Autoregulation of FA Competence by Medical Education Teachers

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Moving forward, innovating each year to take forward competency-based medical education (CBME) which MCI superseded by NMC brought forth for Indian Medical Graduate in 2019. CBME curriculum has extensively reworked on teaching learning strategies and assessment practices. The CBME document is fluid; it is like a living document which will be modified as the years pass to encompass the feedback, suggestions, and remedies. There is a lot of focus on competencies, new teaching learning methods, and assessment tools. All institutes and medical teachers have full ownership of designing the objectives for competencies. The universities have come forth with summative assessment patterns, keeping in focus the suggestions from NMC document. It does take time to formulate a good question paper with higher order thinking. Overall, a welcome move to stimulate both teachers and students thought process.

But what also needs a sharp focus is formative assessment (FA). The continual improvement in medical education of any institute depends on the framework of FA to improve the educational process. The existence of traditional educational practices in the classrooms continue, that is fine enough.[1] Not everything conventional has flaws. At the same time, it is not easy to challenge the inveterate pursuits of teachers. Curriculum on paper may differ from curriculum delivered.

The focus is still on providing the content that will be assessed to get good marks and make the result as an end and not means to education. It is important to recognize that instead of the CBME curriculum, the problems persist for FA, especially absence of its educational planning as an everyday tool of assessment in classrooms. FA of individual learner or faculty member helps to improve performance by identifying areas of improvement and specific suggestions for improvement. Both learners and faculty can use the results of timely feedback (formative individual assessment) for furtherance of their own performance.[2]

To develop FA, it is important that there is a congruency between objective and evaluation question. If the three components— objectives, teaching learning methods, and assessment—inclusive of feedback are built with the intention of interdependence, then better outcomes are achieved (Fig. 1). Think of this magic triangle as a tent, even if one surface of the tent is lacking or ill-formed, it becomes like an open and exposed tent and performance suffers. So what needs to be done?—Competencies are clearly documented. The curriculum has cognitive, skill, attitudinal objectives. Objectives can be many, but the number of objectives needs to be prioritized, key evaluation questions need to be selected based on needs of the learners and feasibility of assessment methodology and environmental factors. Several objectives can be grouped into a

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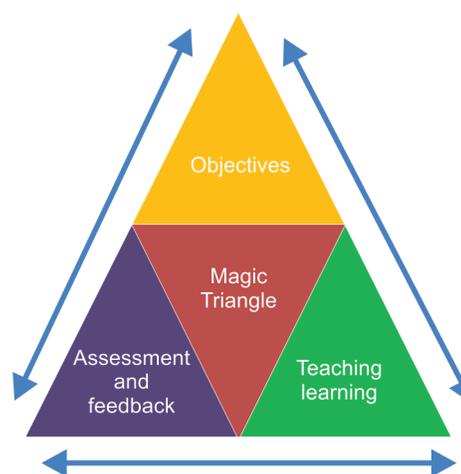
Fig. 1: The reciprocal relation between objectives, teaching learning, and assessment—the magic triangle

single assessment question. Not all assessment questions need to relate to explicit, written curricular objectives.

With advancements in CBME new horizons are open for improving learning assessment methodologies. FA has inherent complexities which require special attention, because it permanently develops during teaching and learning. FA is a fundamental competence required by medical teachers. The teacher has the responsibility to substantiate the learning of their students before, during, and after the learning experiences. It provides an opportunity to perfect student's performance and helps teachers and students know the level of achievement of objectives, to refocus pedagogical practices promptly.

Self-assessment, peer assessment, teacher assessment, and constructive feedback have indispensable role. Student self-assessment allows self-reflection, critique, judgment of their own performance, ultimately becoming self-responsible for their learning. More time should be spent on teaching self-assessment skills to students. Students must know the benchmark to assess their performance, and teachers must clearly put forth the criteria and the instrument by which students will be evaluated. Self-assessment stimulates a distinct, more compelling perspective of the students, and these points to changes seen in CBME which need to be examined.[3]

Peer assessment and feedback help students to identify gaps in their works, recommend changes that are necessary. Near peer assessment helps provide feedback to students who are less experienced than their peers who have better mastery of content.

Teacher FA is an ongoing and continuous process. The timely assessment and constructive feedback on exercises and tasks. Feedback provided as part of FA helps to bridge the gap between current and desired level of learning. This leads to continuous improvement, which also helps reorient academic work, based on rational interpretations involving all existing information, thus allowing to keep, modify, or replace the activities of teaching learning and work attitudes. FA implies continuous assessment and reflection of teaching-learning—assessment process. As a part of sociocultural development, FA is also a learning of human development. Lev Vygotsky developed Zone of Proximal Development (ZPD) (Fig. 2). The ZPD refers to the learner's ability to successfully complete tasks with the assistance of more capable other people, and for this reason, it is often discussed in relation to assisted or scaffolded learning.[4] Assistance from others also helps the learner to learn how to work on difficult tasks and how to control or manage anxiety and frustration in the process. Additionally, working within the ZPD is inherently motivating because it involves the transfer of responsibility, or control, for learning, from the teacher or more capable person other than the learner. Though, faculty time can become a critical factor in a scaffolding lesson plan.

Before the final summative assessment, it is important to reorient strategies to more fruitful FA strategies integrated in the curriculum as an everyday practice. The overload of content to be delivered must not hinder the focus on giving more time to design FA and feedback, so that students can develop responsibility and trust in their own learning and to autoregulated the loop between teaching, learning, and assessment to reorient academic work. Teachers need to have the essential competence to develop and design FA in congruence with learning objectives and teaching learning methods. They need to focus on that FA is not simply grading students on their achievements; it is a complex process. It is important to redirect scientific discourse to a scenario in which the educational process unfolds.
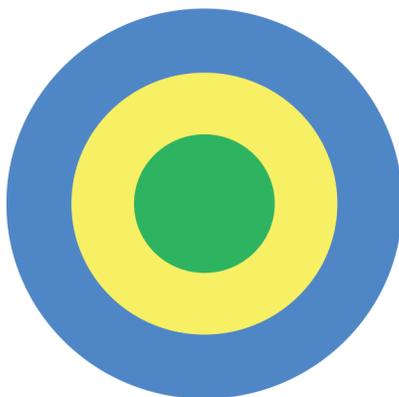
The focus of CBME is on outcomes that will require more effective assessment and feedback and thus the need to strengthen FA. While there are a number of tools available for traditional competencies of knowledge and skills, but limited assessment methods exist for many competencies like teamwork, leadership, and attitudinal skills.[5] Everyone is trying to seek the best Brahmastra for assessment tools. To make assessment more valid and reliable, it is important to have multiple examiners, multiple tests, multiple tools, and simulated environment in focus, but nothing can replace the significance of faculty who have to critically observe, question, judge, and provide constructive feedback to the learners. Questions are important to assess higher level of clinical reasoning and the frame for logic and reason behind learner decisions. CBME endeavors for more effective FA which is timely, frequent, and authentic and less reliance on year end summative assessment.[6] Teachers have to explore and use varied FA practices along the learning competency. Rate limiting step for shift to CBME is faculty development. Faculty needs to fully adapt to their roles as assessors.

What needs to be done?

- Need to have a culture shift—transformation from traditional to CBME requires learners to go through the faculty assessment lens continually, get timely constructive feedback, to close the gap between desired and present achievement of competencies.
- Assessment requires competent faculty. Assessment by faculty must be grounded in the principles of CBME. They need to visualize how competence should look like at various stages of professional development.
- From emphasis on the correct assessment tool, the focus should shift to faculty who uses the tool. Assessment tools are as effective as the faculty using it.
- More effective methods to train faculty in assessment and feedback. Instead of a single bolus dose of assessment training, core set of competencies in assessment needs to be taught through continuous professional development.
- It must be emphasized here that FA is also by itself a teaching learning strategy and therefore has to be included in the planning process as an important pillar for achieving educational purposes.

- Things learner cannot do
- Things learner can do with assistance (zone of proximal development)
- Things learner can do without assistance

Fig. 2: Lev Vygotsky zone of proximal development (ZPD)

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