Student Engagement and Experience Journal
Volume 1, Issue 1
ISSN (online) 2047-9476
DOI 10.7190/seej.v1i1.37

Research Article

The Objective Structured Clinical Exam (OSCE): A Qualitative Study exploring the Healthcare Student's Experience

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Abstract

This study explored the healthcare student's experience of an OSCE (Objective Structured Clinical Exam). The OSCE is a form of assessment in which the student demonstrates clinical skills, and underpinning knowledge, usually in simulated conditions. Historically, it has originated from medical education, and is now being adopted by other disciplines of healthcare education. Because the OSCE is a new experience for most students, it is important as educators, that we explore this assessment from the perspective of the student. A literature review revealed a paucity of research in this area. Hermeneutic phenomenology was used as this study's underpinning methodology. Data was collected through semi-structured interviews with students. Analysis revealed three main themes: (1) anxiety about the OSCE, (2) preparation was a seen as a coping strategy and (3) simulation was a further cause of anxiety. Recommendations for future practice: are that students need to be supported appropriately. Preparation of students for an OSCE requires effective planning and simulation needs to be grounded in practice. This study concludes that students valued the OSCE as a worthwhile assessment. However there are major concerns for students, which need careful consideration by academic faculty developing this type of assessment.

Introduction

The Objective Structured Clinical Examination (OSCE) is becoming more prevalent within healthcare education programmes, because it is regarded as a useful method for assessing

skills and underpinning knowledge required for practice (Merriman and Westcott 2010). The OSCE is an assessment technique in which students demonstrate their competence under a variety of simulated conditions (Watson *et al.* 2002). Thus, providing evidence that students are competent in those specific skills tested within the exam context. However, the OSCE is a very different experience for students, in comparison to more established methods of assessment, for example: written assignments and continuous assessment in practice.

A review of the literature on OSCE details that this assessment method originated from medical education, where it was initially developed during the 1970's to replace more subjective assessments such as 'long and short-cases'(Harden *et al.* 1975). Therefore, it has become embedded within medical training and has been subjected to further work on assessment reliability and validity (see Chesser *et al.* 2009; Wallenstein *et al*. 2010). However, for other healthcare disciplines, such as nursing, physiotherapy, midwifery, OSCE is a newer form of assessment for many students. It is not usually an assessment that members of an academic faculty experienced. Much of the published literature on OSCEs within other fields of healthcare apart from medicine, largely documents the implementation and evaluation of an OSCE within a variety of programmes (Brand and Schoonheim-Klein 2009; Furlong *et al*. 2005; Major 2005). The student perspective was not a main focus of these works, although some had considered aspects of the student experience within the process, and these will be discussed in light of the findings of this study.

Having discovered a paucity of literature exploring the student perspective, the aim of this study was to explore and understand the experience of undertaking an OSCE, with the purpose to inform the future development of this type of assessment.

Methodology

The study was qualitative, which adopted hermeneutic phenomenology for interpreting student lived experiences of the OSCE process. Phenomenology is a method that aids the understanding of the human experience – not exploring the reality itself but what reality is perceived (Moustakas 1994). The hermeneutic approach of phenomenology was chosen, as it aims to understand and interpret through language our 'being in the world' (Rapport 2005, 127).

Ethical Issues

There were ethical issues that needed consideration prior to and during this study. The issue of autonomy was important to ensure that candidates who participated in this research, did so of their own free will, by informed consent and with the knowledge that they could withdraw from the study at any time. This information was clearly displayed within an information sheet and consent form that the participants were asked to complete. This was reiterated through verbal communication and again before the interview commenced. All students confirmed that they understood their right to withdraw from the study at any point.

There were also issues around power and control, which needed acknowledging, as the author was the principle researcher and also the module leader to the students recruited to

this study. The aim of understanding the student experience was clearly communicated to the participants through the information sheet and again before the interview commenced. The transcripts of the interviews and the student quotes shared in this paper, demonstrate that the participants felt comfortable talking about positive and negative issues about the OSCE. This is an indicator that students did not feel threatened by this dual role of researcher and module leader.

Issues of confidentially have been carefully managed, as this study involved a sample drawn from a small population. Therefore numbers were allocated to the participants and their names and other identifying details removed.

Data Collection

This study took place within a large post-1992 university in the UK, which has a large component of healthcare students at both undergraduate and postgraduate level. The study commenced once ethical approval and permission had been granted.

A purposive sample was drawn from a cohort of twenty registered healthcare professionals studying on a continuing professional development (CPD) specialist paediatric module. In which an OSCE comprised part of the assessment schedule. All students on the module were invited to participate in the study. Ten students (50% of the total cohort) returned the completed consent form and were accepted into the study. The participants consisted of nine nurses and one allied health professional (AHP).

The OSCE consisted of a scenario based assessment in which a student was required to demonstrate safe assessment and management of a child with an upper airway obstruction. To simulate this scenario, a medium fidelity infant manikin known commercially as SIM Baby was used. During the OSCE, a student was marked against set criteria which demonstrated required skills, underpinned by knowledge and safe practice. All students passed the OSCE and went forward to participate in the study.

Data was collected through individual semi-structured interviews deemed appropriate for the phenomenological approach (Newell and Burnard 2006). The interview was guided by a pre-formulated schedule to ensure that all relevant topics were covered. However, interviewees were encouraged to talk freely and tell their story. To check that the interview schedule would produce relevant data it was piloted with a non-participating person prior to commencement of data collection. The ten interviews took place approximately six to eight weeks after the OSCE and lasted a range of twenty to sixty minutes.

Analysis of the Data

All interviews were transcribed verbatim by the author to gain insight on student 'lived experiences' through their own words. According to Mathers and Huang (1998), qualitative data analysis depends on conceptual analysis where the purpose is to understand meaning and interpretation from complex social phenomena. A modified seven-stage process of data analysis (Diekelmann *et al.* 1989) was used as a framework, which was recommended for use in hermeneutic phenomenology to describe shared practices and illicit common meanings (Polit *et al*. 2006). The transcriptions were repeatedly read, to interpret data into meaningful

segments. During the initial stages, it became apparent that common themes were present. Once identified themes were beginning to form, a categorisation scheme was developed and codes used to sort and organise data. Patterns and recurrent issues were gradually conceptualised into themes and sub themes.

Findings and Discussion

The findings of this study below informed future OSCE development. The themes of student anxiety, preparation and simulation emerged from the study.

Student Anxiety

A key theme that became apparent early on in the analysis was around student anxiety. All the participants interviewed spoke of feelings of anxiety experienced either before and/or during the OSCE. In fact, anxiety was one of the first things the interviewees wanted to talk about and provoked strong reactions when recalling their experiences. As demonstrated by the following quotes from two students, when asked how they felt about the OSCE.

> I felt physically sick that day, I was so nervous. It was so stressful, it was like a driving test. (S4)

> The thought of OSCEs is just horrible (well for me it is) I hate speaking in public or in front of even 2 or 3 people, so to actually kind of perform and be examined at the same time is just like the worst case scenario, that's before and I get really nervous (S9).

These findings are congruent with the published literature concerning stress and anxiety in students caused by an impending OSCE (see Brosnan *et al.* 2006). Brand and Schoonheim-Klein (2009) reported that dental students ranked an OSCE as significantly more stressful than a written assignment. Similarly, in a study by Byrne and Smyth (2007), pre-registration nursing students felt so stressed that it had a negative impact on their performance in an OSCE assessment. However, Byrne and Smyth (2007) concluded that students already exposed to an OSCE described feeling less anxious and better prepared for their subsequent clinical placements. This study found similar experiences among the students interviewed. The OSCE had caused feelings of anxiety, yet students felt that the assessment was ultimately beneficial to them.

> I thought it was good to have an OSCE, even though when you mentioned it, it scared the heeby jeebies out of me. Afterwards I realised how good it is and now I have remembered more, because it was more of a personal experience, I think it is a good learning tool definitely (S2).

> I was scared, at the beginning when you find out what you have to deal with at the end, it was scary. But I really enjoyed it, I didn't think I would, but afterwards I felt I real sense of achievement, I was really proud of myself actually (S5).

These quotes demonstrate the positive feelings, talked about by participants following the OSCE, and are congruent with the literature on students valuing the OSCE as a worthwhile experience. A significant finding of this study was the sense of achievement that students felt following the OSCE. The findings of this and other studies suggest that anxiety can have beneficial effects in 'acclimatising' people to stressful situations. This is reflected in a

literature review by Rushforth (2007), in which students reported the OSCE process as stressful, maybe causing a detrimental effect on their performance and yet overall they valued the OSCE as a worthwhile experience. This was a feeling reflected by many of the participants from this study despite the negative feelings sensed before the OSCE. With hindsight, many of the participants reported overwhelming positive feelings afterwards.

From the interviews, it became apparent that OSCEs were a new experience for all but one of the students participating in this study. Some of the interviewees specifically attributed these anxious feelings to 'fear of the unknown':

> I was quite worried about it to start with, especially when we first started the module. I just put it to the back of my mind, and then when it came to a couple of weeks before, I was like 'ahh what's happening!' But I think it was more just fear of the unknown really, not knowing what was going to happen… You just put yourself under pressure, it's no particular pressure that you're putting on us, it's all in your head, it's the fear of the unknown, it's playing on your mind. You're thinking – I've not thought about this enough, I'm going to miss something completely obvious (S1).

The unknown 'OSCE' element certainly played a part in some of the student's feelings and reactions leading up to the assessment. However, this same student goes on to describe how she would feel about taking another OSCE in the future

> I'll know what to expect, I'm going to know what's coming. So I don't think I'm going to be as nervous… It's still a scary thing, you still don't know what coming but I feel a lot better now sitting here having done one (S1).

This suggests that even if a student has been exposed to the OSCE process, there is still anxiety about the assessment. Interestingly, this is also reflected in this statement from the student who had previous experience of an OSCE, and still described feeling nervous:

> I'm quite a confident and forthright person, but you know they (OSCEs) make me nervous… Cause I think it's the unexpected that's the biggest barrier, when you don't know what to expect (S10).

The literature reflects these findings. Brand and Schoonheim-Klein (2009) dental students reported that there was no correlation between the new experience of taking an OSCE and higher levels of stress caused by it. They found no significant difference between first-time students undertaking an OSCE with those who had previous experience. These findings indicate that there are other factors about the OSCE inducing stress and anxiety, rather than it just being attributed to the unfamiliar experience of this assessment. Adequate preparation was seen by many of the interviewees as a method for dealing with anxiety and the fear of the unknown.

Module preparation

Preparation and familiarisation with the OSCE process is recognised as a key issue within the literature (Brand and Schoonheim-Klein 2009; Brooks 2007; Brosnan *et al.* 2005; Furlong *et al.* 2005). Alinier *et al.* (2006) discussed the importance of adequate preparation for students and particularly with regards to a simulation manikin, recommending no assumptions should be made to students' prior knowledge or understanding of simulation.

To prepare students appropriately for the OSCE, the assessment strategy was discussed with students on the first day of the module, and given as written information in the module handbook. Students were encouraged to ask questions and discuss issues around the OSCE. Following on from this, clinical skills facilities were regularly used throughout the module to practice and engage in scenarios. However despite formal preparation, it became apparent from interview findings that some students did not feel appropriately prepared. This contributed to feelings of anxiety and stress. Some students felt that they had not received enough familiarisation with the simulation infant manikin (SIM baby) during the practical sessions. One participant talked during the interview of avoiding participation in any practical skills on the manikin during group work. This was attributed to feeling shy and being uncomfortable performing in front of the other students. However this meant the student had a disadvantage during the OSCE, as it would have been the first time she interacted with the simulated manikin.

> I think I would have liked more practical, especially one to one practice, because in the exam I was stunned, I was not used to SIM baby. Because when we practiced, we practiced in groups, so you're still not on your own, so when you are on your own – I froze in that situation. It's easier to sit back and comment, than to do it when you are there (in groups). (S4)

This situation highlights some of the challenges associated with facilitating practical sessions and ensuring that all students participate equally, and encouraging people to venture outside their 'comfort zone'.

In an attempt to give the students a proper experience of the assessment process, a practice OSCE took place the week before. Unfortunately due to equipment failure, not all students were able to have a 'one to one' practice scenario. Half of the group had a talk through and demonstration on how the OSCE would operate the next week, the other half were given a practice OSCE scenario. It was clear from the interviews that the students who had been through a proper practice felt more prepared and ready for the OSCE, some of them reported feeling calmer and more mentally prepared.

> Even though we had done the practical sessions in the afternoons. The practice OSCE showed me exactly what you were looking for and we got the feedback sheet, so I went through that quite a lot before the OSCE, to look at different points and to see what you were looking for (S3).

> The practice OSCE was good, cause it calmed my nerves a bit, cause I thought –well that's not as bad as I perceived it to be so it was just kind of being sensible really, talking through, remembering ABC and just thinking I've got to think through it rationally (S1).

From experiencing the practice OSCE these participants knew what was expected of them. Those students who had not been given the practice OSCE scenario, and instead had talked through the process felt that this was not adequate preparation and they felt quite aggrieved that they had not had that opportunity.

> Yes I definitely needed a proper run through, and even a chance to be by yourself with the baby (SIM baby) doing a scenario (S4).

> I was really nervous about it, because I didn't really know what to expect because we hadn't really had the preparation beforehand, the practice scenario. I wasn't sure how it was going to be or what questions you were going to ask me (S5).

These students needed to feel what the experience of the OSCE was like. 'More practice was required' was a strong message from many of the interviews, especially from those who had not been given a one to one scenario under practice exam conditions. Some of the interviewees who booked OSCE practice seemed unsure of the 'rules' and how to perform. As demonstrated by the following quote, this student was unsure of what to say in case it would mean an automatic fail.

> When I came out of the OSCE, I thought 'Oh I should have said that or I should have said that, and I was thinking that, but didn't say it'. Because in the OSCE I was scared to say the wrong thing, in case it was completely wrong, rather than say it and it was right, cause I was thinking – if it's completely wrong then I've failed, so I'd rather not say it, but then I didn't say anything (S4).

This student again indicates a lack of awareness of 'rules' of the assessment and what was expected due to not having sufficient practice. Brookes (2007) stated that the use of a mock OSCE was usual practice throughout many universities, as it allows students to become familiar with the expectations of the assessors and to experience the process. However, Furlong *et al.* (2005, 354) reported that 90% of students felt the OSCE was a stressful event, despite the majority also agreeing that they had been adequately prepared for the assessment.

These findings demonstrated how important the practice / mock OSCE was for students, and therefore it is now a priority that all students have a practice OSCE.

Simulation

Simulation and the role playing element of the OSCE was a further cause of anxiety communicated through interviews. Many of the students talked about negative issues regarding the realism of the simulated scenario. The interviewees conveyed concerns with the environment, equipment and the manikin (SIM baby). For students to be able to immerse themselves within the scenario and role playing, they had to feel the scenario was a believable situation. For many they struggled to make that connection. Equipment and the environment were often described as not realistic enough for them to feel as though this was a real life situation. Some students said that things were not set up as they would expect. One student described her uncomfortable feelings:

> I felt silly being in a room with a doll (SIM baby) and 3 people. Just that it doesn't seem like real life, and you forget things that you would normally do. It was weird that the set up wasn't like it normally is, the patient was the other way round, and the equipment wasn't where it would normally be. I felt really nervous that I wasn't going to find things and the patient was not going to survive (S8).

This was an interesting quote from a student, as she begins off by stating that she feels silly, that it was unrealistic and that the environment and equipment were not as she would expect. However she concludes by stating she was nervous that the child was going to die, as if she believed the patient was 'real'.

Another student talked about having to ask for things that she would normally just get on and do herself:

> It was really hard because normally you just do what you do, but it was having to ask for things like 'Can I have some sats?' (oxygen saturations) , whereas you would normally do it yourself, that's the bit I was struggling with, and trying to guess what you want us to do (S7).

Other students identified feeling 'uncomfortable' in the simulated environment. Interviewees described feeling silly or stupid as if there was a reality barrier in which they could not connect or associate with the manikin.

> I felt silly, but I always do (role playing) with a dummy was quite hard. At one point, I said 'At this point I'd be reassuring him'. I didn't do it, I didn't reassure it directly, whereas I should have done (S10).

Other participants described the manikin as feeling unrealistic and false.

> Listening to the chest, you can hear the mechanics, but then I think you are not going to get anything closer (S3).

> It was difficult to see the unequal chest movement, so it was issues with the dummy really, making it more realistic. And the foreign body, I didn't know whether it was part of the dummy, so I was really confused because it just looked like a foam piece of the dummy. I was confused with that, and I couldn't get the guedel airway to fit. Well I think it's just the realistic part, so you're questioning yourself as to whether it's the dummy or not (S5).

These quotes demonstrate the issues with simulation, and some of the literature reflects this, such as Major (2005) reported that pre-registration nursing students undertaking an OSCE had felt the assessment was unrealistic in nature. Major (2005) remarked that it was a challenge to replicate the complexities of clinical practice within a simulated environment. Furlong *et al.* (2005) also reported post-registration students finding the OSCE environment 'unnatural', 'claustrophobic' and 'pressurised' and cited it as a contributory factor for students making mistakes that they felt would not normally happen. Only a third of the students in Furlong *et al*. (2005, 358) study reported feeling comfortable working with a manikin in the OSCE. This again highlights the challenges of using simulation effectively to enhance the learning experience. As Downing and Haladyna (2004) commented, OSCEs are simulations of the real world. However they are not the real world.

All the students in this study, managed to overcome this 'reality' barrier adequately to pass the OSCE. Despite criticisms all the interviewees accepted that this was a scenario of a deteriorating child and there were limitations with simulation, as demonstrated in the following passage.

> I think it's a good idea, but then at the end of the day I sort of feel like it's not real. It makes you think about things, but then you have to act them out when you haven't got the stuff around you that you're used to. But once you get started it gets a bit easier but at first it's hard to think shall I do this or shall I do this? But then how can you do this in a real environment this is probably the closest you're going to get (S3).

Not all of interviewees had negative feelings about the realistic nature of the OSCE. Some students talked about the scenario mirroring real life situations and reflecting the unpredictability of clinical practice. One interviewee described how the scenario felt similar to a real life situation with an acutely ill child:

> *It did really, I'd say that nervousness and that dry mouth, and you know going through it all. I think it did (S6).*

Another student talked about the relevance of the assessment:

> *You've just got to get on with it, so it's more like your job. In practice you've got to be quick thinking and able to work under pressure, which is what the OSCE is like (S8).*

Within the literature, several articles discussed the stressful nature and unpredictability of the OSCE as an indication of validity. Bartfay *et al*. (2004) argues that performing in stressful circumstances increases the validity of the OSCE, hence equipping the student to perform competently in stressful clinical situations. This student's comment echo's that validity of the OSCE:

> I think it's more realistic, it's not just textbook, because it's real situations. You're working through the situation that you might actually get on the ward or where ever you are – so I think it's more realistic, which makes it more meaningful (S4).

Simulation as a method for assessment is gaining popularity and has been validated as an educational tool within healthcare education (McGaghie 2010). However, for this to become a meaningful experience for the student, it is important to make the scenario, as realistic as possible, including the environment, equipment and manikins. The findings of this study revealed that some students struggled to make that connection of realism with the scenario, others were more positive and could identify with reality and clinical practice.

Limitations of this study

This was a specialised group of students, and there may be issues of transferability with these findings to other groups of students taking an OSCE. Although the findings from this study, showed congruence with the limited amount of literature, further research is now required to substantiate these results further.

Conclusion

This study found that anxiety was a major concern to students undertaking an OSCE. These feelings of anxiety need careful consideration and subsequent management by academic faculty. In some respects, anxiety can have positive effects on the student, in focussing attention and utilising coping strategies to manage the situation. The literature shows that students cope better in clinical practice if they have been exposed to an OSCE beforehand. The students in this study also spoke of a sense of achievement that they felt when they passed the OSCE. However, there were students who felt the negative aspects of the anxiety in not being able to manage the stress and anxiety well. These students need careful support from academic staff.

Preparation was seen as a key coping strategy for dealing with anxiety. The students in this study were clear that adequate structured preparation was important. From this study, formal preparation has now taken on a higher priority. Clinical skills sessions are planned around the types of skills and underpinning knowledge that will be expected from students. A practice OSCE is available to all students to experience the assessment process and to understand the marking criteria.

Simulation also causes anxiety as indicated by respondent comments, that they felt 'silly' and 'uncomfortable' acting-out skills and demonstrating knowledge. Simulation must strive to be as realistic as possible. However the challenge is that it remains difficult to produce an environment in a clinical skills suite that resembles the complexity of a clinical area. Collaboration with practice areas must be sought to keep simulation learning and assessment grounded in the real world.

Finally, the aim of this study was to explore the student experience of undertaking an OSCE, the findings conclude that students valued the OSCE as a worthwhile assessment, however there are major concerns for students, which need careful consideration by academic faculty developing an OSCE.

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