-directed life-long learning; so essential for health professionals.

The domains of assessment have remained unchanged. Assessment still focuses on knowledge, attitudes and skills, against predefined program goals in any educational program. However, the changing context of goals and their assessment have necessitated innovations in assessment techniques and methodologies. In the 21st century, assessment in medical education in all three domains focuses on application, problem-solving and integration, rather than

facts and basic skills.¹² Trainees are more commonly being assessed in 'real' professional environments either in vivo or in vitro. Use of task-based, work-based, patient and community oriented assessment in all three domains makes the process of assessment more realistic and acceptable to all stakeholders.

Need-based Assessment

Assessment drives education.⁴ Changes in health-care delivery over the years have required changes in medical education programs, producing professionals that can cope with greater demands with an increased working speed in a technologically expanding, evidence-based environment centred around the patient and the community. This has stimulated development of assessment techniques relevant to this context of medical education. Problem-based and task-based assessment using simulation or real-time, health-care environments assessing students in psychomotor, affective and cognitive domains, are gaining acceptability around the world amongst the health-care profession educationalists because these techniques have shown to increase validity and reliability of assessment, are relevant to the context of medical education, are capable of enhancing and supporting education, provide near-equivalent everyday health-care experiences and deliver consistently accurate outcomes. Depending on the use of simulations or 'live' environments these techniques are feasible and cost-effective whether used in the developing or developed world.

Redirecting Limelight

There are numerous resistors to change. Status-quo is easy to maintain. Educators especially those involved in medical education are bogged down by the weight of tradition. These educators therefore, perceive change as a threat to what they hold most dear in medical education, that is, their traditions.¹³ Mostly, they argue that they and their fathers and grandfathers before them have been taught and assessed by time tested age-old model. Finding faults and bringing change to this model, is sometimes perceived as challenging ones own existence as a health professional. At the other extreme, those who romanticize change, seek change for the sake of change.¹³ They commonly do not understand the need for change nor do they follow the effect of change.

In some developing countries, as well as in more developed ones, denial and resistance to change

are often encountered. Mostly the reasons provided are lack of human and physical resources, lack of adequate infrastructure, non-availability of proper staff training and absence of value-added student selection processes.

Nevertheless, the changes in the curricula have been brought about over the last century in order to improve the provision of healthcare at the grass-root level. Making the patient and not the disease and the slide as the focus of education can only improve the understanding of the trainees of the patient as a holistic challenge in relation to all three domains of competence. Since assessment is the 'tail that wags the dog', unless evaluation techniques are made to focus on the patient in all three domains and not simply on the disease, the change in curricula or teaching methodology is not likely to have the desired effect.

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