



# An Ethics, Law, Diversity and Patient Safety OSCE in the Medical Curriculum

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## Keywords

OSCE, medical ethics education, health care law, patient safety, assessment

## Abstract

Combined assessment of Ethics, Law, Diversity and Patient Safety in the medical curriculum is challenging. The aim of this study is to explore the value for students and teachers of an Objective Structured Clinical Examination (OSCE) on these subjects implemented in year 3 of the bachelor's curriculum, and to identify points of improvement. A qualitative design was used, consisting of interviews and focus groups with students and teachers. Data was analyzed using thematic content analysis. Themes identified for students: discussing the case together, examining perspectives, importance and complexity of the subjects in clinical practice, speaking up, insecurity about what to expect and assessment as a learning opportunity. Themes identified for teachers: dialogue with the student, students' perspective-taking and reflection skills, contribution to the relevance of the assessed subjects, preparation of future practice and uncertainty about grading. Our study shows that the OSCE enables assessing students' competencies and also contributes to students' understanding of the complexity of future practice, the relevance of reflection and examining perspectives, and provides them with the opportunity to speak up. Assessment thus provides the students with a learning experience. Teachers feel acknowledged by students taking the subjects seriously and appreciate having a dialogue with the students.

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# 1. Background

Medical ethics is an import element of the medical curriculum: future doctors should be aware of the moral aspects of providing care and should be able to deal with moral dilemmas. Several reports have described overarching goals, teaching methods and assessment methods of medical ethics (Stirrat et al. 2010; Carrese et al. 2015; UNESCO 2016; General Medical Council 2018), yet assessment of medical ethics education is often a challenge (Boon/Turner 2004; Mattick/Bligh 2006; Fenwick et al. 2013; Goodwin/Machin 2016; Souza/Vaswani 2020; Wong et al. 2022). The learning outcomes of medical ethics education are primarily focused on skills and competencies, and integration of knowledge into these skills and competencies, which can be more difficult to measure and quantify (Mitchell/Myser/Kerridge 1993; Boon/Turner 2004; Baartman et al. 2006). Another challenge concerns the integration of ethics education in the curriculum and its effect on assessment. Students can strategically choose to study the ethics material only superficially, when ethics education is overly integrated in the curriculum and assessed only as a (small) part of another program, thereby diminishing the perceived relevance (Goldie et al. 2002). An ethics assessment that stands on its own, can bear the risk of being too theoretical and losing its relevance for clinical practice. The same applies to other subjects that are not primarily biomedical and are related to medical ethics: health care law, diversity and patient safety (Litva/Peters 2008).

In the medical curriculum of the Faculty of Medicine VU these subjects are organized separately within three different longitudinal programs (resp. Ethics and Law, Diversity and Interculturality, and Patient Safety). The programs are combined in different teaching activities, and all three are integrated for the assessment. The subjects (strongly) relate to each other by its focus on providing good care within the patient-physician relationship. From a medical ethics point of view for example, it is important to take into account the patient's background to understand the situation from various perspectives, to apply relevant health care legislation to make an informed choice of action, and to apply principles of patient safety to prevent avoidable errors. Moreover, the attainment levels of the curriculum in general, require

students to be able to integrate knowledge and skills from different disciplines.

As assessment is imperative for significant learning (Elton 1987; Biggs 1996; Biggs/Tang 2011; McKeachie/Svinicki 2013), and it shows students that these subjects are an integral part of the medical curriculum, the question arises *how to* accurately assess these subjects. An assessment method is needed that is relevant for future practice, can be integrated in the medical curriculum, can combine different subjects and can assess on the level of skills and competencies.

The Objective Structured Clinical Examination (OSCE) is an assessment method that is used extensively in the medical curriculum. Originally, the OSCE is a clinical competence assessment, in which students show predetermined skills in a conditioned environment, for a period of 5 minutes (Harden et al. 1975). Elements of performance are assessed by the examiner with a standardized scoring format. Every discipline has its own assessment, called a 'station', and students move from one station to another. Quantity, content and scoring formats of stations can vary, in accordance with learning outcomes of the subject that is being assessed.

Since the introduction of the OSCE by Harden (Harden et al. 1975), its use in practice has increased and widely studied (Cuschieri et al. 1979; Merrick et al. 2000; Berman et al. 2009; Chisnall et al. 2015). Research is predominantly aimed at determining the quality of this assessment method in terms of validity and reliability. However, research also indicates that the OSCE serves more goals than solely assessing the skills of a student, indicating that the OSCE leads to deep learning (Barry et al. 2012), and promotes integrating knowledge and adopting new learning strategies (Furmedge/Smith/Sturrock 2016).

Although it is originally designed to assess practical clinical skills, literature indicates that the OSCE with a simulated patient is also a suitable method to individually assess medical ethics (Cohen et al. 1991; Singer et al. 1993; Asghari/Larijani 2010; Fenwick et al. 2013), health care law (Fenwick et al. 2013), diversity (Dogra et al. 2016) and patient safety (Ginsburg et al. 2015). Furthermore, it fits the specific needs of the faculty. First, it requires that

students react on the case directly, and subsequently to show how they deal with their first reaction (reflexivity). Second, examiners are able to challenge the students on their position by asking additional questions, which gives a clear view of the depth of students’ understanding of the subjects. Lastly, the OSCE resembles future practice in two ways: by ‘unfolding’ a case and revealing relevant information about the continuation of the case, and by creating time pressure. Students must be able to gather relevant information and to argue what decision they should make, within time constraints. The OSCE Ethics, Law, Diversity and Patient Safety was thus integrated into the medical curriculum.

Because little is known about the experiences of students and teachers with the OSCE when these subjects are integrated in one station, this explorative qualitative study evaluates the value of the OSCE for Ethics, Law, Diversity and Patient Safety in the third year of the bachelor of the Faculty of Medicine VU in 2016/2017, by investigating the experiences of students and teachers.

2. Methods

Setting

The OSCE at the Faculty of Medicine VU is an individual oral examination of 10 minutes, in which the examiner reads out a case description to the student, alternated with standardized open-ended questions about the case. The intended learning outcomes are shown in box 1.

Box 1. Intended learning outcomes OSCE Ethics, Law, Diversity and Patient Safety

Discipline	Learning outcomes
Ethics and Law	<p>The student:</p> <ul style="list-style-type: none"><li>- Has insight into the ethical and legal framework (ethical theories, legislation and regulations) of reproductive medicine and termination of pregnancy, medical care for undocumented patients, involuntary care and mental competency and is able to apply these framework to case scenarios;</li><li>- Is able to analyze ethical or legal dilemmas and to involve own values and norms, and values and norms of others;</li><li>- Demonstrates moral sensibility and an open, critical and reflexive attitude;</li></ul>

	<ul style="list-style-type: none"> <li>- Has knowledge about and is able to apply the following specific topics to case scenarios:               <ul style="list-style-type: none"> <li>o The Care and Coercion Act (in Dutch: WZD) and Medical Treatments Contract Act (WGBO);</li> <li>o Concepts of legal incapacity, resistance, possible harm, serious harm and involuntary care;</li> <li>o Concepts of proportionality, subsidiarity and efficacy regarding involuntary care;</li> <li>o Duties and responsibilities of a physician regarding involuntary care.</li> </ul> </li> </ul>
Diversity	<p>The student:</p> <ul style="list-style-type: none"> <li>- Demonstrates to have knowledge about themes of culture, in- and exclusion in health care, racism/discrimination and stigmatization, is able to recognize and name these themes in case scenarios and apply this to care for undocumented patients;</li> <li>- Has knowledge about the theory of care ethics and is able to recognize the different phases of care ethics in (cross-cultural) health care practices;</li> <li>- Recognizes differences and similarities between cultural/ethnic/religious groups in the Netherlands and is able to apply this knowledge to the domain of reproductive medicine and termination of pregnancy;</li> <li>- Has attention for and knowledge of cultural differences in communication and the patient-physician relationship</li> <li>- Has the ability to critically self-reflect (reflexivity) about their own social positioning: cultural background, sex, gender, social class, etc.</li> </ul>
Patient Safety	<p>The student:</p> <ul style="list-style-type: none"> <li>- Demonstrates to have insight into the occurrence of incidents as an accumulation of events;</li> <li>- Understands the difference between active and latent factors involved in the occurrence of incidents;</li> <li>- Is able to use the outcomes of an cause-analysis to formulate improvement measures for medical practice.</li> </ul>

An example of a clinical case and points of reflection for students, can be found in box 2. For teachers taking this examination, an extensive case scenario and answer model is available, and examiners can ask questions for clarification, e.g.: ‘why do you think that is important to know?’ and ‘why do you think so?’.

#### Box 2. Clinical case scenario

##### **Case scenario**

During your internship at the gerontology ward, you meet Mrs. Tahiri of 75 years old. She is admitted to the hospital because of a pneumonia. Her medical history consists of diabetes

mellitus, hypertension, and nephrotic syndrome. She has a caring son who visits her on daily basis, regardless of visiting hours. Information about the condition of Mrs. Tahiri is given to the son. Mrs. Tahiri smiles friendly during these conversations, but does not say much.

The son is permitted to bring warm meals for Mrs. Tahiri. Although this is against the rules, the nurses thought it could help her to feel better.

### **Reflection**

With regard to medical ethics, students must be able to reflect on what ‘good care’ entails in this situation, and they must be able to integrate the theory of care ethics in their answer. With regard to law, students must be able to reflect on the role and responsibility of the son of Mrs. Tahiri, and reflect on her mental competence. From the perspective of diversity, students must be able to reflect on the background of the patient, and their own background (what do they want to know about the situation of Mrs. Tahiri, what is the role of their own background in how they perceive this situation). From a patient safety point of view, students must be able to reflect on the definition of patient safety and determine if patient safety is at stake in this situation and why.

Students’ performance is graded on three domains applied to the subjects being assessed: reflexivity, gathering information on situational aspects, and argumentation (box 3). These skills are evaluated on a four-point scale: absent, requires attention, adequate and excellent. Reflexivity is defined as the ability of the student to recognize and to reflect on the influence of the patients’ background and their own background on the patient-physician relationship (Verdonk/Abma 2013; Verdonk 2015; Muntinga et al. 2016). Gathering information on situational aspects entails seeing which information is relevant, and asking for information that is missing in the case, for instance related to various perspectives on the situation. Argumentation is the ability of the student to substantiate statements with clear and sound arguments, based on knowledge of the topics which are central to the OSCE, and the ability to formulate a well-considered answer.

## Box 3. Scoring form

Domain	Skills	Evaluation
Reflexivity	<p>The student takes into account their own background and the background of the patient in discussing the case</p> <ul style="list-style-type: none"> <li>- Recognizes and explains what the possible role is of own background, values and norms, in the patient-physician relationship and patient care</li> <li>- Recognizes and explains what the possible role is of the background, values and norms of the patient, in the patient-physician relationship and patient care</li> </ul>	<p>0. Absent/insufficient 1. Requires attention 2. Adequate 3. Excellent</p>
Gathering information	<p>The student sufficiently asks for situational aspects</p> <ul style="list-style-type: none"> <li>- Gathers information</li> <li>- Asks for relevant information</li> <li>- Clarifies the problem</li> <li>- Understands what the problem is</li> </ul>	<p>0. Absent/insufficient 1. Requires attention 2. Adequate 3. Excellent</p>
Argumentation	<p>The student is able to apply knowledge to the case</p> <ul style="list-style-type: none"> <li>- Can explain the importance of specific information</li> <li>- Is able to clarify and substantiate his considerations</li> <li>- Considerations are sufficiently substantiated</li> <li>- Conclusions are drawn correctly</li> </ul>	<p>0. Absent/insufficient 1. Requires attention 2. Adequate 3. Excellent</p>
	<p>Score Final score = score + 1*</p>	

*\*the minimum grade is set at 1*

The examination was performed by teachers in Ethics, Health Care Law, Diversity and Patient Safety. They were instructed how to take the test, both with regard to the content (e.g., to familiarize the teacher in ethics with patient safety and vice versa) and the process of the OSCE. A video recording of a pilot OSCE was discussed during the instruction, to calibrate the scoring.

The definitive grade of the OSCE is published online after all the OSCEs have taken place (usually within 15 days). Students receive their scoring form, which contains feedback from the examiner. This adds to the feedback students receive at the end of this assessment when the examiner points out

one point of improvement, and one positive point with regard to students' performance.

## Design

Data source triangulation was used to foster validity (Green/Thorogood 2014). The design consisted of short interviews with students and teachers directly after the OSCE, focus groups with teachers after the end of the program, and longer individual interviews with students.

## Selection of participants

All students and teachers involved in the OSCE of the third year of the bachelor were eligible. Students received an information letter when they registered for the OSCE, and teachers received an e-mail with the information letter in advance. The first author randomly asked students to participate, after they had finished the OSCE. Some students were unable to participate, e.g., because they were scheduled for another station. All teachers who were invited agreed to participate.

## Data collection

Directly after the OSCE, individual interviews were held with students and teachers. Three questions were asked: 1) How did you experience the OSCE, 2) What do you think is a positive aspect of the OSCE and 3) What are points of improvement for the OSCE. The interviews lasted 10 minutes, because students had to rotate to another station, and teachers were scheduled for multiple rotations of the same station. Interviews were audio-taped and transcribed ad verbatim.

Next, focus groups of 45 minutes with teachers were organized, two to four months after the OSCE so we were able to analyze the data from the individual interviews and discuss these in the focus groups. A topic guide was used, reflecting the issues and themes that emerged from the previous individual interviews. The focus groups were audio-taped and transcribed ad verbatim. Every focus group was analyzed, before the next group interview took place, resulting in an iterative process.



Finally, individual interviews were conducted with medical students, presenting the results of the prior analyses with the aim to further elaborate on these themes and to deepen the understanding of these themes. The interviews lasted 20-60 minutes. Interviews were audio-taped and transcribed ad-verbatim.

Citations of participants were translated by the authors from Dutch to English.

## Analysis

Data were analyzed using thematic content analysis (Braun/Clarke 2006). Data of the interviews and focus groups were analyzed by the first author (MD) and consecutively by the second (PV) and third author (GW). MD, PV and GW started individually with data familiarization, followed by systematic data coding. Together with the last author (YV), they discussed the initial themes. Themes were then reviewed and discussed with all the authors, which led to defining the preliminary themes (Braun/Clarke 2006). The interviews with students from the last phase were analyzed by MD and YV independently, using the preliminary themes as a framework. Together, the authors discussed this analysis.

Quality procedures common in qualitative research were used, consisting of multiple coding, triangulation of data and member checks of the individual interviews with students in the last phase (Barbour 2001).

## Ethical considerations

This study was approved by the ethical review board of the Dutch Association for Medical Education (Nederlandse Vereniging voor Medisch Onderwijs, NVMO), file number 824.

All the research participants gave informed consent for participating in this study. For the students, it was clear that participating or declining participation would not affect their assessment score.

## 3. Results

Table 1 gives an overview of participants.

Table 1. Overview of participants

Phase	Method	Participants
1	Short interviews immediately after the OSCE	10 students (#1-10) 4 teachers (#1-4)
2	Group interviews with teachers	Group 1: 5 teachers (#5-9) Group 2: 2 teachers (#10, 11) Group 3: 2 teachers (#2, 12)
3	Individual interviews with students	4 students (#2, 11-13)

The results are described in two sections: 1) experiences of students and 2) experiences of teachers.

An overview of the results is given in Table 2.

Table 2. Overview of results

Students	Teachers
Discussing the case together	Dialogue with the student
Examining perspectives	Students' perspective-taking and reflection skills
Importance and complexity of the subjects in clinical practice	Contribution to the relevance of the assessed subjects
Speaking up	Preparation of future practice
Insecurity about what to expect	Uncertainty about grading
Assessment as a learning opportunity	

Students

Discussing the case together

Students appreciated that the case was analyzed together with the teacher. They expressed that the OSCE felt more like a normal conversation than they expected from an assessment.

**Student #2:** “Yes, I liked it [...]. You are really clarifying the case together, and seeing what is going on. I liked it, because it did not feel like a one-way street.”

Some students believed that the conversation was limited because of the limited time available or because the teacher did not respond substantively to questions regarding the patient, or the case, which the students were invited to ask. The script of the case does not provide the teacher with answers to all of the questions. This left some students with the feeling that more depth could be achieved during the assessment.

**Student #1:** “I did ask questions, but not much information came out. [...]. If you do have the information, you can substantiate your answers better.”

**Student #11:** “[...] I think that [assessing a student during regular practicals] is better than during 10 minutes with someone you hardly know. And going in-depth into the case is not really possible.”

### Examining perspectives

Students mentioned that the OSCE stimulated them to take into account the perspectives of the stakeholders (the physician, the patient, the family), as well as different perspectives regarding the subjects. They regarded this as an important skill in the patient-physician relationship.

**Student #8:** “Maybe out of a sort of arrogance, you think “I know what I would think in such situations” or “I know how I should react”, but if you hear the story from different sides, and you also have to take into account the law [...], then you are being challenged to look at it from another viewpoint.”

**Student #12:** “You have to look at it from different angles: from the position of the patient, the family, yourself as a physician and maybe the nurses... I was familiar with doing this, but it was stimulated during the assessment. You get a

case in which it is really necessary to look at it from more than one or two perspectives.”

### Importance and complexity of the subjects in clinical practice

Students mentioned seeing the relevance of the subjects being assessed better by the OSCE than during regular learning activities. By being confronted with a difficult situation in which ethical, legal, diversity and patient safety aspects play a role, students realize that they need to have knowledge and skills regarding these subjects.

**Student #9:** “You do study medicine, so you are primarily focused on clinical aspects. And then there is the exam with some ethics in it, and you think: “I will leave this aside, I am going to learn the diseases.” But it is important to think about these subjects.”

Furthermore, the fact that it is being assessed on its own, and not as a part of another examination, appeared to contribute to the relevance of these subjects for students.

**Student #5:** “As a doctor, you have to be able to make moral judgements and you are not supposed to do things that are illegal, and you have to be aware of that. Because of this assessment, you will pay more attention to this throughout the year, during practicals for example. People do tend to see these practicals as an obligation, because ‘it is not part of the exam’.”

The OSCE helped the students envisioning their future practice as a physician. Students mentioned that because of the assessment, they came to think about such issues, before encountering them in real time. This ‘glimpse of the future’ made it a valuable assessment for students.

**Student #10:** “You will encounter these situations, so it is important to talk about these issues. I think it is a good exam, because it makes you think: ‘What if this really happens?’”

One of the students explicitly mentioned already being interested in these subjects, and that the assessment did not add to understanding the complexity of future practice.

**Student #12:** “Did the assessment stimulate me to reflect on what happens in future practice...? I don’t think so. I do think that the case made it more vivid and enriched my picture of how it would go in future practice.”

### Speaking up

Students appreciated that the assessment enabled the students who are quiet during class, to speak up. One of the students said that she does not say much during regular practicals, because other students already do. This assessment however, enabled her to give her own answers and to express her own viewpoint, because she felt invited.

**Student #10:** “I appreciated that you are really talking about a case and really doing it yourself. During regular lessons, I’m quite reserved, and now I had to answer it all myself. I really appreciated that.”

Furthermore, some students were positive about being able to show to the teacher, that they could reflect on the situation.

**Student #2:** “If you have studied well [for this exam], then you really want to show it. That you understand [it] and really know what the situation is about. With a multiple choice question, well, you can guess and often it does not show what you have learned. [...] Whilst it was so interesting to know more about these subjects; it makes it more enjoyable that you can show it.”

### Insecurity about what to expect

For students, the OSCE was also a source of uncertainty. As this was the first time this method of assessment took place for these subjects, students had questions about what to expect.

**Student #4:** “I did worry a bit. Although my roommates said to me not to bother so much, I thought: you did not even read the law book. So, the estimation of how hard it is going to be is difficult to make; do you have to know each law, or each rule into detail, or not?”

Another element of uncertainty was the limited feedback to the students after the OSCE. The majority of students could not tell whether they had passed or failed the test, based on this feedback. According to students, uncertainty could be diminished by organizing possibilities to practice these skills, for example during a practical.

**Student #13:** “Maybe it is useful to simulate this assessment during a practical, as feedback. So, you know which aspects need more attention.”

### Assessment as a learning opportunity

Students held different opinions regarding the question whether an assessment can have more goals than only evaluating students’ performance. One of the students believes that that must be the only goal of assessment; the relevance of the assessment for example, must be made clear during the learning activities, and not during an assessment.

**Student #11:** “If you want students to learn specific things, then you have to do it during practicals... Otherwise, I think that practicals fall short on that point.”

The other students expressed that learning during the assessment, might as well be a goal of assessment. One of the students emphasized that what you have learned at the end of the program matters, regardless of the timing (during the teaching activities or during the assessment).

**Student #2:** “I do not think that you can expect from someone to know everything. If you think about it, together with someone who knows more about the topic [the assessor, red.], he can show you. Isn’t that what counts? [...] Whether that is before or after the assessment.”

## Teachers

### Dialogue with the student

For teachers the OSCE provides an opportunity to have a dialogue on a complex case, an experience which most teachers do not regularly have.

**Teacher #4:** “I liked that you are having a conversation with a student about a case with multiple dilemmas. [...] There is space for supplementary questions, but it is also possible to let them talk.”

Furthermore, during the OSCE, teachers see that many students are able to discuss the case, whereas during practicals there are some students who do not actively participate in discussions about the learning material. Thus, teachers become aware that students who are quiet during practicals, may have their own ways of learning and engaging with the learning material.

**Teacher #10:** “Some students are really dominant during a practical, and here you notice that a quiet student can think about these issues pretty hard as well.”

### Students' perspective-taking and reflection skills

For teachers, it is rewarding to see students taking into account different perspectives and reflecting on their own perspective. To see the students actually demonstrating these skills, and being able to assess them with the OSCE, is an acknowledgement of the efforts of the teacher and the design of the learning activities.

**Teacher #1:** “I really have the feeling that they all try hard to think about the different perspectives involved, even the students that do not pass the test.”

**Teacher #2:** “When students are able to reflect on their own values and norms and see that their own values can come into conflict with the values of the patient, then I feel an inner joy ‘yes, we did it!’”

## Contribution to the relevance of the assessed subjects

In contrast to other teaching activities, during the OSCE, the relevance of the subjects is evident to the students. One teacher mentioned:

**Teacher #7:** “I feel much more taken seriously with my subject, when I am allowed to really assess it. That is substantially different from the student being present at a practical, ticking it off.”

## Preparation for future practice

Teachers mentioned that during the OSCE, students were reasoning *as if* they were doctors. One teacher explained that for her, the implications for future practice are the essence of education. Furthermore, seeing the personal aspect of the future physician was valued.

**Teacher #10:** “[...] these are the people that will be at your bed side in the future. You will get a real idea of who these people are you are training.”

## Uncertainty about grading

Teachers mentioned uncertainty about how to grade. This uncertainty led some teachers to be reluctant to let students fail, because they wanted to be really sure that they did justice to the performance of the student. Uncertainty diminished with examining the OSCE more often.

**Teacher #8:** “I did it for the first time last year, and I really thought: who am I to judge these students? But this year I had the feeling the preparation was more thoroughly organized and I had experience in doing it, so I felt well prepared.”

Sometimes, teachers found it difficult to translate the actual performance of the student to the scoring format.

**Teacher #11:** “In some cases I wondered how to score the aspect of knowledge. [...] Do I have to be stricter about missing knowledge?”



Or is the lack of knowledge compensated by good reflection? I often found it hard to find the right balance.”

Teachers mentioned that scoring the domain of ‘reflexivity’ could be hard as well.

**Teacher #8:** “Some students were very good at applying their knowledge but lacked reflexivity. [...] Then I had to actively ask about it, and then you do not test if they would come up with it themselves...”

## 4. Discussion

The aim of this study was to explore the value of the OSCE based on the experiences of students and teachers with the OSCE and to identify points of improvement. Our study shows that for both students and teachers there are valuable aspects to the OSCE and that their experiences concerning the competencies being assessed and the process of assessment were similar.

Overall, students and teachers appreciated that the assessment was not a unilateral process, but felt like a joint endeavor, as an opportunity for dialogue. This is in line with current approaches to medical ethics, in which dialogue is regarded as crucial for deliberation on moral issues in medical practice (Molewijk et al. 2008).

Furthermore, this led to both teachers and students having the feeling that they have *learned* during the assessment. For students, learning consists of realizing what the relevance is of these subjects in clinical practice, getting a ‘glimpse of the future’, and seeing its complexity. This corresponds to literature about the role of assessment for making students aware of the importance of the subject and stimulating student learning (Elton 1987; Biggs 1996; McKeachie/Svinicki 2013, 133), and literature about how to integrate, and how to assess the humanities in the medical curriculum (Fenwick 2014; Dogra et al. 2016; Goodwin/Machin 2016). This may also be the result of students being addressed individually, rather than in groups during regular learning activities.

Learning also entails understanding the competencies involved in the subjects of Ethics, Law, Diversity and Patient Safety. A part of the students felt they would pass the OSCE just by 'chatting a bit' (not being aware of the skills they need), yet during the OSCE they realized that the complexity of the situation requires knowledge and skills. Apparently, these students had not fully grasped the essence of the competencies involved, despite multiple learning activities. This might be partially due to the nature of the subjects, yet might also be an indication of (partial) misalignment of the assessment with the learning activities. It does show that during the assessment, the relevance of knowledge and skills became more clear to the student. Still it is important that this is also addressed, during regular learning activities.

For teachers, learning is about getting insight into students' thought and reflection processes. This provides them with feedback about what students have not (yet) learned, and *how* they put into practice what they have learned. This is different from written assessments, which have an emphasis on providing a definite answer. This feedback can be used to improve the teaching program, as is described in literature about experiences of examiners with the OSCE (Humphrey-Murto/Wood/Touchie 2005; Sterz et al. 2019). The OSCE entailed more than deciding if the student passes or fails. It enabled the teachers to see that students went through a learning process, and that the efforts of the teacher paid off.

Regarding the learning outcomes, students and teachers recognized the importance of reflexivity in the sense of being aware of one's presuppositions. Also, both mentioned the relevance of taking into account multiple perspectives. These skills can be regarded as crucial to dealing with complex ethical issues (Stolper/Molewijk/Widdershoven 2016). While some students thought that the OSCE was too short to reflect on a case, it can be argued that this reflects future practice; physicians have to deal with time pressure on a regular basis and still have to be aware of their prejudices and to be able to be reflexive. Students also valued that during the OSCE they had to identify and combine different perspectives in a complex clinical situation and to integrate knowledge and skills from various disciplines (Stirrat et al. 2010; Dogra et al. 2016).

Both the experiences of students and teachers show that the OSCE is more than a tool to assess students' competence; the assessment itself provided them with a learning experience and stimulated students to meet the learning outcomes because they experienced how their knowledge and reflexivity affected their perception of the case, their possible decisions, and the options they could investigate.

Regarding the process of the OSCE and possible points of improvement, students and teachers both mentioned insecurity. For students, it was not clear which skills were being assessed, and to what extent, while for teachers, it was not clear how students' skills related to the scoring format. The insecurity of students is also described in other studies (Barry et al. 2012; Siddiqui 2013). However, we agree with Furnedje/Smith/Sturrock (2016) who argue that the *formative* OSCE provides students with the opportunity to learn how to adapt to stressful situations, in a relatively 'safe' environment. In our view, the same is true for this OSCE, although because this is a *summative* assessment, the environment might be less 'safe'. With regard to grading the student, teachers were looking for a balance between comparing students with the predefined standards (the learning outcomes) and comparing their performances with those of other students (Taylor 1994). The multidisciplinary character of the assessment also may have contributed to insecurity, as teachers had to assess topics that they were not experts in.

The OSCE is now well-implemented in the curriculum and improvements have been made regarding the preparation of both students and teachers. E.g. feedback to students is no longer given right after the OSCE because students tried to guess their grade based on the feedback, which was not the purpose. Feedback is since then filled in on the scoring form which is accessible for the student when the grades are published. With regard to future improvements, a balance is needed between emanating that a certain amount of uncertainty is natural (reflecting future practice) on the one hand, and supporting students and teachers in the preparation for the assessment, on the other hand. Due to the nature of the assessment, it is important for teachers to stay in dialogue with the student during the OSCE, because it is partially due to the dialogue that the OSCE can serve as a learning opportunity.

Future studies can elaborate more into depth on the conditions which can foster the experience of assessment as a learning process, especially the contribution of assessing competencies in a dialogical way to the development of reflection and the relevance of one-to-one conversations between teacher and student for enabling students to speak up.

This study has some limitations. The interviews with student and teachers directly after the OSCE were very short (10 minutes), because of the tight schedule of the OSCEs. However, interviewing both teachers and students immediately after the OSCE, provided insight in their experience at that specific moment, with clear memories of the assessment. A second limitation is that because of the timing of these interviews, it was not possible to select both students who failed and who passed the OSCE, because the grading was not yet available. Because the limited response of students on the recruitment for the longer interviews, we were unable to use this as a selection criterion as well. A last limitation was that we did not organize a joint focus group meeting of students and teachers. This might have provided the opportunity to jointly reflect on experiences.

## 5. Conclusion

The OSCE Ethics, Law, Diversity and Patient Safety in the third year of the bachelors' curriculum has valuable aspects for both the students and the teachers. The OSCE enables assessing students' competencies and also contributes to students' understanding of the complexity of future practice, the relevance of reflection and examining perspectives, and provides them with the opportunity to speak up. Assessment thus provides the students with a learning experience. Teachers feel acknowledged by students taking the subjects seriously and appreciate having a dialogue with the students

## 6. Declarations

### Competing interests

The authors declare that they have no competing interests.

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## Authors' contributions

MD, PV, GW and YV were involved in the design of this study. MD collected the data during the individual interviews, and MD and PV together gathered data during the focus groups. MD, PV and GW analyzed the data, and discussed these with each other and with YV. MD wrote the manuscript and all authors were involved in editing the manuscript. All authors approved the final version of the manuscript.

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## 8. Short biography

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