

What Have Pharmacy Students Learned? An Objective Structured Clinical Exam (OSCE) for Measurement of Skill Application in Real Time

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Outline

- What is an OSCE?
- Why use OSCEs for assessment?
- How are OSCEs formatted?
- University of Waterloo School of Pharmacy: OSCE Program Overview
- How can other programs assess skills in real time?

What is an OSCE?

Objective Structured Clinical
Examination

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OSCE Examinations

- Objective Structured Clinical Examination
- Widely used in healthcare training programs
- An OSCE usually comprises a group of 5–10 minute stations
 - each candidate is examined on a one-to-one basis with impartial examiner(s) using a standardized scoring procedure
 - simulated participants (actors)
 - non-interactive stations
 - rotate through all of the same stations

Why Use OSCEs for Assessment?

Outcomes Can be Difficult to Assess with a Pencil and Paper (or Computerized) Format

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Why use OSCEs?

Outcomes Can be Difficult to Assess with a Pencil and Paper Format

- OSCEs are:
 - Objective and standardized:
 - Examinees exposed to the same scenario, resources, and evaluation.
 - Evaluators undergo station-specific standardized training and grade using a vetted performance checklist/rubric.
 - Standardized participants (actors) trained to provide consistent information, prompts and present with unified attitudes and emotions.
 - Structured: Each exam designed to test a blueprint of specific competencies/skills performed in real time.

Are standardized evaluations of performance on clinical rotations adequate to assess educational outcomes across a cohort of learners?

Why use OSCEs?

Skills not well evaluated with pencil and paper exams

- Critical thinking
- Clinical skills/decision making
- Communication abilities

...in Real Time

Why use OSCEs?

Objective structured clinical examinations (OSCEs) compared with traditional assessment methods.

Am J Pharm Ed 2011;75(6):Article 111.

- Correlation of OSCE vs. traditional examinations in UK undergraduate MSc pharmacy in a cohort of 39 students.
- Conclusions:
 - Strong performance on traditional assessments does not reliably predict performance on clinical assessments.
 - Difference between scores is evident when the 2 assessments are mapped onto the levels of Miller's Pyramid of Competence – “knows” vs. “knows how” (knowledge vs. competence).

How are OSCEs Formatted?

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University of Waterloo School of Pharmacy: OSCE Program Overview

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uWaterloo OSCE Program

- **OSCEs #1-3**

- Examine foundational skills such as patient counseling, communication, patient assessment, and documentation
- Consist of 3-5 stations
- Serve as components of Professional Practice courses

- **OSCE #4**

- High-stakes summative examination of fundamental clinical skills
- Administered as a milestone requirement for graduation.
- Students unsuccessful in the first attempt will be given up to two additional attempts.
- Seven stations (5 interactive + 2 non-interactive).

uWaterloo OSCE Exam Development

- Professional Practice OSCE team meets to plan exam:
 - Identification of cases to be developed to meet specific blueprint.
- Faculty case writers engaged to develop case, checklist and station requirements.
- Panel review of case/checklist
- Training of participants:
 - Standardized participants: Trained on case and evaluation of student communication
 - Pharmacist assessors: Trained on case and checklist
- Standard setting (high stakes)

Student Assessment

- Checklist items marked as met/not met
- Standard communications rubric.
- Global assessments:
 - Problem solved, partially solved, or unsolved
 - Overall impression: excellent, good, marginal, unacceptable
- Red flag occurrences:
 - Harm to patient, misinformation, standardized patient would not return

Student Feedback

- Students receive a report card:
 - Outlines overall performance on the exam.
 - Performance in individual areas of the examination based on checklist item mapping.
 - Provides some general performance feedback.
- Oral feedback:
 - Students who fail the high risk OSCE receive individualized feedback in addition to the standardized report card.
 - Feedback focused on areas where improvement is needed and general strategies for improvement.

Sample Report Card

Exam Result: **At Risk**

Performance Quartile: **4**

While you have successfully completed the OSCE by meeting the threshold score, your score indicates that you are at risk of having difficulties on similar exams. You are strongly urged to repeat the OSCE for additional practice. See the comments below.

Clinical and Communication Skills

	Your Score	Average	Range
Gathering Information			
Assess Allergies and Medical history	42.9%	79.3%	(42.9% - 100.0%)
Assess Medications	100.0%	88.1%	(45.5% - 100.0%)
Assess Patient	75.0%	63.3%	(25.0% - 87.5%)
Assess Previous Therapy	50.0%	51.7%	(0.0% - 100.0%)
Assess Symptoms	60.0%	67.0%	(20.0% - 100.0%)
Identification of Problem			
Recognize Problem	100.0%	81.3%	(25.0% - 100.0%)
Patient Management			
Patient Education - Drug related	33.3%	46.3%	(0.0% - 83.3%)
Patient Education - Nondrug related	75.0%	38.5%	(0.0% - 100.0%)
Prescription Verification	0.0%	68.4%	(0.0% - 100.0%)
Therapeutic Recommendations	66.7%	57.7%	(8.3% - 91.7%)
Monitoring/Follow-up			
Monitoring and Follow-Up	66.7%	22.6%	(0.0% - 100.0%)
Communication			
Active Listening Skills	80.0%	75.7%	(43.3% - 100.0%)
Assertiveness	86.7%	78.2%	(55.0% - 93.3%)
Clear Writing	50.0%	78.7%	(25.0% - 100.0%)
Documentation Consistent with Encounter	50.0%	73.5%	(0.0% - 100.0%)
Documentation Format is Correct	33.3%	73.6%	(0.0% - 100.0%)
Language	84.8%	86.3%	(70.5% - 100.0%)
Nonverbal	74.2%	81.3%	(55.0% - 100.0%)
Organization	74.2%	78.9%	(49.2% - 100.0%)
Questioning	78.7%	78.3%	(54.0% - 94.7%)
Rapport	73.3%	79.0%	(49.2% - 100.0%)

Performance Red Flags

Cases where information given posed potential risk to the patient: **0**

Instances where misinformation was given: **2**

Cases where patient/healthcare provider would not return for future consultation: **0**

Comments

Performance on the OSCE is assessed based on your ability to apply clinical problem solving skills necessary to provide quality patient care, your ability to effectively communicate, and your ability to resolve the case presented. Specific skill areas where your performance needs improvement are marked in red above. These are skills on which you should focus.

Your oral communication score on the OSCE indicates that your skills are effective. Congratulations!

In addition to applying sound clinical skills and good communication, it is important that you adequately resolve every patient care dilemma. Your overall outcome score on the OSCE indicates that your problem-solving ability requires refinement.

PharmD program midpoint assessment

- Minimal competence exam for students who have completed first two years of the program
- Designed to identify students who are at risk of failure
- Includes a multiple-choice exam plus OSCE #2
- Remedial plans to be developed

Lessons learned

- Expected vs. actual retention of material and application of skills
- Professional Practice curriculum
- What does minimal competence look like?
- Complex vs. straightforward cases

How can other programs assess skills in real time?

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Questions for discussion

How do other disciplines assess communication, critical thinking, and time management skills?

How can application of knowledge and skill be assessed in real-time?