

Guest Editorial

## Assessment of competencies in medical education

P. V. Vijayaraghavan<sup>1</sup>

<sup>1</sup>Vice Chancellor, SRJHS, Department of Medical Education, Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu, India.

“Assessment drives learning.” The assessment is an essential element of educational experience. Assessment should be designed prospectively along with learning outcomes. It should be purpose driven. Assessment methods must provide valid and usable data. Methods must yield reliable and generalizable data. It is important to understand the definition of competency before planning assessment. Competency is defined as “The Habitual and Judicious use of communication, knowledge, technical skills, evidence-based decision-making emotions, values, and reflection to improve the health of the individual patient and the community” (Epstein and Hundert, 2002). Competency-based medical education (CBME) focuses on outcomes, whereas the traditional curriculum focuses on content delivery. CBME emphasizes the development of required competencies in an organized order through learner-centered approach. Each defined competency can be observed and assessed objectively. Competencies are derived from domains of competence identified based on the societal need.

Assessment of learning is vital for the development of competency. Appropriate assessment methods should be used to assess competency and multiple methods need to be utilized. Assessment of clinical competence to be carried out as described by George Miller at knowledge (knows), application of knowledge (knows how) performance (shows), and action (does) levels.

### WHY TO ASSESS?

Assessments are must to ensure the learners develops required competencies to practice as doctor. It is also important to ensure that the learner achieves the minimum set standards required to practice and carryout duties prescribed by the regulatory council. Through structured assessment, the learners are judged for the award of qualifications. By having a robust assessment system both formative and summative, we can churn out competent and safe medical professionals.

### WHAT TO ASSESS?

It is important to assess all the domains of competencies required to practice as a doctor. The core competencies which requires to be included (a) patient care, (b) medical knowledge, (c) interpersonal and communication skills, (d) ethics and professionalism, (e) practice-based learning and improvement, and (f) system-based practice. Each component needs to be assessed continuously and necessary feedback needs to be provided.

### HOW TO ASSESS?

There are various methods to assessments available. It is important to consider the reliability and validity of the method apart from the educator’s expertise in administering specified method of assessment keeping in view relevance, objectivity, and feasibility. Creating a blue print for assessment mapped with competency and teaching learning method is the key. Table summarizes probable assessment methods for the competencies defined.

Competencies need to be assessed using the methods which should be reliable and valid. Essay can be used to assess critical thinking and problem solving and written communication skills. DOPS, Mini CEx, SPMP, OSCE, OSPE, and OSLER are to be used to assess clinical skills. Internships can be used to assess the learners’ professional behaviors ethics and values. Portfolios can assess life learning skills and professionalism of the learners. Group projects and presentations might be effective in assessing leadership skills. It is an evident that the educators need to adopt different assessment methods to ensure the learners attained predetermined competencies.

To evaluate the critical internship, problems solving ability, team skills, and communication skills, lifelong learning ability, one should use newer methods to demonstrate the competency in the student standard theory, practical and oral examination for large number of students at the summative stage may not yield results.

The “shows how” level of Millers Pyramid can be assessed using

\*Corresponding author: P. V. Vijayaraghavan, Vice Chancellor, SRJHS, Department of Medical Education, Sri Ramachandra Institute of Higher Education and Research, Chennai, Tamil Nadu, India. vc@sriramachandra.edu.in

Received: 27 December 2022 Accepted: 27 December 2022 Epub Ahead of Print: 23 January 2023 Published: 03 February 2023 DOI 10.25259/SRJHS\_36\_2022

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, transform, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms. ©2022 Published by Scientific Scholar on behalf of Sri Ramachandra Journal of Health Science

- Objective structured clinical examination
- Standardized patient encounter
- Oral case presentation
- Simulated case (SPMP)
- Skills station
- Virtual reality/computerized patient management problem usually applicable at the postgraduate level.

The “Does” level can be assessed through

- Chart/electronic medical record review (e.g., medical decision-making, cost-effective care, and documentation)
- “Collective perspective”/clinical competency committee/residency education committee participation and decision-making
- Direct observation in clinical environments and procedural skills
- Efficiency data
- End-of-rotation evaluations

- Multi-source feedback/360-degree patient outcomes data, including patient-reported outcome measures
- E-Portfolio/Logbook
- Procedure or case log with reflection and/or assessment
- Product review (e.g., splint and laceration repair)
- Project review (e.g., evidence-based medicine project, quality improvement project) Video review from clinical environments.

It is important for the medical educators to understand the nitty-gritty of the innovative assessment methods and apply it judiciously.

In conclusion; assessment of competence is a complex process that depends on day to day continuous assessments duly documented, through use of technological advancements, and providing regular feedback and not merely a pass/fail at the end of a program.

**How to cite this article:** Vijayaraghavan PV. Assessment of competencies in medical education. Sri Ramachandra J Health Sci 2022;2:45-6.