Effects and Consequences of Being an OSCE Examiner in Surgery—A Qualitative Study

Jasmina Sterz, MD,* Bernd Bender, MSc,* Svea Linßen, Medical Student,*
Maria-Christina Stefanescu, MD,† Sebastian Herbert Höfer, MD,‡ Felix Walcher, Prof., MD,§
Julia Voss, MD,§ Lukas Benedikt Seifert, MD,‡ and Miriam Ruesseler, Prof., MD*

*University Hospital Frankfurt, Department of Trauma, Hand and Reconstructive Surgery, Frankfurt, Germany;
†University Hospital Frankfurt, Department of Pediatric Surgery and Pediatric Urology, Frankfurt, Germany;
‡University Hospital Frankfurt, Department of Oral, Cranio-Maxillofacial and Facial Plastic Surgery, Frankfurt, Germany; and
§University Hospital Magdeburg, Department of Trauma Surgery, Magdeburg, Germany

OBJECTIVE: Even though objective structured clinical examination (OSCE) is a well-investigated format for competency-based practical examination, only a few studies have explored the motivations of OSCE examiners and their opinions, both positive and negative, toward being an examiner. The aim of this study was to gain insights into the views of OSCE examiners using semi-structured interviews.

DESIGN: Surgical OSCE examiners were queried at two medical faculties in Germany via semi-structured interviews. The interviews were transcribed verbatim and analyzed using the techniques of structured qualitative content analysis.

SETTING: This study was conducted at the medical faculties of the Goethe University, Frankfurt, Germany and of the Otto-von-Guericke University, Magdeburg, Germany.

PARTICIPANTS: All of the study participants were surgeons working at the university hospital of one of the faculties.

RESULTS: A total of 29 examiners were queried until a saturation of content was achieved. A critical reflection of one's own teaching was described as a major benefit by most participants. Furthermore, they noted that the standards and competences examined during the OSCE boosted the detail of their teaching sessions in the wards. However, the examiners criticized missed operations due the examination and were not appreciated by superiors for being an examiner. Most of the examiners (22/29) preferred to be an examiner themselves rather than appointing student peer examiners. If they had appointed someone else, that would mean they would miss valuable experiences useful for their own teaching.

CONCLUSIONS: Being an OSCE examiner confers several advantages, notably the reflection of one's own teaching, which was described as highly valuable by the examiners. (J Surg Ed 76:433–439. © 2018 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: surgery, OSCE, examiner, qualitative analysis

COMPETENCIES: Patient Care, Medical Knowledge

INTRODUCTION

The implementation of summative assessments has been a substantial influence on the learning and study habits of medical students ("Assessment drives learning").[1-4] In terms of constructive alignment,[5] it is important to construct learning and teaching methods congruent with the learning objectives. As an example, practical skills require a practical assessment. Therefore, in 1975 the objective structured clinical examination (OSCE) was developed and published by Harden et al.,[6] which prompted the implementation of OSCE as an assessment tool worldwide. Currently, 94% of all medical faculties

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Correspondence: Inquiries to Miriam Ruesseler, MD, University Hospital Frankfurt, Department of Trauma, Hand and Reconstructive Surgery, Theodor-Stern-Kai 7, 60590 Frankfurt, Germany; e-mail: miriam.ruesseler@kgu.de

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in Germany use at least one OSCE as a summative assessment during undergraduate training.[7]

The OSCE is cost- and personnel-intensive and confers a substantial mental workload and burden on the examiner.[8] In light of increasing workplace exposure, an increase in the number of patients and an increase in administrative duties,[9] several studies have analyzed the impact of different, nonphysician OSCE examiners. These studies have yielded convincing results for both nonphysician medical expert staff and student peer examiners.[10-13] Simulated patients have differed in their ratings.[14]

Many studies have analyzed the OSCE, mainly regarding its psychometric properties and potential influences on ratings. These investigations have already described the influence of different examiners.[15-20]

On the contrary, the view of the examiners has only been analyzed to a limited degree. Using a questionnaire, Humphrey-Murto et al. were able to demonstrate that most of their 110 study participants acted as OSCE examiners on a voluntary basis, most notably to gain experience, out of a sense of duty and to gain insights into learners' competences.[21] Notwithstanding the large number of study participants, a quantitative analysis based on a questionnaire cannot gain deep insights in the motivations and consequences of being an OSCE examiner.

In nonmedical specialties, some qualitative examiner research is published, e.g. in the assessment of physical education, which allows to gain insights into teachers reflections on their own teaching sessions and the taught content in these sessions in the context of the implementation of a structured assessment.[22,23] Comparable qualitative studies in medical education are – to our knowledge – missing.

The aim of this study was to gain deep insights into the views of surgical OSCE examiners at two medical faculties based on semi-structured interviews.

MATERIAL AND METHODS

Study Design

This qualitative study was based on semi-structured interviews. The study was conducted according to the ethical principles of the Declaration of Helsinki (Ethical Principles for Medical Research Involving Human Subjects). According to the Ethics Board at Goethe University Medical School, no Ethics Approval was required for conducting this study.

Study Participants

The study participants were examiners from the surgical OSCEs at the medical faculty of the Goethe University, Frankfurt, Germany and of the Otto-von-Guericke University, Magdeburg, Germany.

All study participants were surgeons working at the university hospital of one of the faculties, including individuals from all surgical disciplines and stages of advanced professional training. The recruitment of the study participants took place during the surgical OSCEs at both locations and was independent of the participants' age, sex, and experience. Participation in the study was voluntary, revocable at any time, and took place after informed consent was provided from the participants.

At the Goethe University Frankfurt, the surgical OSCE consists of 8 stations, each station lasts 5 minutes. 60 Students per day complete the OSCE. Thus, a total of 180 students get through their OSCE in 3 days. At the Otto-von-Guericke University, the OSCE consist of 6 stations. Per day, 48 students were assessed.

Study Protocol

Based on the study question, an in-depth, structured interview manual was developed using preformulated, open questions.[24,25] The interview manual served as a framework to guide the subject matter of the interview, target the topics and guarantee the reproducibility of the different interviews.

In a pilot run prior to the beginning of the study, the interview manual was analyzed in terms of its design, comprehensibility of the questions and flexibility of the topics. Based on these results, the interview manual was revised. The number of study participants at both study locations was defined by the concept of saturation of the content.[26]

The interviews were conducted in a quiet and restful location and were recorded using an iPad (Apple Inc., Cupertino, CA). The interviews were conducted by JS, BB, and/or SL. As a function of the development of the individual interview, a sequence of the questions was adopted. The interviews ended when all of the questions of the manual had been answered in detail.

Data Analysis

The audiotapes were transcribed verbatim using f4 (dr. dresing & pehl GmbH, Marburg, Germany) and made anonymous. The analysis was performed using the techniques of structured qualitative content analysis[27] using MAXQDA (VERBI Software. Consult. Sozialforschung GmbH, Berlin, Germany). For this purpose, all of the transcripts were read in order to obtain a global impression of the examiners' points of view. Codes were developed, refined and revised in an iterative process to define the main categories plus additional sub-categories. Based on these categories, the transcripts were coded by two authors independently. Next, the coding was compared and divergent codings were discussed

and specified in consent. Besides the qualitative analysis, certain aspects were analyzed quantitatively by counting the number of namings.

RESULTS

A total of 29 interviews were conducted until saturation of content was achieved. Table 1 lists the sociodemographic data of the study participants.

All of the study participants (29/29) believed that the OSCE was positive experience independent of their previous experience with the OSCE as a student. They valued that the OSCE provided them the opportunity to assess not only knowledge but also the competence of their learners.

"In my mind, the OSCE is the most reasonable way to assess what a future doctor should be proficient in."

"The OSCE is an outstanding format because the students have to demonstrate what they really can master. It does not only assess what they know but if they can apply their competencies."

In terms of disadvantages, the study participants complained that despite the simulated patients and the realistic settings the examination setting were not exactly representative of reality.

"During the OSCE, you notice that it is a simulated setting, which makes it in a certain way tough to assess competence in reality."

None of the study participants indicated that being an OSCE examiner changed his/her attitude towards the learners, in particular regarding knowledge and competencies (0/29). However, most examiners (17/29) described, independent of their stage of advanced professional training that they adapted their own teaching contents and key aspects based on what they saw during the OSCE and what was assessed in the OSCE.

"Yes, I know what is taught and assessed, thus, I take care that these competencies are trained more extensively on the wards."

"It did increase, well, that you try to let the learners perform practical skills more often and as often as possible by themselves ... I can do it by myself, but my student does not yet possess these competencies. And in the meantime, I highly pay head to that my students perform quasi all practical skills themselves, instead of, as I usually did, let the nurses do it."

Most of the study participants saw advantages and benefits in their role as an OSCE examiner. In particular, they emphasized the possibility of reflecting on their own teaching efforts based on their students' demonstrated performances.

"Everyone who in the end does not reflect himself and his own performance based on the results demonstrated by the students and modifies his own teaching and actions in consequence will stay in a bad facet."

They described that the OSCE helped them to improve their teaching both in the skills lab and in daily clinical practice because they could identify systematic errors during the OSCE and that helped them revise their teaching.

"So, if the same error is repeated again and again in a demonstrated skill by several students during the OSCE, or something wrong is said repetitiously by the students, you have to ask yourself, if in the training concept or the curriculum or in the way you taught the students, there was a mistake. So you have to

TABLE 1. Characteristics of the Study Participants

	Total	Female	Male
Participants	29	11	18
Surgical discipline			
- General and visceral surgery	7	2	5
- Vascular surgery	5	3	2
- Thoracic and heart surgery	4	2	2
- Pediatric surgery	1	1	0
- Oral, cranio-maxillofacial, and facial plastic surgery	3	0	3
- Trauma surgery	8	3	5
- Plastic surgery	1	0	1
Stage of advanced professional training			
Chief physician	3	0	3
Senior physician	5	1	4
Consultant	7	4	3
Resident	14	6	8
Number of previous OSCEs as examiner			
None	10	4	6
1-5	8	2	6
More than 5	11	5	6

TABLE 2. Main Topics of the Interviews and Bundled Aspects

Main Topics	Bundled Aspects
Attitude toward the OSCE	• Attitude towards OSCE • Experiences as student • Advantages and disadvantages of the OSCE
Changes in working with students	• Attitude towards the learners • Learning objectives students should achieve on ward
Benefits of being examiner	• Reflecting on one's own teaching • Identifying systematic errors • Modulation of one's own clinical practice according to the OSCE checklists • Impact on one's own learning process
Disadvantages of being examiner	• Time out of the clinic/the OR • Lack of approval from superiors
Student peer examiners	• Lack of clinical experience • Missed opportunity for reflection of one's own teaching • Genuine duty as teachers at a university hospital

This table lists the themes where saturation on the content was attained.

review in detail, if something has to be improved or changed."

"I train the students on the ward and in the emergency department. The OSCE gives me feedback for myself about what I should improve and change in my way of teaching."

"The OSCE helps to identify things that were taught wrong. [...] if you sit in the examination and think 'Hey, where do they have this from?' or you identify that students' behavior bears the signature of a colleague of yourself who taught the students clinical skills the way they always perform them themselves. Then you pay special attention to what and how you teach the students in the next cohort."

In addition, study participants reported that after the OSCE they adjusted and modulated their own clinical performance based on the actual guidelines and doctrine. This adjustment should help them become up to date in terms of clinical knowledge. Furthermore, they described this adjustment as being essential for student learning so that the learners are not confused by standards that are taught differently.

"Well, let's say, what is taught to the students is more detailed and precise regarding [...] well, how often do I have to disinfect the wound, when do I change the gloves, etc. To my mind, in daily clinical routine, we perform and therewith demonstrate this more careless and inattentive ..."

"Or changing a wound dressing and hygienics. So that discrepancy between taught and real performance."

Those examiners who were at the beginning of their postgraduate surgical training described their OSCE experience as being particularly instructional. These individuals highly valued the impact of the examination on their own learning process and clinical development.

"... you have to repeat and recapitulate the contents you have to learn yourself and have to teach to the students."

"Well, in my mind, as an examiner, you see the things from another perspective and especially at the beginning of one's own clinical career, you can pick many things up for yourself and reflect, where are mistakes that I have to avoid myself and how can I do it."

More than half of the study participants (16/29) reported seeing no disadvantages in being an OSCE examiner. Most of the other participants (11/29) who saw disadvantages to being an OSCE examiner criticized the time out of their clinic. A few examiners reported that they experienced disadvantages because their superiors did not approve of their being an examiner.

"Well, however, you are a complete day out of the hospital and thus, ... well, you lose surgical interventions you should have had."

"It is rated as waste of time and not honored when you do it."

Most of the study participants were against the use of student peer examiners in the OSCE (22/29); only three approved this idea without reservation. They supported their opinion by the students' lack of clinical experience and the resulting lack of an ability to adequately judge complex clinical tasks. The primary reason for refusing student examiners is then a missed opportunity for a reflection of one's own teaching. Furthermore, the study participants regarded their task as examiners as a genuine duty as a teacher at a university hospital.

"In my mind, you should be acquainted firmly with the content in order to assess the statements adequately. Otherwise the rating in the examination will not be adequate (...)"

"But this contradicts the fundamental idea of university research, teaching and patient care. In this

respect, I think is invidious to transfer the examination to the students."

"I think it is better to leave the examination in our hands. Especially regarding the possibility of reflection. If we no longer receive direct audio-visual feedback, how should we shape our teaching (...)?"

DISCUSSION

This study is the first qualitative analysis we are aware of that focuses on analyzing OSCE examiners' viewpoints using structured interviews. Compared with questionnaire-based analysis, interviews offer the advantage of detailed, in-depth statements without being influenced by predefined answers of a questionnaire.

Using the principle of saturation of the content (i.e., the addition of more study participants leads to no additional insights) allowed us to draw conclusions about the possible main population despite the small number of study participants. This situation was facilitated by the uniform distribution of study participants from all clinical hierarchical levels and the inclusion of participants with different levels of experience as an examiner. One limitation of this investigation was that only surgical examiners were included; the transferability of the results to other disciplines must to be demonstrated in future studies.

In 2005, Humphrey-Murto et al. identified, using a questionnaire-based study with 110 participants, conscientiousness as the primary reason for being OSCE examiner; another identified reason was to gaining insights into students' skills acquisition.[21] These results were highlighted by our results. Humphrey-Murto et al. pointed out that the least important reason noted by their study participants was "I learned new clinical information." In our study, an increase in one's own knowledge was rated as highly important by our study participants, especially by the younger examiners. A reason for these differing results might be the different age distribution of the study participants: Compared with the study of Humphrey-Murto et al., where study participants had 14 to 26 years of clinical experience, many study participants in our cohort were at the beginning of their clinical career.

In this study, participants highly valued the possibility to reflect on one's own teaching based on the OSCE. This ability is not replaceable by detailed analysis or the results of the students because many systematic errors such as the recurrent transposition of two items in the sequence of a skill or a frequent incorrect placement of the hand in an examination cannot be easily ascertained from checklist ratings. Similar results can be found in nonmedical specialties: Ní Chróinín and Cosgrave were able to show that the structured assessment in physical education led teachers to question their practices. Furthermore, they demonstrated, that teachers clarified their learning objectives due to the assessment and that they structured their lessons based on this.[23] In contrast to the present study, they included "a cohort of primary teachers who have a high level of knowledge and motivation towards the subject".[23] This can harm the allocation of the suggestions to other teachers. In the present study, we included nearly all examiners at both faculties without preselection.

Another advantage of being an OSCE examiner described by the study participants was the critical comparison of the OSCE checklists with one's own teaching approach during clinical training. Such standardization in the performance of practical skills is of fundamental importance for learners,[28,29] in particular for learners who are not yet able to judge if different approaches of a skill are equivalent alternatives or present relevant errors.

The study participants described at most two disadvantages of being an OSCE examiner. First, the loss of time in the operation theater and therefore the loss of surgical interventions for their career. Second, the partially lack of appreciation and approval from their superiors.

The lack of appreciation from the superiors was not only described to being associated with being an examiner but also for teaching activities in general.[30,31] The relevance of teaching activity for an academic career still trails behind research and patient care. However, motivated and structured teaching activities, including structured and competency-based assessments, conveyed by committed role models can inspire and motivate future doctors.[32-35] In particular, when looking at the increasing shortage of young people in surgery, the first-line management has to create the required surrounding conditions and an appreciation for teaching activities to promote young future surgeons.

One way to avoid these disadvantages may be a video recording of the examination and a retrospective rating from the examiners. Herewith, the advantages of being an examiner (e.g., reflection of one's own teaching) remain, as well as the time and manpower expenditures. Disadvantages of the retrospective video rating include missing the atmosphere of the room, a sole camera perspective and possible sources of interference such as telephone ringing and someone entering the room. Moreover, Sturpe et al. were able to demonstrate that ratings from examiners present during the examination differed from those of examiners who rated the same examination via video.[36]

Even in light of disadvantages such as the time commitments to being an OSCE examiner, most study participants objected to the use of student peer examiners. One of the most often stated reasons for this choice was

the students' insufficient clinical experience, which was likely to result in an invalid assessment. This misgiving has already been invalidated by several studies.[10,37] Student peer examiners in an OSCE are effectively deployed at several medical faculties[11,12] to reduce medical personal needs and costs.

The primary reason that participants voted against student peer examiners in our study was the subsequent inability to reflect on one's own teaching via the direct observation of the students in the examination. For our study population, this aspect predominates the disadvantage of time constraints, especially missing operation time.

CONCLUSIONS

Based on the results of this study, being an OSCE examiner confers many advantages such as the ability to reflect on one's own teaching.

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