

REVIEW ARTICLE

Assessment of Cardiology Trainees in the Workplace

MANZOOR MAHMOOD, HARISUL HOQUE, CHAUDHURY MESHKAT AHMED, SAJAL KRISHNA BANERJEE

Department of Cardiology, Bangabandhu Sheikh Mujib Medical University, Shahbag, Dhaka, Bangladesh

Address of Correspondence: Prof. Manzoor Mahmood, Department of Cardiology, Bangabandhu Sheikh Mujib Medical University, Shahbag, Dhaka, Bangladesh. E-mail: gudu65@gmail.com

Abstract:

Assessment is a systematic procedure for measuring a trainee's progress or level of achievement against defined criteria, in order to make a judgement about the trainee. It includes traditional exam-style questions, multiple choice questions (MCQs), viva voce examinations, assessments of performance carried out in real time. The purpose of assessment include diagnosing learning needs, motivating learners and to determine entry to a course or profession. Traditional examinations are often used to measure the candidates to recall previously learned knowledge, but may not correlate well with a person's workplace based performance. Workplace based assessments (WBA) are much better suited to providing an indication of actual performance in the workplace.

University Heart Journal 2020; 16(2): 106-110

Postgraduate training curricula define the essential knowledge, skills and behaviours to be acquired by trainees at each stage of their training. The introduction of these curricula requires an appropriate assessment as evidence of their capability. Performance assessments provide feedback to support the development of trainees. A number of performance assessments undertaken by trainees are used to help inform decisions about their progression. Elements of effective feedback will bring benefit to the trainee, the assessor and the training program and patients and the general public. The trainee will have the opportunity to receive feedback, identify learning needs, motivation to improve and achieve and measure own progress. The assessor will have the opportunity to observe trainee and confirm that they have achieved a standard, inform progress decisions and identify the trainee doctor in difficulty. It will reassure the patients and general public that doctors are adequately qualified and performing to the correct standard and trainee doctors are regularly observed during training programmes, under the guidance of a senior doctor.¹

Effective performance assessment system has 5 components:

- Reliability: If we retest the trainee at a different time we should get the same result. Does it produce consistent results across different assessors (inter-rater reliability)?

- Validity: The assessment measures the knowledge, skills and attitudes it was designed to measure. Miller's pyramid is used to check validity. George Miller described 4 levels of competence, to which assessments should be aligned in order to ensure their validity. (Fig.1)²
- Feasibility: This method of assessment is practical to use within the time and resources available.
- Transparency: The standards are clear and understood by both assessor and trainee.
- Educational impact: The assessment has a positive effect on the trainee's learning.

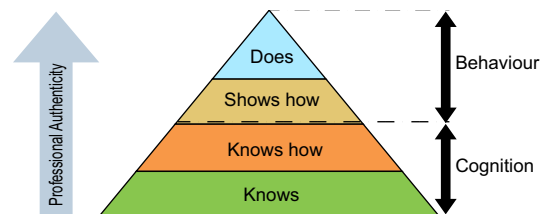


Fig.-1: Miller's Pyramid (used to check validity)²

Knows measures what doctors can recall (assessed by knowledge test eg. MCQs)

Knows how measures what doctors can apply in example scenarios (assessed by SAQs)

Shows how measures what doctors can do in controlled representations of professional practice (assessed by OSCE)

Does measures what doctors do in their professional practice (eg. WBA). It is assessed by multisource (360 degree) feedback

Assessments are categorized as:

- a) Summative: Annual exams like MD Phase-A/B, FCPS Part1, Preliminary, Part-2
- b) Formative: It is used to monitor ongoing trainee development. It allows trainees and assessors to get feedback on progress. The performance assessments being explored in e-learning program are primarily formative. However some of the assessments are also used to inform decisions about a trainee's progression.

The (clinical) supervisor is responsible for the day-to-day supervision of trainee(s) and as such might be expected to undertake some of the assessments. The course co-ordinator has an overview of a trainee's development and ensure the trainees within the department are on track to complete the required number of assessments. There are 2 main types of performance assessment carried out in the workplace.

- a) Supervised learning events (SLE) are formative, trainee led, promote learning through self- reflection and effective feedback, should lead to an action plan and do not contribute directly to annual review of competence progression (ARCP) decisions. They are 3 types: mini-clinical evaluation exercise (mini-CEX), case-based discussions (CbD) and acute care assessment tool (ACAT).

1. Mini-CEX: A mini clinical evaluation exercise is a formative assessment of a doctor-patient encounter. It provides an indication of competence in skills essential for good clinical care. These include history taking, examination and clinical reasoning. The assessment should be done in real time and, ideally, planned in advance. It should be used to provide verbal feedback to the trainee in a timely manner. It can be used at any time and in any setting when there is a trainee and patient interaction and an assessor is available. The assessment forms should be completed with appropriate written feedback. They will be made available to the trainee's educational supervisor. The form is saved in the e-portfolio.

2. **CbD:** A case based discussion is a structured conversation between a trainee doctor and an assessor, designed to assess clinical decision making and the application or use of medical knowledge. CbDs enable assessors to provide systematic assessment and structured feedback through regular discussion of cases. A suggested approach is that the trainee selects 2 case records from patients that they have recently seen and with whom they have had significant contact, the assessor then selects one of these for the CbD. Bloom's taxonomy can be used during a CbD questioning to test heirarchy of learning (Fig. 2)³

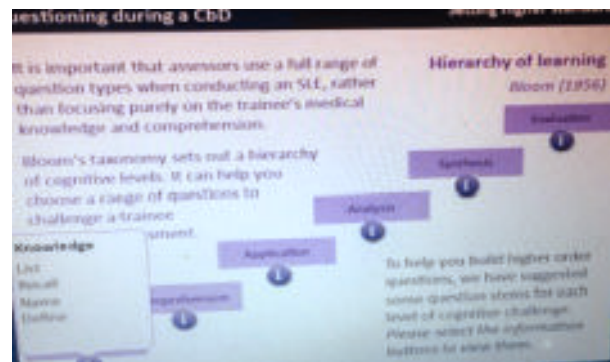


Fig.-2: Bloom's taxonomy³

Knowledge: Questions include list, recall, name, define

Comprehension: Questions include describe, discuss, explain, identify, locate

Application: Questions include interpret, apply, illustrate, operate, demonstrate

Analysis: Questions include distinguish, test, compare, contrast, debate

Synthesis: Questions include compose, design, create, manage

Evaluation: Questions include judge, assess, rate, revise, estimate

Example of questions to assess clinical management:

1. Are you aware of the guidelines/evidence that support your management?
2. How did you tailor this management plan to the patient?
3. How do you justify your plans for follow-up?
4. What did you hope to achieve with this management plan?

3. **ACAT:** is designed to assess and facilitate feedback on a doctor’s performance during an acute medical take. It is an observed ‘take’ measuring, for example, clinical assessment, record keeping and handover. The ACAT is trainee-led and should not take more than 15 minutes. Any doctor who has been responsible for the supervision of the acute medical take can be the assessor for the ACAT.

SLEs are mapped in the curriculum in Fig.3

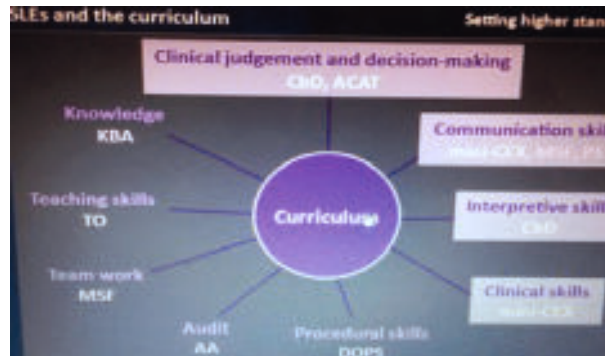


Fig.-3: SLEs and the curriculum¹

- b) Workplace-based assessments (WPBA) are usually formative, but are used summatively in certain circumstances led by the trainee or supervisor. It stresses the importance of effective feedback and self-reflection. It should lead to an action plan. It contributes directly to ARCP decisions. It includes multi-source feedback (MSF), direct observation of procedural skills (DOPS), audit assessment (AA), patient survey (PS) and teaching observation assessment (TO)

WPBAs are mapped in the curriculum (Fig.4).

1. Teaching observation (TO): It is designed to provide structured, formative feedback to trainees on their capacity as a teacher. The TO can be based on any instance of formalised teaching by the trainee which has been observed by the assessor. It can include conference presentations and grand rounds, as well as more formalised teaching contexts such as lectures and seminars. The process should be trainee-led (identifying appropriate teaching sessions and assessors), but it is a good idea to meet with the trainee before-hand to review the assessment documentation with them and establish the approach they intend to take in delivering the teaching.
2. DOPS: are designed to provide a trainee with feedback on procedural skills. The trainee can be involved in choosing the timing, procedure and observer. There

are summative and formative DOPS forms for routine and potentially life threatening procedures.

3. Multi-source feedback (MSF): is used to assess a trainee’s behaviour, team working and communication skills. It is designed to collate views from a range of co-workers, who are referred to as ‘raters’. Trainees usually nominate their raters, in agreement with their educational supervisor. Trainees must complete a self-rating form as part of the process. Feedback is collated electronically and the educational supervisor releases it to the trainee in an anonymised form. Based on the collated feedback, the trainee and the educational supervisor agree strengths and key areas of development. Raters may include other doctors, allied health professionals and secretarial and clerical staff. Communication skills to patients and staffs, attitudes to patient and staff, team player skills, reliability and punctuality, leadership skills, honesty and integrity are judged. Areas of positive performance include knowledgeable, available and honest. Areas of development include time keeping, attitude to junior colleagues, poor communication and leadership skills.

The variety of approaches to performance-based assessment discussed above can ensure that curriculum is adequately covered.

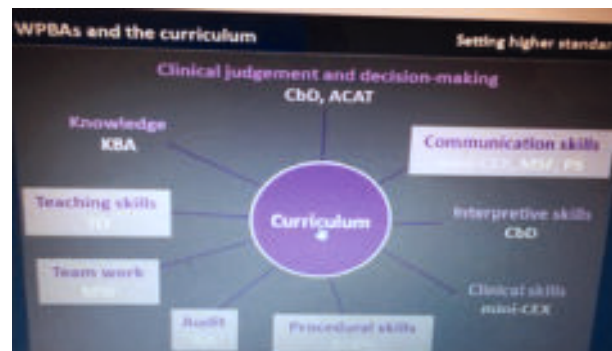


Fig.-4: WPBAs and the curriculum¹

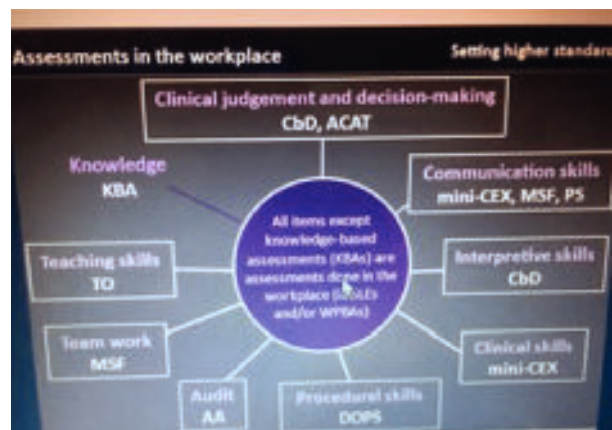


Fig.-5: SLEs and WPBAs are done in workplace¹

Feedback to trainees: A vital part of performance assessment is providing feedback to the trainee. Feedback allows both you and the trainee to identify and achieve their development needs and measure their own progress. It also allows the trainer to work with the trainees to achieve their goal. Feedback should be: (BOOST model)⁴

- 1) **Balanced:** It should focus on trainee's strength and development. It includes both good and constructive points. You need to identify which part of the session worked and are good enough. Key features are strengths and weaknesses and open dialogue.
- 2) **Observed:** Only give examples of what you have seen, the trainee say or do. Do not include circumstantial evidence and hearsay. Key features: evidence based
- 3) **Objective:** Feedback should be based around the trainee's behaviour, be factual and focus on their actions rather than your feelings about them. Never use feedback to attack the trainee's personality. Key features: behaviour not personality.
- 4) **Specific:** Use specific examples to illustrate the trainee's strengths and weaknesses. Remember to use only examples of what you have seen the trainee say or do. Key features: examples, future action.
- 5) **Timely:** Give feedback as close to the event as possible. That way it will be more accurate, relevant and meaningful. Make sure you give regular feedback to each trainee, so it is not such a momentous event. Key features: Immediacy and regularity.

Feedback needs to identify the trainee's current strengths, provide praise where appropriate, identify shortcomings/ areas of improvement and make suggestions how the trainee can improve. Feedback needs to be delivered by appropriate person in a timely fashion and on a regular basis. Feedback should not just focus on the negative that could be demotivating. It should not be overwhelming. Areas for development should be selected and prioritized.

Feedback is only effective if the person receiving it takes ownership of the comments and agreed outcomes. To encourage the trainee to take the ownership of feedback

- a) Encourage them to objectively assess their own performance prior to receiving any external feedback
- b) Give them feedback in small, digestible quantities so they can process each item
- c) Allow them to respond to the feedback, it is a dialogue, not a speech!

- d) Make sure that words are translated into actions. Convert your feedback into a personal development plan (PDP) for the trainee.

The Educational Supervisor's report (ESR) includes honesty, health, research, educational events, teaching, curriculum competencies, audit, leadership and management of the trainee. The ESR is based on evidence in the trainee's portfolio, including performance assessments in the workplace, and on the multiple consultants' report (MCR) like Phase-A of MD. The MCR captures the views of consultant supervisors on the trainee's clinical performance. It notes the areas of excellence and areas for development. MCRs are automatically collated via the e-portfolio, for the educational supervisor/course coordinator to use when completing the end of year ESR. The educational supervisor is responsible for providing an honest summary of the trainee's progress in his report, signing of competencies based on evidence only, discussing the report with the trainee and submitting the report on time.

The trainee's responsibilities include arranging an appointment with their educational supervisor, ensuring that the e-portfolio is complete with the required evidence, ensures the supervisor receives the requisite number of MCRs in time for completing the report, presenting the evidence so that it links logically to the curriculum. Trainee who have not made satisfactory progress attend the meeting with course coordinator/educational supervisor to hear the outcome face to face and to agree an action plan or targeted training plan. A 10% random sample of trainee's portfolios and outcome decisions are reviewed by an external reviewer. All trainees have an annual face to face meeting with their training program/course director.

Training outcomes may be:

1. Satisfactory progress: achieving progress and the development of competencies at the expected rate
2. Development of specific competencies required— additional training time not required
3. Inadequate progress— additional training time required
4. Released from training program with or without specified competencies
5. Incomplete evidence presented— additional training time may be required

6. Gained required competencies— will be recommended as having completed the course/training program and for award of a degree/certificate of completion of training

Conclusion:

Outcome based curriculum demands rigorous assessment of trainee's both as formative and summative for satisfactory progression of trainees to obtain specific competencies. The variety of approaches to performance-based assessment discussed above can ensure that curriculum is adequately covered. Recently much emphasis has been given to workplace based assessments (WBA) as they are much better suited to providing an indication of actual performance in the workplace.

References:

1. Assessing trainees in the workplace. <https://store.rcplondon.ac.uk/product?catalog=Assessing-Trainees-in-the-Workplace>[accessed online on 21/05/2020]
2. The Miller pyramid and prism - gp-training.net http://www.gp-training.net/training/educational_theory/adult_learning/miller.htm [accessed online on 20/05/2020]
3. Bloom's Taxonomy Center for Teaching Vanderbilt University <https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy>. [accessed online on 21/05/2020]
4. Giving Feedback: The B.O.O.S.T Model - BRAINCRAFT <http://thebraincraftcompany.com/2012/04/02/giving-feedback-the-b-o-o-s-t-model/> [accessed online on 22/05/2020]