



DMCG assessment and evaluation strategy

Evaluation and Assessment of Student Learning at DMCG

There are numerous ways to evaluate student learning and in the new Doctor of Medicine (MD Program) of DMCG we want to inspire teachers to go beyond the constraints of conventional evaluation and conventional use of assessment techniques. The value of educational attainment comes at the core of our curricular vision, but assessment for learning is the main objective of any assessment activity in the curriculum. Therefore, the decision was taken to choose for a programmatic assessment approach for the new MD Program of DMCG.

Programmatic assessment is an integral approach to the design of an assessment program with the intent to optimise its learning function, its decision-making function and its curriculum quality-assurance function. Individual methods of assessment, purposefully chosen for their alignment with the curriculum outcomes and their information value for the learner, the teacher and

the organisation, are seen as individual data points. The information value of these individual data points is maximised by giving feedback to the learner. There is a decoupling of assessment moment and decision moment. Intermediate and high-stakes decisions are based on multiple data points after a meaningful aggregation of information and supported by rigorous organisational procedures to ensure their dependability (Van der Vleuten et al. 2014).

Programmatic assessment has to be based on a plan and essential here is the choice for an overarching structure. At DMCG the chosen overarching structure is a competency framework taken after the Emirates MEDs and the following competencies will be assessed:

- Medical Expert
- Evidence based practitioner and scholar
- Patient care provider and health advocate
- Communicator
- Collaborator, innovator and leader
- Professional
- System based healthcare advocate
- Self- and profession enhancer
- Socially accountability

A competency framework is important since in programmatic assessment pass/fail decisions are not taken at the level of each individual assessment moment, but only after a coherent interpretation can be made across many assessment moments. An individual assessment can be considered as a single data point. The traditional dichotomy between formative and summative assessment is redefined as a continuum of stakes, ranging from low- to high-stakes decisions. The stakes of the decision and the richness of the information emanating from the data points are related, ensuring proportionality of the decisions: high-stake decisions require many data points. In order to meaningfully aggregate information across these data points, the overarching structure of the competency framework based on the Emirates MEDs will be used. Information from various data points will be combined to inform the progress on domains or roles in the



framework. For example, information on communication from an objective structured Clinical examination (OSCE) may be aggregated with information on communication from several mini-clinical evaluation exercise (Mini-CEX) and a multisource feedback tool.

For the new MD Program of DMCG a detailed mapping of data points (assessment methods and moments) has been done to the competency framework based on the Emirates MEDs and to the curriculum (annex 1-4 of the description of the new MD Program of DMCG). The choices for each method and its content are purposefully made with a clear educational justification for using this particular assessment in this particular phase of the curriculum in this moment in time. The DMCG competency framework emphasises complex skills (collaboration, professionalism, communication, etc.) that are essentially behavioural, and therefore require longitudinal development. They are assessed through direct observation in real-life settings, under unstandardised conditions, in which professional, expert judgement is imperative.

For the three different phases of the DMCG curriculum a variety of assessment contents, a mixture of standardised and non-standardised methods and the inclusion of modular as well as longitudinal assessment elements will be used. For any choice, alignment with the curriculum and the intended learning processes is crucial (van der Vleuten & Schuwirth, 2005). Below a more detailed description of the assessment plan for the different phases of the DMCG curriculum is given.

In programmatic assessment, information about the learner is essential and massive information is gathered over time. Being able to handle this information effectively and flexibly is vital. In the new curriculum, DMCG will collect information through the use of electronic portfolios. Portfolios will have a dossier function allowing periodic analyses of the student's competence development and learning goals. The portfolio should therefore serve three functions: (1) provide a repository of formal and informal assessment feedback and other learning results (i.e. assessment feedback, activity reports, learning outcome products, and reflective reports), (2) facilitate the administrative and logistical aspects of the assessment process (i.e. direct online loading of assessment and feedback forms via multiple platforms, regulation of who has access to which information and by connecting information pieces to the overarching framework), and (3) enable a quick overview of aggregated information (such as overall feedback reports across sources of information). Care should be taken to ensure that the structure and functionalities of these portfolios are sufficiently aligned with the requirements of the assessment programme.

Information richness is the cornerstone of programmatic assessment. Without rich assessment information programmatic assessment will fail. Mostly, conventional feedback from assessments, that is, grades and pass/fail decisions, are poor information carriers (Shute 2008). Meaningful feedback may have many forms. One is to give out the test material after test administration with information on the correct or incorrect responses. In standardised testing, score reports may be used that provide more detail on the performance (Harrison et al. 2013), for example, by giving online information on the blueprint categories of the assessment done, or on the skill domains (i.e. in an OSCE), or longitudinal overview for progress test results (Muijtjens et al. 2010). Sometimes verbal feedback in or after the assessment may be given (Hodder et al. 1989). In unstandardised assessment, quantitative information usually stems from the rating scales being used. This is useful, but it also has its limitations. Feedback for complex skills is



enhanced by narrative information (Govaerts et al.2007). Narrative information may also enrich standardised

assessment. For example, in one implementation of programmatic assessment narrative feedback is given to learners on weekly open-ended questions (Dannefer & Henson 2007).

Feedback alone may not be sufficient for students for their learning (Hattie & Timperley 2007). Research findings clearly indicate that feedback, reflection, and follow-up on feedback are essential for learning and expertise development (Ericsson 2004; Sargeant et al. 2009). Reflection for the mere sake of reflection is not well received by learners, but reflection as a basis for discussion is appreciated (Driessen et al. 2012). Feedback should ideally be part of a (reflective) dialogue, stimulating follow-up on feedback. Mentoring is an effective way to create such a dialogue and has been associated with good learning outcomes (Driessen & Overeem 2013). In programmatic assessment mentoring is used to support the feedback process and the feedback use. In a dialogue with an entrusted person, performance may be monitored, reflections shared and validated, remediation activities planned, and follow-up may be negotiated and monitored. This is the role of a mentor. The mentor is a regular staff member, preferably having some knowledge over the curriculum. Mentor and learner meet each other periodically. It is important that the mentor is able to create a safe and entrusted relationship. For that purpose, the mentor should be protected in having a judgemental role in the decision-making process (Dannefer & Henson 2007). The mentor's function is to get the best out of the learner.

DMCG will adopt the IFOM exam in accordance with the CAA requirements and will comply with all the standards and accreditation stipulations.

Assessment in DMCG is done under the following principles:

- Enhancing the quality of the curriculum (courses and programs)
- Evaluating the efficacy of the teaching process and encouraging its ongoing enhancement
- Assessing the effectiveness of the teaching method and enabling continuing improvement
- Improving and encouraging further learning through clear, insightful, timely, and pertinent feedback
- Provide faculty with opportunity to obtain feedback on their teaching in order to improve quality assurance and enhancement.
- Formally confirming achievements
- Accountability to the college, accrediting organizations, employers, and the community at large

Assessment of Instruction

Teaching evaluations must be comprehensive and incorporate self-reflection, peer observations, and student opinions. We are dedicated to making sure that teaching is valued for its quality, relevance, and effect.

Objective: Ensure that a multifaceted evaluation strategy is used by reviewing how teaching is evaluated and improving policies and procedures.

Assessment is an essential part of education, and it is carried out throughout the educational process to ensure that it is achieving its objectives. Policies, procedures, regulations, and guidelines are adopted to ensure that DMCG:



1. uses a variety of appropriate assessment tools to ensure that students acquire the specified knowledge, skills and competencies and meet the specified learning outcomes of the academic unit, unit, or module.
2. ensures that assessment tools are valid and aligned with academic unit learning outcomes and the level of the academic unit.
3. develops and implements rubrics for all assessment tools.
4. implements methods for the moderation and assessment of student work in which more than one individual independently marks or moderates an assessment or evaluates student performance.
5. includes methods for authenticating students' work.
6. provides clear, written guidance, for faculty, staff, and students, on assessment methodologies, tools, and grading, to ensure comparability of academic standards and consistency with the approaches to teaching, learning and assessment.
7. ensures that assessment methodologies are appropriate for the nature and level of the program and academic unit, and their content and mode of delivery, to demonstrate achievement of the learning outcomes



Assurance of learning framework

For DMCG to ensure that learning is taking place, a clear framework based on the assessment cycle will be prepared. The assessment cycle will have four phases based on the Deming's quality cycle:

1. Planning and preparation
2. Measurement, which is the phase of delivery of assessment activities based on the plan
3. Interpretation, including analysis of items and results and the interpretation of the results of individuals and groups
4. Decision-making and actions

For each of the four phases, there will be clear policies and procedures.

1. Planning and preparation

a. Planning

During this phase, the system governing assessment is established and regularly reviewed. It will be based on the institutional assessment policy. It also outlines the procedures for the assurance of learning at the programme level (programme outcomes assessment). The starting point is the review of the curriculum documents to ensure that constructive alignment between content, delivery, and evaluation was done. Assessment and evaluation policies will be updated and used as the foundation for the assurance of learning system. Guidelines for the preparation of a programme assessment blueprint, course blueprints & measurement activity blueprints are developed. The preparation and approval of a programme assessment blueprint, course blueprints & measurement activity blueprints follow.

b. Preparation

Based on the course blueprint, an overall assessment plan is prepared, in which Several measurement activities used for low-to high stakes decisions are determined, and their characteristics described. For each activity, and based on the activity blueprint, the measurement instrument is prepared using the agreed-upon guidelines. Compliance with guidelines is ensured through a validation and verification process (moderation).

2. Measurement

The assurance of learning is done through several assessment activities that measure the extent of learning. Measurement instruments include tools for assessment during learning (embedded assessment). Several measurement activities used for low-to high stakes decisions are delivered based on policies, procedures, and guidelines. The authorized stakeholder monitors and evaluates delivery. Scoring, marking, grading and giving feedback are also carried out based on policies, procedures, and guidelines. The Scoring, marking, and grading are verified using clear validation and verification procedures.



3. Interpretation

Before results of measurement activities and of the whole academic unit are interpreted, quality control procedures including item analysis and results analysis are carried out and any corrective actions are done. The results are then interpreted using standards and guidelines set at the planning and preparation phase.

4. Decision-making and actions

Decisions regarding individuals, cohorts, and courses are based on the recommendations following the analysis and interpretation of the measurement phase.

A plan is also set for the assurance of learning at the programme level using the same four phases, but employing different actions.

Building the assessment plan for DMCG's competency-based curriculum

The three phases of the DMCG's curriculum will be assessed through strategies that are most suitable for each phase. For all phases an appropriate blend of measurement activities for low-to high stakes decisions will be used. The programmatic assessment approach will be applied to streamline the process. Progress testing will also be used at certain junctions to ensure that individual students are progressing satisfactorily.



Phase 1: the premedical phase

Because the courses in phase one are mainly foundational and mostly directed towards the acquisition of the generic personal common graduate attributes and that the exit professional competences are usually only introduced and only in a few of the courses, assessment will be formative for feedback and improvement, and high stake summative for progression decision-making. Decision-making will be end-of-course, end-of-semester, and end of year. End of phase assessment will be done for courses that are relevant to the exit professional competences. Data collected through the embedded assessment and other types of assessment activities of these courses will be used for the assessment of early milestones of these competences. One of the activities will be specified as a progress test. Progression decision-making will be end-of-semester, and-of-year, and end of phase. The progression will be based on achievement of the set benchmarks of the milestones of the specified competences. Before progression decisions are made, the fulfilment of some additional requirements (conditions/provisos) must be ensured so that students with poor academic standing that cannot be remediated might be asked to repeat certain courses of component before they are allowed to progress. The milestones and the appropriate assessment activities and instruments will be identified before the start of the program.

Phase 2: the pre-clerkship phase

Although courses in phase two, mostly organ/system blocks, will contribute more towards the acquisition and sometimes mastery of the exit professional competences, they include content which is also considered foundational for the clerkship phase. Assessment of these courses will be an appropriate blend of formative, low-stake summative, and high-stake summative assessment activities. One of the activities will be specified as a progress test. The milestones, the appropriate assessment activities and instruments, and the progression requirements will be identified before the start of the program.

Phase 3: the clerkship phase

Assessment of the clinical rotations and the other course in the clinical phase will also be an appropriate blend of formative, low-stake summative, and high-stake summative assessment activities. The assessment will mainly be workplace-based or rather training place-based activities. It will mainly be based on activities that assess the required exit professional competences. Formative and low-stake summative will be used for feedback and improvement. The data collected through low-stake summative activities will also be used for decision making. In addition to continuous assessment activities, low stake ones will be conducted at the end of the rotation/course focusing on measuring the acquisition and/or mastery of required exit professional competences through the utilization of the entrustable professional activities' framework. One of the activities will be specified as a progress test. A final comprehensive end of program assessment activities will be conducted.



The data collected through this, and all other assessment activities will be used for graduation decision-making. The milestones, the appropriate assessment activities and instruments, and the progression requirements will be identified before the start of the program.

Building assessments for EPAs

DMCG will adopt the 14 entrustable professional activities identified in the Emirates MEDs.

When building assessments for a particular EPA, it is recommended that the following three-step process is used.

Step 1: Describe the activity and the tasks required of the student for a faculty member / division lead to entrust this activity to a trainee student. This step is crucial at helping faculty and trainees understand the context of what is expected of the students. It begins the conversation about expectations and helps all parties to develop a “shared mental model” of the desired performance. Ideally, the description and tasks will be evidence-based and informed by the knowledge, skills and attitudes required of physicians to meet the outcomes expected of the future health care system. Without this step, faculty may agree upon or state understanding of common words on a page but still have differing ideas of expected performance from a trainee.

Step 2: Using the list of curricular milestones (previous identified by the curriculum committee), the faculty / rotation coordinator are encouraged to identify those milestones that best inform assessment of the description and tasks identified in step 1. Obviously, there will typically be an overlap in many of the curricular milestones, therefore, it is not necessary to choose every potential milestone when building an assessment for an EPA. The milestones chosen should be tailored to a specific rotation based upon the local resources, rotation structure, and existing culture. Choose those milestones that will help faculty assess for competence in a student and make a decision regarding entrustment for the chosen activity. While there are not necessarily right or wrong milestones, it remains important to make decisions based upon the knowledge, skills, and attitudes required of physicians to meet the outcomes expected of the future health care system described in the DMCG curriculum document.

Step 3: Apply the curricular milestones identified in step 2 to a particular assessment method or assessment tool. The preferred assessment methods provided by DMCG’s curriculum committee in the assessment strategies section of the curriculum document include direct observation, multisource feedback, miniCEX, written tests etc. Some program directors will choose to develop and implement new assessment tools while others may choose to overlay the milestones on existing tools and assessment structures.

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