Infusing Resilience into Assessment System

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In Medical Education, the assessment system is meticulously designed to graduate safe and competent doctors. It is bound to high quality standards to maximise objectivity and address psychometric properties. As assessors, we start by developing test blueprints, creating test items, reviewing these items and checking that all other assessment principles are adhered to. Unfortunately, the psychological effect of assessment on students is rarely in our checklist. We do believe that assessment causes some kind of anxiety, but more often than not we only focus on making it robust enough to identify weak examinees and preventing their progress. Although such intentions might be required to save people's lives, this consequently creates a harmful effect on the psychological well-being of medical students. Studies have quoted a high prevalence of stress in medical students, ranging from 21% to 56% (1–9). Examinations and tests were the most stressful events perceived by students; besides the large amount of content to be learned and lack of time to review the content that has been learned (9–13). These indicate that there is something to be remedied in the current practice/system of assessment.

In the current principles of assessment practiced in medical education, we seldom find principles addressing psychological or mental health considerations in a clear and impactful manner. The famous utility of assessment formula incorporates five pillars of assessment; validity (V), reliability (R), educational impact (E), acceptability (A) and cost (C) (14, 15). Baartman et al. (16, 17) developed 12 quality criteria for assessment called the Competence Assessment Programs (CAP). This is a self-evaluation tool to evaluate the effectiveness of assessment programmes. It includes acceptability, authenticity, cognitive complexity, comparability, cost and efficiency, educational consequences, fairness, fitness for purpose, fitness for self-assessment, meaningfulness, reproducibility of decisions and transparency. Dijkstra et al. (18) developed a new model for designing programmes of assessment which has a holistic view of all assessment elements rather than individual parts. Later, he published a 72-item guideline for programmes of assessment (19). During the Ottawa 2010 Conference, a group of educational measurement experts came up with a consensus statement and recommendations outlining the criteria for

good assessment (20). These include validity or coherence, reproducibility or consistency, equivalence, feasibility, educational effect, catalytic effect and acceptability. In the Ottawa 2018 conference, the same team recommended applying this framework for a single assessment as well as for systems of assessment (21). Another interesting initiative is the ASPIRE initiative by the Association for Medical Education in Europe (AMEE) launched in 2013 (22). This initiative aims to promote excellence in medical education and to allow schools to be recognised internationally for their excellence in teaching and learning (23). In the beginning, there were three areas: student assessment, student engagement and social accountability. Other areas are also in development to be added to the initiative (24). Any medical school can apply to get excellence recognition in either area. The ASPIRE excellence in "student assessment" contains five criteria (25) as follows:

a. The assessment programme serves and supports the mission of the institution and the goal of medical education globally in enhancing and improving the health of both populations and individuals.

b. The assessment programme supports, enhances and creates learning opportunities.

c. The assessment programme ensures the competence of students as they progress.

d. The assessment programme is subject to a rigorous and continuous quality control process.

e. The assessment programme demonstrates a commitment to continuous scholarship and innovation.

For each criterion, assessors seek evidence to approve their implementation. The evaluation of all these frameworks and guidelines concludes that all of them magnifies the robustness of the quality process of the assessment system and practice (26). As mentioned previously, the humanitarian aspect of assessment is never directly addressed in any of them.

Downing (27) highlighted the use of validity sources in medical education, proposed by Messick (28), which include content, response process, internal structure, relation to other variables and consequence. The positive or negative impact of assessment is considered under the consequence validity; perhaps we should highlight that any assessment system that impacts negatively on student mental health reduces its validity (29, 30). Conversely, any assessment that has a positive impact on the well-being of students is considered to increase the validity of the assessment. The important indicators of well-being are resilience and psychological distress – the extent of assessments will be able to give positive impacts on resilience and less negative impact on psychological distress. This element can be referred to as the humanity aspect of the assessment. What kind of humanity or resilience principles we can practice during planning, developing and implementing assessment?

A review of the literature has identified sources of resilience within the assessment system and practice: different methods and practices that can alleviate test anxiety and hence promote resilience. For example; test anxiety is reduced by test item arrangement from easy-to-hard, (31–33), providing a free space for comments below assessment items and giving immediate feedback about assessment performance (32, 34), providing briefings and mock exams (35, 36), and collaborative testing (37). Manipulating the test environment and atmosphere play significant roles in reducing test anxiety. These include a small testing hall (38), videotaped objective structured clinical examination (OSCE) rather than direct observation (39), the familiarity of test environment before the exam (36, 40), providing soothing background music and sorts of memory support (32). Interjecting humor into the test situation (32), teacher attitude (40, 41) and pass-fail outcome rather than grades or numbers were found to reduce the negative effects of exams (42).

All these interventions mandate a strong call to rethink and reimagine the current framework of assessment practices in medical training so that it reduces the stress and anxiety, thus promoting resilience development in medical trainees (26). The ultimate goal of medical education is to graduate safe doctors with the highest level of well-being, who are able to deal with workplace adversities and challenges (i.e., resilience), thus competent to provide optimal health care.

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