Online workshop as a strategy to present the objective and structured clinical examination (OSCE)

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ABSTRACT

The objective of this work was to describe the process of elaboration, validation, and presentation of an online workshop on the OSCE evaluation instrument for professors of the Dentistry course of two institutions in the State of *Espírito Santo*. This is a methodological study carried out in stages: elaboration, validation, and realization of the workshop, followed by evaluation of the event by the participants. For the workshop's production, a bibliographic survey was carried out to structure the content covered in the exhibition. The workshop was carried out through a lecture organized in slides using Microsoft PowerPoint, in which learning assessment was explained, and the OSCE was presented as a tool for this. The presentation took place online and synchronously using Microsoft Teams. Participants then rated the event through Google Forms. This study made it possible to present the OSCE assessment instrument, enabling teachers to access this teaching/assessment methodology, allowing them to obtain their perception of the method, aiming at the instrument's applicability in the courses.

Descriptors: Education, Higher. Clinical Competence. Education, Dental.

1 INTRODUCTION

The evaluation process plays an essential role in training professionals in the health area, being considered part of the teaching and learning process[1]. Evaluation is a tool that allows us to follow and even reorient this path[2].

During the activities, teachers need to use different instruments to measure the knowledge acquired by students, making analyses throughout the educational procedure, aiming at a result and, from it, the progression[3].

The traditional clinical evaluation method, where the teacher observes the student's performance when performing the procedures, has some flaws. Among these flaws, we highlight: (a) a large number of patients have different needs and are attended by different students; (b) the subjectivity of the examiner, which results in a variation in the evaluation of the same procedure; and (c) the lack of objectivity in the practical exam[4].

The Objective Structured Clinical Examination (OSCE) assessment instrument was first described in 1975 by Harden for the Medicine course to avoid these and other disadvantages[5]. This method has been widely

used to verify such skills in different classes in the health area[6].

The OSCE proposes to verify students' competencies in a clinical setting, measuring their ability to synthesize information and apply knowledge[7]. It thus seeks to respond to the deficiencies in the validity and reliability of traditional methods[8]. It can be considered an adequate instrument for the achievement of clinical competencies. In addition, it provides the student with the experience of activities similar to the reality they will face in clinical care and their future professional performance.

This method observes students in the same context, making the assessment more objective. In addition, it is possible to structure the relevant subject of the discipline, and students can learn from the feedback of their performance in the exam[9].

This article aims to describe the elaboration of an online workshop on the OSCE assessment instrument presented to dentistry teachers from two institutions, one public and one private, in the State of Espírito Santo.

2 METHODOLOGY

This research was approved by the institutional Research Ethics Committee (*Comissão de Ética em Pesquisa*; CEP), under the Presentation Certificate for Ethical Assessment (*Certificado de Apresentação para Apreciação Ética*; CAAE 28119220. 9.0000.5060). This is a methodological study[10] regarding the construction of an online workshop on the OSCE whose target audience is formed by professors in the health area, namely: professors of two Dentistry courses in the State of *Espírito Santo*, the *Universidade Federal do Espirito Santo* (UFES) and *Faculdades Integradas Espírito Santense* (FAESA). The work was carried out in three stages: 1) elaboration of the online workshop, 2) validation of the workshop,

3) realization of the workshop, and 4) evaluation of the participants.

To prepare for the online workshop, a bibliographic survey was carried out to structure the contents that would be addressed. A survey on learning assessment was also carried out, considering points such as why to assess, what to assess and how to assess, and its purposes (diagnostic, summative, and formative) and Miller's pyramid[11] for assessing clinical competencies. In addition, the study on the OSCE was scripted (concept, validity and reliability, planning, application, benefits, limitations), seeking to support the knowledge. Finally, the search for articles was carried out through thorough investigations in the digital libraries available in the databases on the CAPES periodicals portal, which have content related to education and health. As descriptors, words were used; "*Avaliação* / Evaluation", "*Avaliação da aprendizagem* / Learning assessment", "*Avaliação Clínica* / Clinical assessment", "*Exame clínico objetivo estruturado* / structured objective clinical examination" e "OSCE".

Regarding validation, a pilot workshop was initially carried out, a moment of the research that allowed testing the adequacy of the planned procedures to enable modifications until the final version of the online workshop was obtained. This stage took place, in person, at Faculdade Pitágoras, Guarapari campus, in Guarapari/ES, with professors from the Dentistry course. The event was divided into three moments: expository lecture; experience and planning of the assessment instrument, when teachers had the opportunity to observe and create stations; a moment of debate/questions and completion of the questionnaire. The questionnaire developed was based on the questionnaire used at Louisana State University (LSU)[12], School of Dentistry, in New Orleans, United States, which was modified and validated at this stage, containing items

about the workshop with responses in a Likert scale format. This scale typically has three or more points, allowing you to agree, express doubt, or disagree with what is stated[13].

Afterward, an online workshop was held, structured to present and discuss the OSCE with professors from the Dentistry courses at UFES and FAESA. The research author (MCMR) executed the same way for the two institutions; the event lasted one hour and thirty minutes, divided into three parts: explanatory lecture, a moment of questions, and debates with questionnaire filling. The questionnaire comprised items about the workshop, such as the quality and depth of the content explained,

resources used, and presentation duration. Photographs taken in the stages of the face-to-face workshop for validation were used in the online workshop.

The evaluation of the participants on the aspects of the online workshop, therefore, took place through the validated questionnaire, sent electronically, after the explanatory lecture and moment of questions/debate, with an estimated duration of a maximum of 10 minutes, having one week to complete and send the data.

3 RESULTS

Figure 1 shows the organization of research steps in a timeline for better understanding.
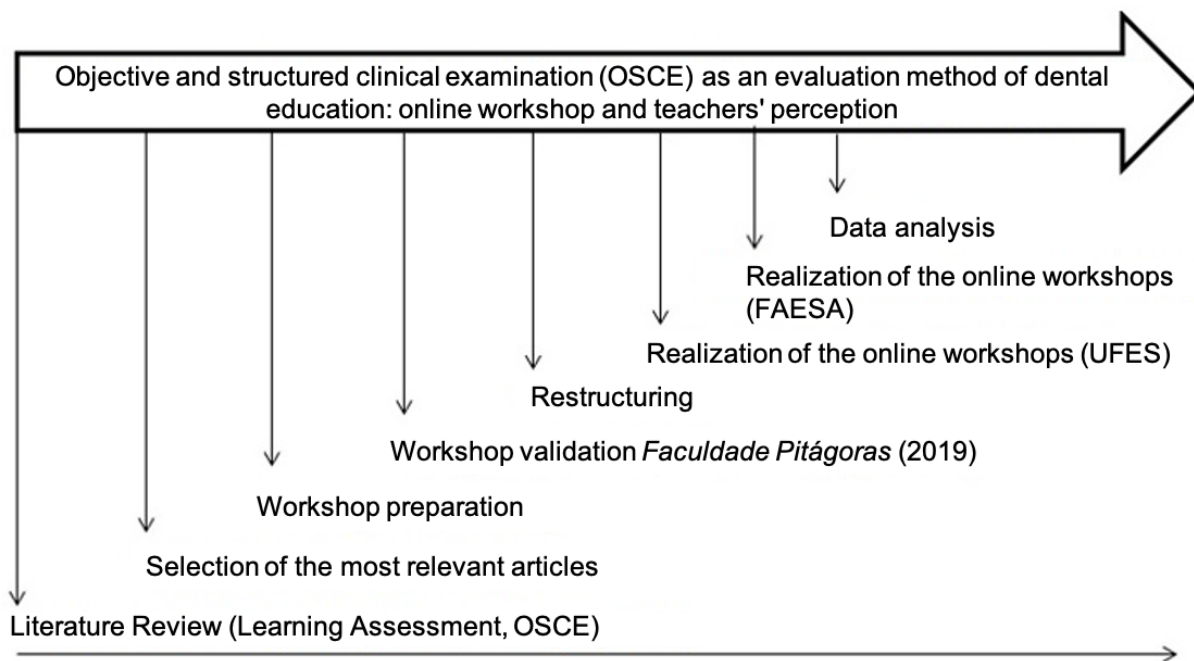

Figure 1. The sequence of research steps.

In preparing the workshop, two scenarios were built and presented, from planning to assembly, highlighting that the development of the OSCE assessment instrument can be divided into several stages.

In the first one, the content (blueprint) that

will be addressed is determined. Therefore, it is necessary to have methodological rigor, to define what will be evaluated, taking into account the systematization and fidelity to what should be the student's competence in a particular phase of the course. Finally, the number and timing of each

station should be established, based on the purpose of the assessment and the number of students and available resources.

The second stage is configured by the station planning, when the station command, the student's answer sheet, and the checklist will be prepared. The first item corresponds to the instructions for the student, which must be fixed in the scenario in understandable language, making the task to be performed explicitly so that no additional clarification is necessary to be given individually.

Figure 2 shows the instructions for the student, in a scenario that requests knowledge of endodontics (above) and in a scenario of notions of radiology (below).

Figure 2. OSCE application scenarios

After writing the station command, it is essential to establish the student's answer sheet, which must contain identification of all stations, each with its number. As the test is structured in rotation, not all students start at station 1. Thus, the answer sheet will be delivered at the beginning of the test so that they go through the stations carrying it and return it at the end after performing all the specified requests in the commands.

It is worth noting a particularity of the stations: for non-observable items, the student must write the answer on their sheet, while for observable objects, the areas will be designated as "teacher's area" and must be left blank, so that this,

at the end of the execution of the procedure, make the mark, which will be synthesized as indicated in the checklist.

Still, in the second stage, the checklist or checklist must be carried out; it will contain only the observable stations, that is, those in which the student performs a procedure while the examiner follows him. This document is constituted by the list of items that need to be verified: the examiner has a list with what must be observed and evaluated, as witnessed in the execution of the procedure by the student. Notes that you deem relevant can also be made. At the end of the exam, grades can be transferred and added to the answer sheet.

In the third step, the day and place of the test must be scheduled since, if the clinic environment is used, it will be necessary to cancel the appointments, reserving the entire area for the logistics of the exam. Therefore, it is essential to gather the human resources that will help on the test day: it must be defined who will set up the stations, as well as who will be the simulated patient, the person responsible for the room for the students who will be waiting to start the test, the person in charge of the room for those who have already completed the test and the one who will set the time

established for the station, in addition to the examiners. Examiners and simulated patients need to undergo prior training, so if necessary, meetings can be held to discuss all the planning and logistics. The feedback, that is, the feedback, must be planned, including how it will be done and who will be responsible, and when it will be carried out, which can happen after each season or at the end of the exam.

The fourth step refers to the day of the test. Once the planning and training have been carried out, all human resources must know their roles and arrive in advance to assemble the stations and assume their positions on the exam day. After taking the exam or after each station, feedback will be developed. Students will be dismissed; the entire structure must be dismantled and materials collected. The stations and the materials that compose them can be saved and stored in a bank for future use.

The workshop took place through an expository lecture held online, as seen in figure 3, using the Microsoft Teams platform, lasting 50 minutes. The moment of questions and debate lasted 30 minutes when the professors were able to ask questions and make comments relevant to the subject.


Figure 3. Screenprint during the lecture of the online workshop

After the explanatory lecture and questioning/debate moment, the questionnaire was sent electronically to all participants: 38 professors in total. In the end, 32 professors answered the questions (2 professionals from UFES and four from FAESA did not send their answers).

For the total sample, 65.62% (n = 21) rated the quality and depth of the content as excellent and 34.38% (n = 11) as good. Regarding the resources used, 59.37% (n = 19) indicated them as excellent and 40.63% (n = 13) as good. Regarding the duration of the presentation, 50% rated it as excellent. The data are shown in graph 1.
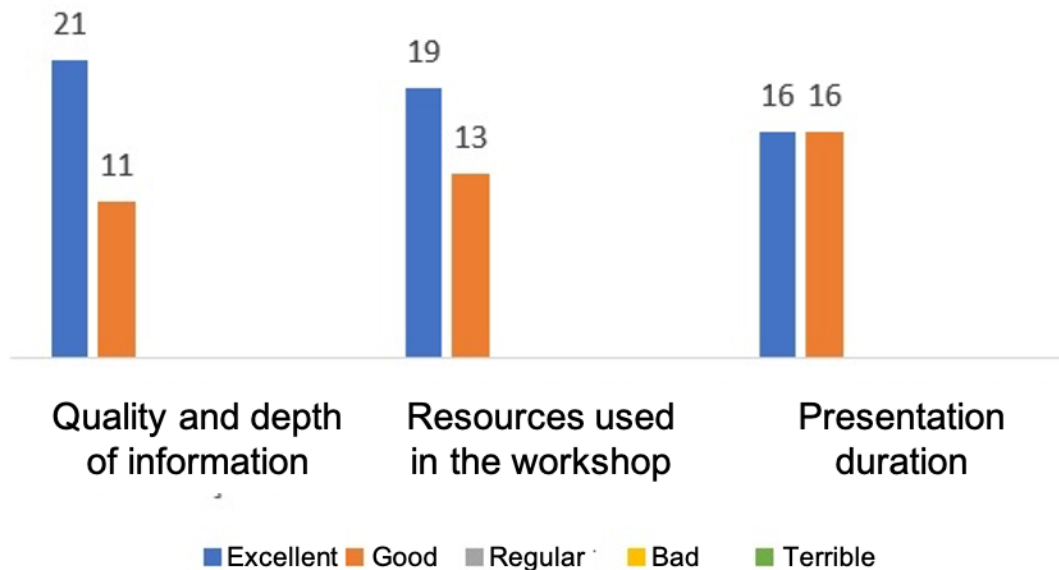
Graph 1. Aspects of the OSCE/Vitória 2020 workshop in the evaluation of participants.

4 DISCUSSION

Assessment needs to be seen as an efficient resource to support learning, serving as a management tool to improve educational processes and institutions. The OSCE, in this context, proved to be an excellent evaluative instrument, allowing the teacher to analyze his teaching practice, reinforcing or redirecting it with a focus on better student learning.

The training of professionals in the health sciences demands that students acquire and develop clinical skills, with the assessment having the challenge of analyzing whether this process is taking place. Recognizing its importance, there is, consequently, the search for the improvement of the instrument that best performs such measurement.

In this sense, the OSCE prepares students for professional practice, being a valid and effective model, which confers what it proposes[14]. However, it is possible to verify more objectively since the instrument can make the exams practical and standardized, reducing subjectivity as the gold standard for evaluating clinical competences[14].

The OSCE provides an experience similar to the actual practice with patients but carried out within a safe environment, without ethical commitment and with as little risk as possible. There is no consequential damage if an error occurs, unlike we can observe when using actual patients.

At the current moment, when we are experiencing the Covid-19 pandemic, much has been discussed about reformulations of teaching in the area of Dentistry since the clinical environment promotes cross-infection, exposing students, teachers, and patients to risk factors for the disease[15]. In this context, offering a safe scenario becomes another benefit of the instrument. It should also be noted that the possibility of virtual OSCE for the assessment of student learning has already been reported in web lectures by teaching specialists, which, for the present moment, would be an exciting methodology to be used[16].

It is undeniable that the structuring of an OSCE is complex, as confirmed by several articles that report the experience with the instrument[7]. Mobilizing human resources is a challenge, but it is essential. Discussing station planning among teachers allows better commands to be established since the OSCE is an evaluative instrument that values teamwork. Everything becomes more accessible and possible when you work together, but this can hinder many realities.

In addition, the traditional clinical evaluation with the patient takes less time, and it is possible to perform invasive and complete procedures. In the OSCE, the time is longer, mainly considering all its planning and the methods have their steps segmented and cannot be invasive.

The online workshop was developed as a result of the COVID 19 pandemic. The initial planning was to give an explanatory lecture with experience and planning of the evaluation instrument. Still, due to the recommendation of social isolation and realizing that the teachers were already inserted in the virtual teaching platform, we chose to carry it out through an application that allowed immediate communication between the participants through videoconference.

Introducing the OSCE to a group of professors benefited this work. Assessment in health is a challenge, and bringing this discussion to the academic environment was fundamental to change and improve teaching and learning. The workshop provided a training opportunity, as the OSCE was presented from planning to execution.

The professors felt empowered with the use of the method, a fact that can be perceived in the moment of debate and doubts, in which it was verified, by their speeches, the interest in applying the OSCE in their area of expertise. Generating opportunities for discussion about an evaluation instrument enhances the profession of educators, considering that the teaching and learning process is dynamic and continuing education of the teacher improves the professional. The workshop was created with this aim: to introduce and train teachers, improving their practice.

As a limitation of the online workshop, there was the fact that the teachers could not experience the assessment instrument. In addition, the questionnaire sent electronically was more likely not to be answered than the printed model. Still, a limitation of the present study is the small number of participants in the workshop, caused either by the difficulty in accepting an unknown methodology or by the lack of interest in participating in research. Under such consideration, care must be taken not to generalize the data to other settings.

5 CONCLUSION

The online workshop was designed by going through an expository lecture on the method, moment of debate/doubts, and completion of the questionnaire. The event was developed to present the evaluation instrument to professors in the health area, positively evaluated by the research participants.

RESUMO

Workshop on-line como estratégia de apresentação do exame clínico objetivo estruturado (OSCE)

O objetivo deste trabalho foi descrever o processo de elaboração, validação e apresentação de um *workshop on-line* sobre o instrumento avaliativo OSCE para docentes do curso de Odontologia de duas instituições no Estado do Espírito Santo. Trata-se de estudo metodológico realizado em etapas: elaboração, validação e realização do *workshop*, seguida de avaliação do evento pelos participantes. Para produção do *workshop* foi feito levantamento bibliográfico com intuito de estruturar o conteúdo abordado na exposição. O *workshop* foi realizado por meio de palestra organizada em slides utilizando o *Microsoft Power Point*, na qual foi explanado sobre avaliação da aprendizagem e apresentado o OSCE como instrumento para tal. A apresentação aconteceu de forma *on-line* e síncrona utilizando o *Microsoft Teams*. Em seguida, os participantes avaliaram o evento por meio do *Google Forms*. Este estudo possibilitou apresentar o instrumento avaliativo OSCE, possibilitando aos docentes acesso à essa metodologia de ensino/avaliação, permitindo obter sua percepção sobre o método, visando à aplicabilidade do instrumento nos cursos.

Descritores: Educação Superior. Competência Clínica. Educação em Odontologia.

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