Learning Science

Assessments: New uses for an old tool
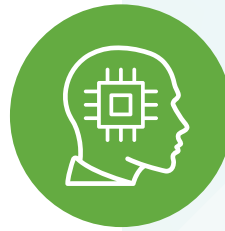
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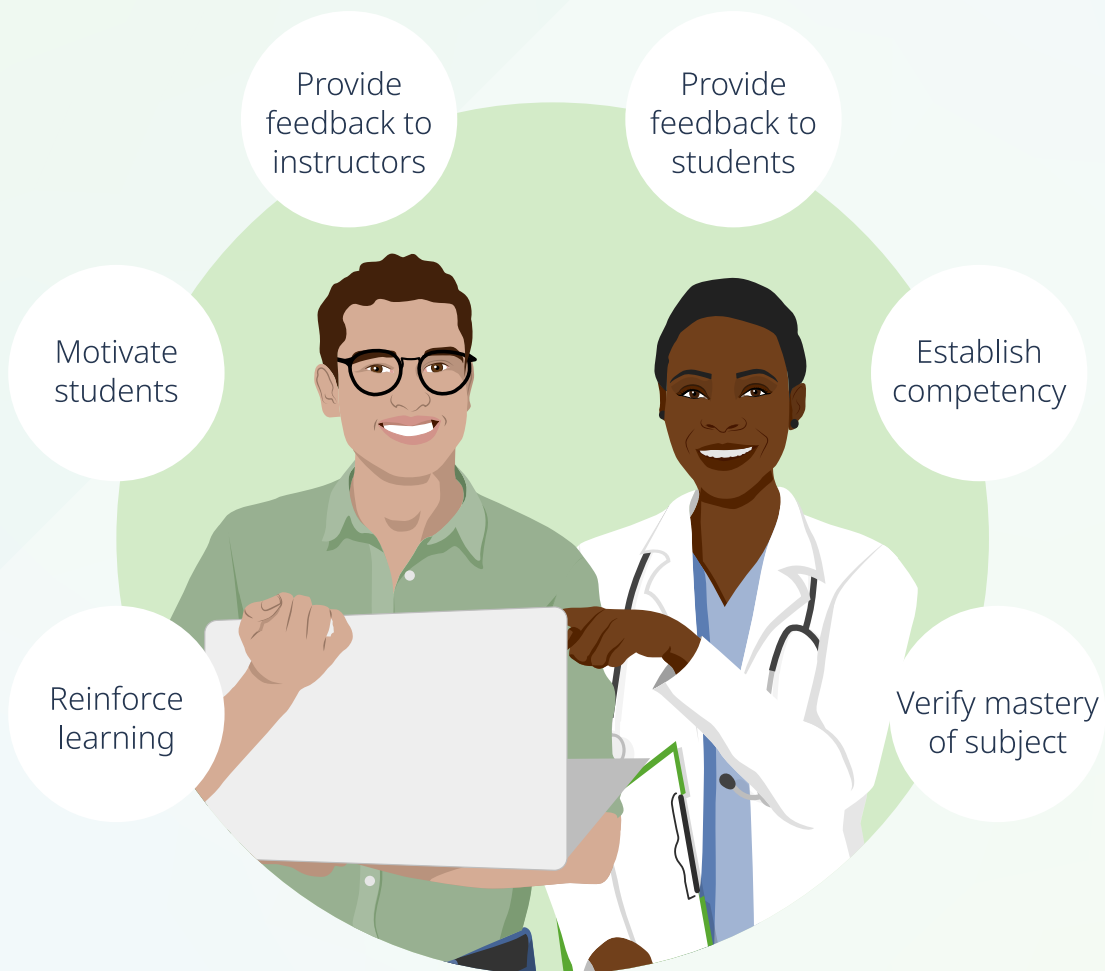
This template has been designed to help healthcare educators and educational specialists develop well-structured assessments that can effectively measure learning. Assessments are of different types and each type serves a specific purpose or a set of purposes. For this reason, it is important that educators ensure the development of valid and reliable assessments that align with the learning objectives.

Written Assessments Tips

Tips for writing more reliable MCQ (multiple choice questions):

- The stem (the first part of the question) should fully formulate the problem or question. A student should be able to formulate the correct answer before viewing the responses[1,3].

- The responses should all grammatically match the stem, be homogenous (e.g. all diseases or all tests), and be kept as short as possible[1,3].

- The detractors (wrong answers) should be plausible to an uninformed person but not arguably correct[1].

- The options "all of the above" and "none of the above" should be used sparingly[1].

- Negative phrasing should be avoided but when used, the negative (e.g. "not") should be bold and/or capitalized to ensure it is noticed[1].

- Avoid extreme statements such as always or never[4].

- When creating context-rich questions, put all relevant clinical information first and avoid any ambiguity[4].

Be clear and consistent when writing open-ended questions:

- Questions should be carefully formulated to make clear to the student the **depth and breadth** expected in their response.

- Questions should be **aligned to objectives** to ensure content validity (e.g. discuss, compare, synthesize).

- **Rubrics, rating scales, or checklists** should be developed to ensure consistency of grading and reduce bias[1,2].

- For oral assessments, an **adequate sampling of cases** should be used to ensure sufficient depth and breadth.

- If writing or oral skills will be assessed, the **expectations should be clear** to the student prior to assessment.

Performance-Based Assessments Tips

Performance-based assessments can take the form of simulations (including standardized patients), clinical observations, mini-clinical evaluation exercises (mCEX), or objective-structured clinical examinations (OSCEs). Performance assessments allow for assessing clinical competency by observing skill and behaviors in varying levels of authenticity. Performance-based assessments are a powerful means to assess many skills across all three domains of learning - **cognitive, affective, and psychomotor**.

Be clear and consistent when writing performance-based assessments:

- Determine which learning objectives will be tested using performance-based assessments[1].

- Determine the contexts and tasks in which the performance will be observed[1].

- Specify scoring system(s)[1]: rubrics, checklists, and/or rating scales.

Assessment Planner

Well-structured assessments align with the learning objectives. Use this chart to plan your next **written** or **performance-based assessment**.

Learning Objective(s)	Assessment Type	Use the tips above to formulate your assessment question(s) Question(s)	Evaluation Tool
Students will be able to **explain** the physician's role in the process of informed consent and the purpose of the consent form.	MCQ EMQ **Open-ended Question** Performance-Based Assessment	Explain the physician's role in the process of informed consent and the purpose of the consent form. Provide three arguments to explain your idea.	**Rubric** Checklist Rating Scale Other
	MCQ EMQ Open-ended Question Performance-Based Assessment		Rubric Checklist Rating Scale Other
	MCQ EMQ Open-ended Question Performance-Based Assessment		Rubric Checklist Rating Scale Other
	MCQ EMQ Open-ended Question Performance-Based Assessment		Rubric Checklist Rating Scale Other

References
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