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Conducting Objective Structured Clinical Exams in a Pediatric Nurse Practitioner Program Using Google Tools

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ABSTRACT

Objective structured clinical evaluations have been used within the clinical teaching environment in physician and advanced practice registered nurse training programs for many years. This article highlights the value of using Google suite tools (including presentations, forms, and spreadsheets) to perform objective structured clinical evaluations within nurse practitioner training programs. These web-based tools enable faculty to evaluate a higher level of clinical acumen on Miller's pyramid of clinical competence. Using the Google suite, faculty are now able to evaluate "shows how" in a more efficient manner.

Keywords: clinical competence, OSCE, summative tools

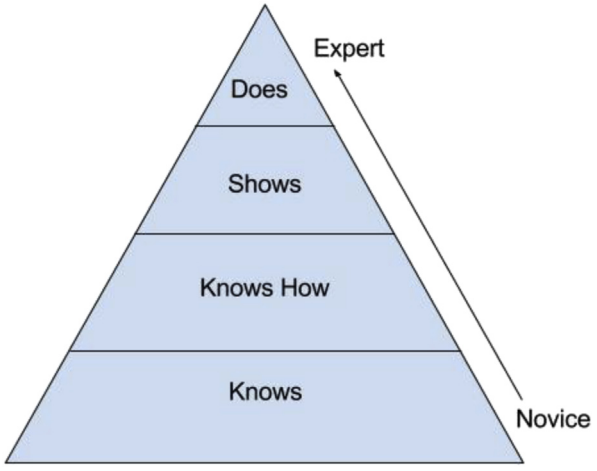
The evaluation of student clinical competence in the health professions has always been a challenge, particularly when clinical experiences are completed with a preceptor outside of the academic setting. Evaluating the critical grasp of student clinical knowledge and competency by faculty within an advanced practice registered nurse (APRN) clinical course has generally relied on multiple-choice testing, student submitted SOAP notes, or course assignments that may or may not have direct clinical relevance. In addition, evaluative tools to measure clinical competence can be subjective or reliant on evaluators who do not clearly understand course objectives. Within a pediatric nurse practitioner (PNP) program, objective structured clinical examinations (OSCEs) were used to measure knowledge across various domains of Miller's framework of clinical competence (see Figure 1), allowing faculty to assess critical thinking skills necessary for clinical practice. The purpose of this article is to describe the use of a summative evaluation with Google tools from a study conducted at the end of the PNP first and second semester clinical courses. These tools that are collectively integrated allowed: (1) students to input answers to posed clinical dilemmas; (2) multiple faculty to objectively examine student clinical documentation, history-taking and physical exam skills, diagnostic reasoning skills, and the ability of each student to develop an appropriate management plan; and (3) faculty to provide individualized feedback to the student with exemplars.

USE OF OSCE FOR FORMATIVE EVALUATIONS

When assessing competence within the clinical setting, there are a variety of formative and summative tools, the most popular being the traditional paper-and-pencil exam. However, these exams do not allow for demonstration of psychomotor skills nor do they simulate actual clinical work.[1] The OSCE, defined as clinical rotation stations that use either simulated patients or clinical scenarios, has been used with medical students since 1975 and is gaining in popularity within APRN programs.[2,3] One concern of using OSCEs is that the reliability and validity of the OSCE's fidelity during implementation or evaluation can be compromised—especially when diverse faculty administer or evaluate the exam; however, OSCEs utilizing Google tools can allow for more formative evaluation of psychomotor skills, simulated clinical work, and critical thinking, while maintaining testing fidelity.

Blending OSCEs with multiple-choice question tests within a course provides a robust strategy for

Figure 1. Miller's pyramid of clinical competence.[1]



overcoming limitations from either methodology when it is used in isolation.[4] Interestingly, in British Columbia, all nurse practitioners entering independent practice must first pass an OSCE examination.[5] The current PNP curriculum uses the OSCE and also mock certifications as ways of performing summative evaluations for students. The consensus statement and recommendations from the Ottawa Conference on medical education reviewed the components of the criteria used for evaluating assessments, which included reliability, validity, educational impact, cost efficiency, and acceptability of the OSCE in medical education (see Table 1).[6]

LIMITATIONS OF OSCE AND CHALLENGES

Challenges for implementing OSCEs include the high cost of obtaining standardized patients (SPs), the need for many faculty evaluators for the various stations, and the need for supplies. These factors can make OSCEs cost-prohibitive or extremely time-consuming. Moreover, this does not include the faculty time of preparing and scoring the OSCE. OSCEs can also be resource-intensive depending on how they are administered and what types of scenarios are designed. If using SPs, training and reimbursing them in the scenarios must be done. Two studies reported that their OSCE costs ranged from $12,000 to $19,000, not including faculty time.[7,8]

If clinical scenarios must be observed, either the SP or faculty will be rating the student's performance

Table 1. Summary of the Ottawa Conference on Objective Structured Clinical Exams (OSCEs)[7]

Reliability	OSCEs are more reliable than unstructured observations. They offer: 1. Structured marking schedules 2. Wider sampling of clinical cases that portrays a more reliable picture of the learner's overall competence 3. Increasing number of OCSE stations increases reliability in the OSCE performance score 4. Multiple OSCE assessors reduces bias in the overall OSCE score
Validity	1. Sampling of stations and how it relates to the objectives of the course results in face validity. Does the exam test the relevant topics of the course? 2. Higher OSCE performance is correlated with stronger clinical skills
Educational impact	OSCEs are designed to reinforce or augment both clinical and textbook learning
Cost efficiency	Use OSCEs to test clinical competence but utilize other methods for knowledge assessment
Acceptability	OSCEs are perceived to be fair by both students and faculty

in the scenario. There are a variety of scales that can be used, either checklists or global rating scales, to determine the outcome of the student's performance, but these can be cumbersome for faculty to collect and tabulate if they are in paper form. Also, the practice-based feedback given to students may be fragmented from multiple evaluators or delayed depending on how the parts of the OSCE are deployed, scored, and tabulated. Traynor and Galanouli reported that a successful OSCE provides timely feedback on the student's performance.[9]

THE FIRST ATTEMPT

In the first year that an OSCE was deployed, 15 different stations were created, with the students using paper to record their answers and depositing them within an envelope at the station. The stations did not require observers, as they were clinical scenarios that asked the student to make a clinical decision and then to support their answer with a rationale. It was