

Authentic Assessment in Medicine

Shalini Gupta

ABSTRACT

It is well accepted in medical education that assessment drives learning. Authentic assessment involves examining the knowledge, skills or competencies that students are expected to exhibit in their future professional practice. In recent times, transparency and public demand for accountability have gained momentum in the context of undergraduate and postgraduate medical education. By adopting authentic assessment tools, medical institutes are better prepared to justify the grades awarded to students and the outside world. The paper discusses the preference of criterion-referenced tests (CRT) over norm-referenced test (NRT) in medical education to support the development and implementation of authentic assessment activities. The value of laying down clear, standardized criteria for assessment has been emphasized to improve student learning and engagement with the curriculum. The paper has attempted to summarize barriers in implementing competency-based assessment, including educators, students, and institutional factors. It also suggests pragmatic measures to overcome these difficulties and the need to adopt a critical view of existing assessment modes.

Keywords: Authentic assessment, Competency, Criterion-referenced, Medical education.

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AUTHENTIC ASSESSMENT IN MEDICINE

Learning in medicine has a primary focus of eventually providing care to patients. The students at the end of their professional course need to be able to provide safe and effective patient care, and this ability is what an “authentic assessment” should measure in a practical and accountable way. In an ideal scenario, it takes into consideration the knowledge and skills that are relevant in the workplace and which are valued by future employers. Assessment is a powerful tool in both undergraduate and postgraduate medical education which drives learning. When used in “constructive

alignment” with the curriculum, it has the potential to take learning to an altogether new level.¹ When the test items or criteria are drafted in line with the curriculum purpose, with the intention of examining the degree to which the learning outcomes are met, the assessments become authentic and fulfill the role of being instruments of learning.

Teaching and assessment need to be meaningful for the students and their relevance in real life context and challenges should be apparent. Ideally, assessment tasks should require students to use the same competencies, or combinations of knowledge, skills, and attitudes that they need to apply in their future professional life. There are two major categories of tests namely CRT and NRT, but since the principles of authentic assessments are more congruent with CRTs, it has led to the preference of CRTs by several higher education institutes in recent times. In CRT, students are rated against identified standards of achievement and the grade does not depend on how well other students have performed, but on how well the individual student has performed in reference to specific criteria and standards.² In contrast, during NRTs students are ranked against each other with students competing for a limited number of grades. While NRTs do give information on how students compare to others in the year, they tell nothing about their ability in terms of what they know or can do.

There is reason and place for both categories of tests depending on the content the examination wishes to assess and the kind of interpretation the board wishes to draw on student performance. The content in CRT is chosen based on the curriculum, and specific test items are designed to measure how well students perform against standardized criteria. Since NRTs are designed to project achievement differences between students and produce a dependable rank order of the candidates from high achievers to low achievers, they have limited role in authentic assessments the basis for which is linking assessment criteria and learning objectives. However, CRTs in comparison to NRTs successfully give information to the students, teachers and any stakeholders about how much of the valued content has been learnt.² An added benefit of CRTs is that it may help to eliminate competition amongst students and encourage team working as they learn in an environment of mutual support.

Criterion-referenced tests (CRTs) in medical education certainly support the idea of authentic assessment

Teaching Fellow

Department of Pharmacology and Therapeutics, Ninewells Hospital and Medical School, University of Dundee, Dundee, United Kingdom

Corresponding Author: Shalini Gupta, Teaching Fellow, Department of Pharmacology and Therapeutics, Ninewells Hospital and Medical School, University of Dundee, Dundee, United Kingdom, e-mail: shalinigupta@nhs.net

and ensure that the appropriate skills and knowledge are being assessed at the right time using appropriate methods. They are in line with Biggs's³ "model of constructive alignment" where the learning outcomes of the course are linked to assessment tasks and criteria. They enhance students' capacity for learning and engagement with the curriculum. Formative assessments throughout study could aid in the crucial linking of assessment criteria to learning objectives. The process of achieving competency in any discipline may be divided into multiple small steps, and reinforcement in the form of formative assessment and feedback can be made available upon accomplishment of each learning step.⁴

It is reasonable to state that CRTs are more learner-focused and can positively impact the quality of education. However, there might be practical barriers in effectively implementing CRTs since the task of formulating criteria and standards for authentic assessments is difficult and time-consuming. It requires intense discussions and agreements among fellow faculty members and colleagues. Academics find it hard to define clear assessment criteria and struggle even further to articulate assessment standards.⁵ A "criterion" is a characteristic by which quality can be judged, and a "standard" is a statement about the degree of quality to be attained. Conceptually, the terms are complementary and have separate meanings but are at times used interchangeably. It is useful to have staff development workshops to train tutors and clinicians in developing CRT-based assessment programme and devising clear assessment criteria in their respective disciplines. Familiarizing the faculty with diverse assessment techniques and reminding them of the learning outcomes could result in the construction of a meaningful test which is congruent with the curriculum and patient care demands.

It is understandable that if experts find it complex to define clear assessment criteria and standards, it is bound to be more complicated for students and beginners to make sense of. Students' interpretation of the assessment criteria and standards could easily differ from that of the tutors' leading to misunderstandings regarding learning expectations. Expanded examples, models and definitions that give a clear message to students about correct answers and the range of acceptable performance, may be required to minimize this misunderstanding. Learning goals and competencies that students are expected to achieve should be described in clear and specific terms in study guides which empowers learners with a degree of control over their learning and assessment.

Another criticism of competency-based examinations is that assessment criteria based on learning objectives that were too precise and concise could restrict student learning to just these. There is a danger of teaching and learning becoming rather instrumental as the control of

learning is taken away from learners and likewise, any creativity curbed in teachers as the focus is skewed on outcomes and competencies to be achieved. Critics worry that it runs the risk of hindering the development of important knowledge bases and relevant basic sciences could become neglected and diluted in the curriculum.⁶ It is possible to address this potential problem through carefully charting the course work and lesson plans, and subsequent formative and summative assessments being inclusive of relevant sciences by incorporating exercises which question the rationale and logic underlying management choices, thereby prompting deep learning and understanding of the subject.

The elements of authentic assessment link closely to those of the authentic learning framework. They should ideally demonstrate that skills and knowledge learned in one domain can be used in another, incorporating elements of metacognition and deep learning.⁷ Authentic assessment instruments need to be accurate, collaborative and of high real-world fidelity. It is a challenging task that requires measuring, certifying, and reporting the level of students' learning, so that reasonable decisions can be made about students. Boud⁸ had remarked that 'Students can, with difficulty, escape from the effect of poor teaching. However, they cannot (if they want to graduate) escape the effects of poor assessment.' Authentic assessments aim to be fair to students by ensuring transparent methods which effectively measure learning outcomes and thus encourage meaningful learning and engagement of students with the curriculum.

Medicine is a humanistic career, and medical schools are accountable to the outside world. Authentic assessments and high standardized tests scores can serve the purpose of fulfilling public demands for accountability. It is important to ensure that a wide range of skills and knowledge are assessed throughout the degree programme and rationale provided for choosing different forms of assessment in their particular context. It can be tempting to merely assess those skills that are easily measured and ignore certain competencies during examinations because their assessment is complicated even though they may be vital skills required of the candidates. Attempts should be made, and processes which may address these important gaps in assessment.⁹ Existing assessment methods should be continuously reviewed under a quality control process for both undergraduate and postgraduate examinations which should be in place in all institutes. Certain examination items may have lost relevance and become outdated over time. These need to be modified, updated or even eliminated in recent context bearing in mind that development of assessment is a continuous process requiring exploration and innovation. Assessment criteria need to be clearly understandable

and the public to the students, employers as well as the outside world. Institutes should be prepared to justify the grades and scores awarded to not only the students but any stakeholders too.

This paper emphasizes the need for clinicians and academics to be reflective and critical of the existing forms of assessments and be open to adopting principles of authentic assessments. These are not only student focussed and student-caring but also encourage meaningful, self-directed learning by identifying and communicating the knowledge and skills that students are expected to imbibe through the duration of the course. Several potential problems with the administration of CRTs and competency-based examinations have also been discussed and pragmatic ways to address them suggested.

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