

## Build an OSCE and Improve Faculty Development: A Good Experience

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**Abstract:** The clinical skills faculties were interested in improving the student's assessment methodology, but they needed more expertise in this area. A mixed approach using a virtual environment (Moodle platform) and face to face meetings was proposed to develop an OSCE workshop and to prepare the exam as part of a Faculty Development Program. Teachers recognized the importance of the faculty development program and were engaged in the process.

**Key words:** OSCE, faculty development, assessment

### 1. Introduction

In our school the clinical skills faculties were interested in improving the student's assessment methodology, but they needed more expertise in this area. The discipline of clinical skills happens during the fifth semester of the medicine course and integrates physical examination, interpretation of clinical symptoms, communication skills, radiography interpretation and clinical pathology. Initially a questionnaire was administered, and 10 out of 14 teachers answered choosing the student's assessment as the most important subject to study deeply. The final product had to be meaningful for the group, thus, we decided to build an OSCE and we started a faculty development program to achieve this goal.

The following article shows how we used this faculty project as an opportunity to improve our assessment methodology and promote faculty development.

### 2. Review of the Literature

#### 2.1 Faculty Development

Faculty development is seen as an important part in health education and must provide to the teacher and to the education institution, a way of reflecting and improving the academic practice. This action must give the faculty a way to enhance their knowledge and skills in teaching, research and management domains (Steinert, 2008; Lown, 2009). The faculty development should be designed to prepare institutions and faculty members for their various roles (Steirner in Harden, 2009).

The majority of faculty development programs focus on teaching improvement, but we can't ignore the

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personal development of the faculty members and how this can foster a culture change and empower the teachers to improve their role as educators and leaders.

The fact is that these programs stimulate a best practice besides professional and personal development. They also make the links between people and institutions stronger. Well-designed programs, based on the faculty's needs, with coherent methodologies and feedback to their participants have more chance of success than others that are based on rigid frameworks. They also reduce resistance and could help to increase teacher self-esteem. The faculties participate in the curriculum changes and in the improvement of the assessment methodologies. (Steirnet, 2006; Sakai, 2008; Burdick, 2012; Lown, 2009).

A faculty development program must use a comprehensive approach and needs to develop individuals who will be able to provide leadership and play an important role in cultivating a strong teaching and learning environment; the program must create an encouraging climate that recognizes the faculty's role in the educational process. (Wilkerson, 1998; Steinert in Harden, 2009).

To design a program it is important to clarify the objectives and priorities; it's fundamental to link the faculty's needs and the institution's goals to be successful. Assessing needs and identifying the preferred learning formats incorporating principles of adult learning can be a way to get the faculty engagement and institutional support (Steinert in Harden, 2009). Being aware of the possible reasons for non-participation is fundamental to the success of a program (Steinert, 2009). Another key is the evaluation and demonstration of the effectiveness of the program and the Kirkpatrick's level of evaluation can be helpful in conceptualizing the outcomes assessment (Kirkpatrick, 1994). The levels, in ascending order, are:

- (1) Reaction
- (2) Learning
- (3) Behaviour
- (4) Results

As Steinert (in Harden 2009) says, even if the only level assessed was the participants' satisfaction (reaction) it still gives valuable feedback to the program planners and could be a way to motivate other colleagues to participate in the trail.

## **2.2 OSCE as Performance Assessment**

Objective Structured Clinical Examination (OSCE), is an assessment method that uses a simulated clinical scenario, where the student can demonstrate specific clinical examination skills, on the same series of tasks, with a standardized scoring scheme (checklist), and a duration that can vary from five to thirty minutes depending on the complexity of the task (Marks in Harden, 2009). This system can be structured and tailored according to the target group and purpose; the OSCE is used to assess multiple skills as: physical examination, communication skills, radiography interpretation and other tests. This can be used to assess undergraduate and graduate students, residents as well as other healthcare professionals (Preusche, 2012).

## **3. Methodology, Material and Methods**

In the second semester of 2010 we asked the clinical skills faculties to evaluate the discipline via an online survey (survey monkey) and to indicate their interest and motivation in participating in a faculty development program with a four-point scale (Jamieson, 2004). We also asked which subjects they thought should be developed. With these data on hand, we decided to initiate the program working on student assessment, and we prepared a

project to coach faculties on the OSCE (Objective Structured Clinical Examination). We chose a hybrid format (virtual and face to face) to work with the teachers. The final product will be the construction and the application of an OSCE in the 5<sup>o</sup> semester of the medical course, as a final practical assessment for one hundred clinical skills students.

To begin with, an email was sent to the faculties explaining the course structure (virtual and face to face). The virtual aspect was on the moodle platform, where a space with articles about the subject aimed at promoting a discussion was available; they started to construct the clinical sets in this space. During October 2011, we also had three face to face meetings, on the workshop model, to explain and organize the development process.

The fourteen teachers were divided into six groups and they had to create six clinical stations with their checklists. The scenarios were on: head and neck, respirology, cardiology, digestive symptoms, neurology and the vascular system. In addition, we prepared a test video composed of five clips of different clinical situations, with specific questions about clinical skills and clinical reasoning.

Another clip of a clinical situation was filmed, with senior students in the patients' and doctor's role; the briefs and checklists were written by the faculties. This clip was used as the third station, and the students had to watch and analyze the situation as a faculty, with a checklist. The proposal was to observe the students' communication skills and capacity to reflect on professionalism

All the activities were discussed with the faculties online or during the face to face meetings.

After the OSCE application, one hundred students had to evaluate the assessment responding to structured questions(organized in a five-point scale) about the organization of the OSCE, giving it a score. The SPSS 17.0 was used for the descriptive statistical analyzes of frequencies and means. They needed to answer one question about how they felt themselves during the assessment and their impression about the exam. The qualitative data were analyzed by the wordle, a free software program available on the internet (Carvalho Jr, 2012; Viégas, 2009).

The results were discussed with the faculties and served to implement changes and improvement to the methodology.

#### **4. Results**

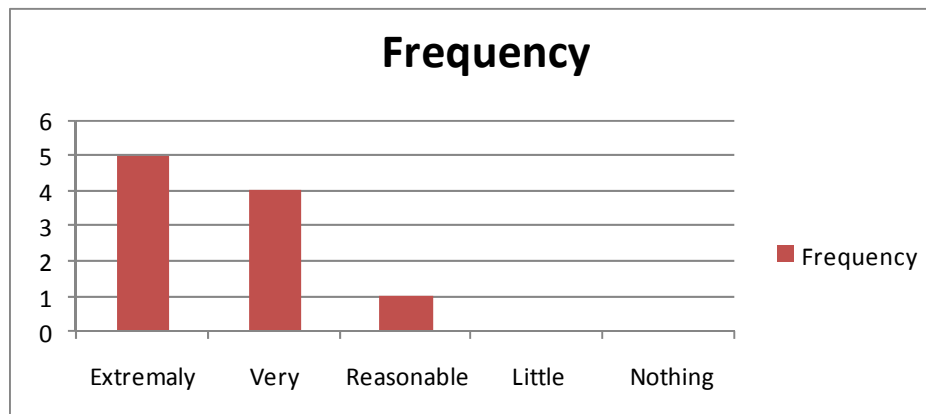
Ten of fourteen teachers answered the survey and chose student assessment, education research and new methodologies as the most important topics to be developed; they could choose more than one option (Table 1). They also highlighted that they were extremely or very motivated to participate in a faculty development program (Figure 1).

Twelve of fourteen teachers were present in the face to face meetings, but the participation on the moodle platform was poor. We noticed that the group had a low level of engagement with the virtual environment.

During the meetings each subgroup presented its task to the others and they discussed the difficulties and the new ideas. It was an important part or the process.

**Table 1 The Most Important Topics to Develop**

Topics	Responses	Percent (%)
Active Methodologies	3	30
Student Assessment	6	60
Research on Education	4	40
Use the technology	1	10
Qualitative Research	1	10



**Figure 1** Motivation to Participate on a Faculty Development Program

Of the six stations created, two were chosen for clinical simulation, with a senior student on the patient's role. They reviewed each part: the case, the orientations for the students and for the actors and the checklist. The checklist had to be clear, but not too long.

On 29th October we applied the first OSCE divided in two parts:

- (1) Two clinical stations with the senior students as the simulated patients
- (2) Test video with five different clinical situations

Thirteen faculties and ten senior students were present at the first Clinical Skills OSCE.

Even if the first OSCE was well evaluated by the students, with a general score of 8.8 out 10 (Table 2) the experience was still critically reviewed by the faculty members.

The students continued to evaluate each OSCE after, however we changed the survey to a five-point Likert scale (Jamieson, 2004), going from "strongly agree" to "strongly disagree", because we believed that it was a better fit with the formative aspect of the assessment.

**Table 2** OSCE Evaluation by Students on the First Exam

Topics	Participants	Mean
Organization	88	8.64
Global score	84	8.88

The qualitative data of the first OSCE is shown in Figure 2. The most frequent and thus important words appear in a large font, and they were: nervous, quiet and anxious, but other words as practice, better, positive and welcomed appeared. This is important to understand the subjective vision of the students during the assessment.



**Figure 2** Qualitative Students' Feelings on the First OSCE

The results of the evaluation made on the first semester of 2013 are shown in Figure 3, with more than 80% approval.

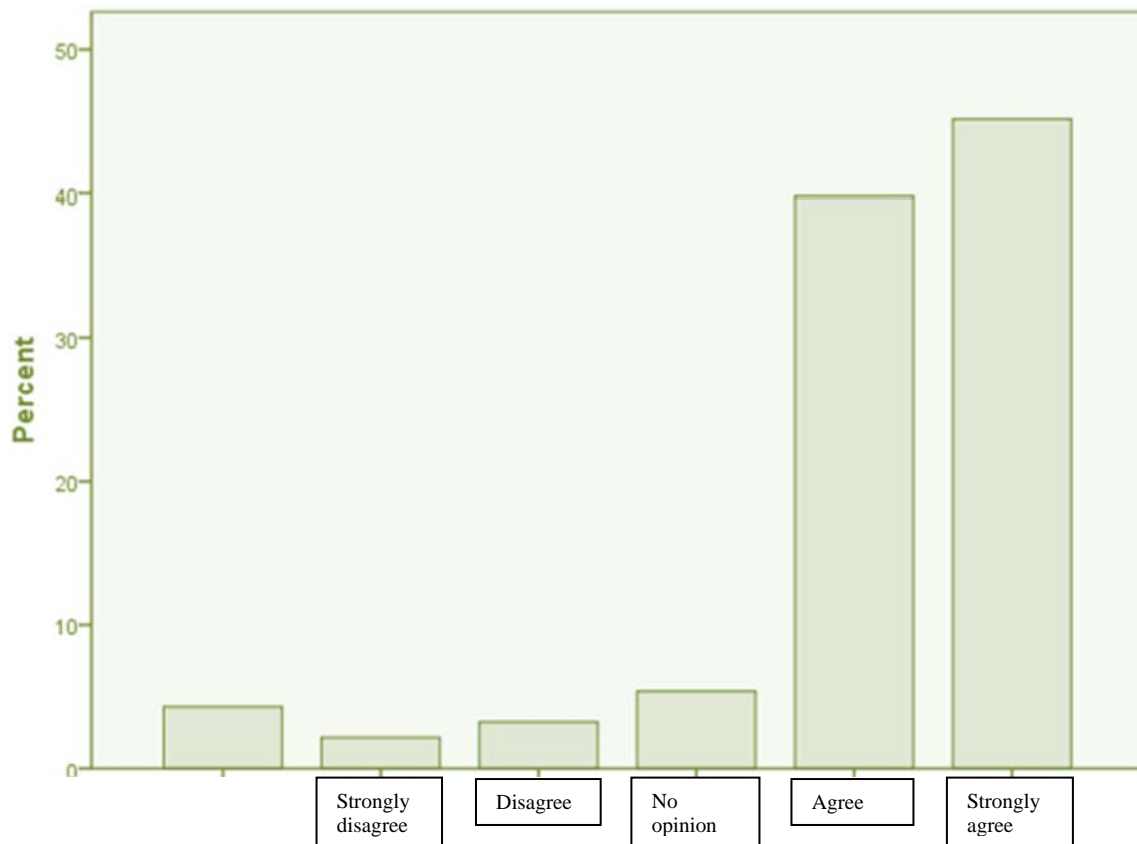


Figure 3 Students' OSCE Evaluation on the 2013.1

And the qualitative data of the first semester of 2013 (Figure 4), shows how they evaluate the assessment in a positive way.



Figure 4 Qualitative Students' Evaluation on the 2013.1 OSCE

We are now in our 5° OSCE, and it evolved with:

(1) the two simulated clinical stations with senior students on the patient's role with the presence of a faculty to evaluate the students; a third station on video format was added to stimulate the student reasoning about professionalism and communication, without faculty, where the student must analyze the situation and complete the checklist;

(2) a video test, composed of ten videos of different clinical situations

(3) a long-case integrating clinical skills' knowledge, clinical reasoning, image interpretation and clinical pathology.

## 5. Discussion and Conclusion

This study was important for the faculty group and for the institution because it helped to put together both needs: teachers' necessity to improve assessment methodologies and the institution's objective of having better faculty members (Steinert in Harden, 2009; McLean, 2008). Questions about the faculty motivation and needs, presented on a survey with a Likert scale format is very common in the literature, and can easily identify group characteristics (Amin, 2009).

Another benefit of this study was the opportunity to discuss the difficulties and possible methodology improvements by the group, which resulted in collective growth.

With the results of the students' evaluation, the faculty members could reflect and make important changes that they were not prepared to do it alone. Involving students is a good practice in medical education environments that helps to promote decision making (Stanley, 2013). When both views are compared, faculty and students can escape a rigid framework and build together something new and better adapted to their reality. This study demonstrated that after listening to faculty members and students the OSCE's design evolved to a different format, which was capable of attracting a large group of students as well as stimulating reflection and enrichment of the faculty members and improving student assessment methods with limited resources. This movement can increase faculty responsibility in the process of organizational and curricular change, where the groups work together on a project that involves best practice in the educational field and better student assessment to improve teaching-learning processes; it is aligned with the new perspectives on faculty development (Steinert, 2012).

Teachers recognized the importance of the faculty development program and were engaged in the process. Discussions revealed that it was an improvement in the student assessment process as it was objective and standardized. They felt more confident in the methodology and able to prepare and apply the OSCE. Flexibility in our own approach and working with a meaningful product for the faculty were the keys to the success of this faculty development program as seen in the literature (Wilkerson, 1998).

One of the difficulties in the study was the relationship and the number of faculties and students, which made it very complicated to prepare and apply an OSCE with eight to twelve stations, with five to ten minutes for each one, as it is often validated in this way (Marks in Harden, 2009; Pinheiro, 2012). The validity of the assessment could be questioned as it only had three stations, and one of which was filmed. The response is based on the principal objective of this study: the faculty development. The student performance assessment was a consequence, and another challenge to be developed by a well formed faculty group.

The faculty members had to manage many difficulties at the same time as well as their lack of OSCE experience: they had to prepare a sophisticated assessment with limited resources, develop adequate cases/scenarios and respective checklists to assess the "desired" abilities (Marks in Harden, 2009), work in a virtual environment, assess one hundred students in five hours and have free time to participate in the face to face meetings. They had to use a lot of creativity to plan the OSCE with limited financial and human resources, and they chose to adapt the traditional OSCE in to a reliable OSCE. After understanding the concepts behind this assessment tool, this was the biggest challenge for the group. The use of senior students in the patients' role was

another strategy to reduce costs, because the group didn't have a budget to pay for actors to play the standardized patients. There are some examples of cost reducing strategies in the literature (López, 2012; Rodrigues, 2012), but normally actors or mannequins are used in the role of the patients. The participation of senior students might have had a positive impact on the students during the assessment, because of the possible identification which could serve to reduce the stress that this situation carries. Another benefit for the senior students is a new opportunity to review and reflect on their clinical skills abilities.

The teachers could assess the clinical abilities based on the two clinical stations with the faculty's presence, and they completed the other stations with the video-test composed by five clips presented on the first OSCE. This test had evolved to ten clips with different clinical situations where the students had to recognize what was happening with the patient, which exam was performed and why it was done.

The third station assessed communication or professional skills. The students had to act as if they were the faculty and judge the scenario; the additional benefit was the reflection that this participation brings. This OSCE was the final assessment of the clinical skills students in the 5th semester of the medicine course in our institution, which now also has one long-case which integrates clinical reasoning based on the clinical knowledge, the radiographies interpretations and clinical pathology knowledge.

With this context and its challenges, the results proved to be a very interesting and replicable experience. This study is linked to the literature, which shows that when a program is anchored in the holistic needs of the faculty, the institution and the students, it has a good chance of success.

The students' positive evaluation of the assessment methodology was essential in keeping the group motivated and stimulated to improve the process and to arrive at this final model of the OSCE.

Another take out from this study is that a flexible model, with a meaningful final product, is very important motivating teacher participation, it helps to keep them engaged in the process and they also benefit from increased participation in the faculty development program.

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