

Workplace-Based Assessment: A Valuable Tool in Undergraduate Dental Education

Dentistry was established in the early 20th century based on the report by Dr. William J. Gies, from Columbia University. He had examined the prevailing circumstances and gave recommendations in 1926. This report formed the base for dentistry as a learned healing profession as well as an essential component in health care.^[1] Dentistry has come a long way since then and in the 21st century is staring at modifications that have to be encompassed in the curriculum as a result of technological advances as well as demands of the society for better care along with the problem of litigations. In a global scenario, dental graduates should be prepared with the abilities of critical thinking, professionalism, communication and interpersonal skills, health promotion, practice management and informatics; patient care involving assessment, diagnosis, and treatment planning; and establishment and maintenance of oral health.^[2]

Globally, curricular reforms are being made by various dental schools in order to enhance the knowledge and skills of their students. This is aided through an improved system of teaching, learning, and assessment, which ensures that student learning is relevant to the current practice.

As far back as the 1950s, it was obvious that only written assessment as a method of testing knowledge was not adequate, and practices that were relevant to clinical practice came into existence.^[3] Today, the delivery of education is student centered, and programs are making a shift toward “assessment for learning” to improve the quality of education significantly that would benefit the society ultimately.^[4]

There has been an increasing emphasis especially in the health-care practitioners’ education, on how they handle a real clinical situation along with appropriate assessment methods that show the trainee having achieved the required competency. This has led to the development of tools to track the competency in clinical situation or workplace, also called workplace-based assessment (WBA).^[5] WBA helps in assessing the progress of a trainee in acquiring a skill set to work independently in an actual clinical scenario with the added advantage of feedback that is given on the performance for further improvement.^[6]

Currently in India, the dental education system is driven by examinations including the content. The approach to patient management is specialty wise. The students may perform exceedingly well in academics, but they may not be ready fully for clinical practice as there is an inability to apply theory into practice. Hence, it will be appropriate to move toward what the learner is expected

to do than what the learner is expected to know alone.^[7] WBA in dental undergraduate education will be ideal as the students start working on patients as early as in year 3. Appropriate feedback to the students on various aspects such as diagnostic skills, procedure done, or on their soft skills will help in the overall development of competency of the learner.

In dental education professional competence includes appropriate communication, knowledge, technical skills, clinical judgment, and reasoning. All of these can be assessed easily through WBA as the students interact with patients on a regular basis. This should be done ideally in different settings, different patients, and different assessors accompanied by high-quality feedback, and it is possible with faculty training as well as proper planning. Kramer *et al.*^[8] proposed a toolbox with various assessment methods for dental students. The dental educators can select the suitable assessment method as per the curriculum blueprinting, which would eventually track the progress of the learners in achieving the minimum competencies required as a general dental practitioner at entry level.

A plethora of WBA tools have been developed over the past three decades, and there are many descriptions of the tools used.^[6] In dental education, many can be integrated easily into the curriculum easily. Most of the WBAs are “observational” with variable dialog. The first type, in which the majority of WBAs reside, relies normally on one evaluator, who is usually the faculty, observing an aspect of professional practice and scoring and commenting appropriately. The second type involves discussion of clinical cases seen or treated by the trainee. The third type involves obtaining feedback, usually by means of questionnaires or surveys, from a variety of sources related to the workplace, such as support staff or patients.^[3]

In observation of clinical encounters, a trainee is observed by an evaluator while performing a procedure. For example, in mini-clinical examination (mini-CEX), the trainee performs a clinical activity such as dental history recording or performing an oral examination. In dentistry assessment, using this tool is easy as in many instances only one or two components of the clinical task can be chosen to be assessed. The mini-CEX is a valid and reliable instrument to assess practical skills in complex situations and is a good testing format for use in dental education to measure practical competencies in dental medicine.

Direct observation of procedural skills (DOPS) is designed specifically to assess and provide feedback on a trainee’s ability to undertake a clinical procedure. It is a short WBA

in a clinical setting that includes feedback (approximately 15 min of assessment and 10 min of feedback). This also involves a three-phase assessment, in which observation, documentation, and feedback occur. Here, the focus is on manual skills and interventions observed by several assessors and evaluated according to defined criteria. This assessment format also represents a single-event measure. It might be confined to the administration of a regional block local anesthetic before a crown preparation or simply restricted to a simple cavity preparation. Choosing to evaluate a certain procedure beforehand reduces the time needed for an encounter.

Discussions of clinical cases are semi-structured discussions, known as case-based discussions (CbDs), that revolve around the management of a patient treated or seen by the trainee, for example during an oral diagnosis clinic. CbDs evaluate the trainee's understanding and rationale for the treatment provided. The evaluator should ensure that as many competencies are covered as possible for each case selected.

Multisource feedback (MSF), also known as 360° feedback (MSF, multirater feedback), involves a WBA in a clinical setting involving different groups of people associated with the work setting of the trainee (peers, dentists, nursing staff, patients, administrators, etc.). It may also include self-assessment. In this WBA, the focus is on professional conduct, teamwork, and the ability to take responsibility of the trainee. These aspects are evaluated by several assessors based on a defined criterion. The supervisor collects the feedback from the assessors and hands it over to the trainee, while the assessors remain anonymous. Narrative feedback that is shared verbatim is highly appreciated with this type of WBA.^[3,9]

Feedback plays a very important role in WBA. High-quality feedback from a credible source focusing on the work done can change the clinical performance. Trainees value it, and this also encourages learning. Trainers need to be well versed in giving the credible feedback in a timely fashion. Feedback with an action plan to see if WBA has had any influence on the future performance of the trainee should be looked at.^[6] However, the willingness on the part of trainee to change, is contingent on the way feedback is given, accompanied by adequate support to improve. Some trainees may be stressed when they are aware of being observed and may avoid assessments in situations they find difficult and fear being declared incompetent.^[4] This can be addressed by making the trainee realize the role of WBA plays in his/her overall development of clinical competency. Trainees strive to improve themselves and are keen to learn from their mistakes. The right feedback given will motivate them without the fear of being judged as incompetent.

Among the delegates, representing twenty countries, attending a workshop on "Assessment in a Global Context" related to dental education, held in London, a preworkshop

survey revealed that DOPS (64%) was recognized to be the most used method of WBA. Professionalism was reported as being assessed in most schools (71%). Dental schools are already using WBA as a part of their curriculum.^[4] In the UK, a questionnaire shared among dental trainees and trainers showed that there was a high degree of satisfaction with all the WBAs. The trainees found the feedback supportive and it helped in developing their confidence.^[10,11] In India, DOPS has been piloted in dental education with positive results.^[12,13] The mini-CEX as a WBA for postgraduate orthodontic students has been evaluated as a formative tool and found to be easily implemented.^[14] As part of dental training, the trainer has to choose the appropriate WBA that needs to be used to evaluate a particular competency as given in the toolbox given by Kramer *et al.*^[8] A WBA conducted in multiple settings, multiple times, and under multiple assessors makes it reliable as well as valid.^[13]

The notion that "assessment drives learning" leads to poor learning styles as the students look out for better grades, and there is an unhealthy competitiveness. This also causes learning only to pass the assessment rather than to understand the concepts. If the learner understands why he/she must show a particular skill or knowledge, the chances that it will be learned and remembered are very high rather than mugging up for an assessment alone. When narrative feedbacks are given to students, it has greater impact on the skills. Having said that, one feedback is not enough, it should be meaningful as well as longitudinal through their mentors. The learner gets an opportunity to show improvement in skills with time and with the right feedback.^[4]

Because the education today is more learner centered, it becomes imperative that those involved in the education process, including the institution, faculty, and students, act in synchrony while planning and implementing WBA. While resistance may be met for a new change initially, long-term vision with good planning can help in navigating the uncharted waters.

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