

## IMPACT OF OSPE ON STUDENTS' APPROACH TO LEARNING! A QUALITATIVE STUDY

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### ABSTRACT

*Background and Objectives:* Simulated clinical and practical tools (OSCE/OSPE) assess students in all 3 domains and encourages deep learning by testing higher cognitive functions. In 2008, University of Health Sciences Lahore introduced the Objectively Structured Performance Evaluation (OSPE), with the purpose to improve students' in-depth learning and to make assessments fair, objective and standardised. Assessment techniques influences students' study strategies' and thus their performance, in order to cope with assessments, students adapt different learning styles, viz., Deep Approach (DA), Surface Apathetic Approach (SAA) and Strategic Approach (SA). OSPE leads the students to read the subject wisely and to practice clinical skills extensively. The objective of the study was to explore the impact of OSPE in the subject of Obstetrics and Gynaecology on undergraduate students' approach to learning.

*Method:* A qualitative phenomenological constructivism study was carried out. Total 12 semi structured interviews were conducted, six individual interviews with students and six with teachers to explore their perceptions and versions regarding the impact of OSPE on students' study strategies. Data was analysed for its inherent themes and subthemes.

*Results:* Two major themes were yielded. Educational impact of OSPE and psychological impact of OSPE on students learning.

*Conclusion:* It seemed that the type of assessment, the way it has been introduced to students, teachers' guidance and students' motivation all play an important rate in influencing their learning approaches.

*Key words:* Assessment, OSPE, OSCE, learning approaches.

### INTRODUCTION

The teaching and learning of medical students has always been a challenging task for teachers. Assessment of clinical skills is far more important and complex as it is directly linked with patient care. OSCE/OSPE is one of the method that assesses students' knowledge, skill and attitude at the same time and hence leading the students to read the subject in depth.

Assessment guides medical educationists to find weaknesses and shortcomings in students' learning strategies, course content, and teaching methodologies so that they can propose ways to overcome these deficiencies.<sup>1</sup>

An ideal assessment method should improve students' learning, performance and competencies.<sup>2,3</sup> Therefore, OSCE was introduced in 1975 by Harden.<sup>4</sup> Presently it is extensively used.<sup>5</sup> In 1990 Miller, explained how assessments can have linked to enhance students learning from knows level to does level.<sup>6</sup>

University of Health Sciences Lahore (UHS) modified the OSCE and introduced Objective Structured Performance Evaluation (OSPE) in 2008. Objectives of

OSPE are to test factual knowledge, to assess clinical competence, analytical thinking and communication skills.

OSPE comprises of 15 to 20 short duration stations (5 minutes each) where the students are tested for various clinical skills, knowledge and attitude in an objective fashion.

The learning of students revolves around the triad of learning objectives, instruction methods used and assessment taken.<sup>7</sup> As "Assessment Drives Learning,"<sup>8</sup> it means students try to learn in a way, they are liable to be assessed on. Therefore in order to cope with assessments students adapt different learning approaches. Similarly, OSPE influences the students approach to learning with a need to study the subject more thoroughly and in depth.

Learning approaches cannot be considered as personality traits that are inherited rather they are in culcated in the students through their interaction with particular learning tasks.<sup>9</sup> Depending upon the nature of a particular task student can use different approach for learning.<sup>10</sup> The three diverse approaches to learn-

ing are deep approach to learning (DA) (where students try to understand concepts and relating ideas). Surface approach to learning (SAA) (students' try to cover syllabus by superficial learning with emphasis on rote memorisation) and strategic approach to learning (SA) (students aim for achieving highest possible grades, either by using superficial or deep approach in accordance to any particular topic).<sup>11</sup>

A number of factors influence students' approaches to learning. These are workload, learning objectives, teaching methodologies, students' choice of the subject, students support and assessment. Among these, assessment has most powerful impact on students approaches to learning, therefore if an assessment is regarding just recall of information students will be likely to adopt superficial approach, but if assessment is regarding application of knowledge or regarding assessment of higher order cognitive skills then it will lead the students' to study the subject in depth. Therefore, this study was carried out to see the impact of OSPE on students' approach to learning i.e. OSPE drives learning. This will help to further improve its educational impact.

## METHODS

A qualitative constructivism phenomenology study was carried out in the Department of Obstetrics and Gynaecology unit II, Jinnah Hospital Lahore. Duration of the study is Six months.

### Sample Size

1. Semi structured interview with six students.
2. Semi structured interview with six faculty members.

### Sampling Technique

Non-probability, convenience sampling.

### Inclusion Criteria

1. Fresh MBBS graduates, working as house officers in Obstetrics and Gynaecology unit II and has been subjected to OSPE in undergraduate years.
2. All those teachers (Professors, Associate Professors and Assistant Professors) who have been involved in preparation and conduction of OSPE in the subject of Obstetrics and Gynaecology.

### Exclusion Criteria

1. Students who are working in other units.
2. Those who are not fresh graduates and who refuse to be a part of interview.
3. Those faculty members (Professor, Associate Professors and Assistant Professors) who are not directly involved in OSPE preparation and conduction in the subject of Obstetrics and Gynaecology.

## Data Collection

Six semi structured interviews were carried out with graduates' and six with faculty members fulfilling the criteria. Similar type of semi structured interview questions were asked from teachers and students to probe their' views on students' study strategies and to find out the factors which influenced their learning strategy selection. The questions for the interviews were derived from literature research and by piloting focus group with students. The graduates and teachers were selected randomly. Participants were informed about the purpose of conduction of the interview. Consent to participate was taken.

Interviews were tape-recorded for subsequent transcription by researcher herself and then returned to the interviewees to remove any errors or misconceptions to make the research process more transparent (Triangulation). The interviews were transcribed verbatim.

## Ethical Approval

Approval to conduct the study was taken from the Ethical Review Board of the University of Health Sciences, Lahore.

## Data Analysis

All interviews were recorded and transcribed verbatim. Subsequently, the interviews were read by principal investigator several times. Similarities and dissimilarities were determined.

Thematic analysis was performed to produce final report.<sup>12</sup>

## RESULTS

Total 12 semi structured interviews were conducted, 6 with fresh MBBS graduates. The graduates' included in the study were all females of age about 23 to 24 years. Six interviews were with faculty. Faculty members interviews were both male and female, out of which 5 females and one male with average age of 45 to 53 years. Two were Professor; two were Associate Professor and two were Assistant professor and all from subject of Obstetrics and Gynaecology. In order to maintain secrecy the original name of all participates were removed and given some alphabets/numerical numbers.

Following important themes along with sub themes/categories are emerged out of data and are given in table 1.

The themes are presented with explanatory quotes from students and teachers.

### Theme: Educational impact of OSPE

#### Sub theme: Depth of Learning

Most of the students and teachers were of the view that "I think, I think it has improved in depth learning" BC 1.

**Table 1:**

Themes	Sub Themes/Categories	Codes
Educational impact of OSPE	Depth of learning	Improved in depth learning, converted theoretical learning into practical, promoting critical thinking and reflection,
	Challenges	repetition of questions, more theoretical, bad & predictable questions, designing and making OSPE a tedious job, marking system is flexible.
	Strengths	Practical exam, boosts learning skills, widespread knowledge checked, good formative and summative assessment tool, unbiased, uniform distribution of marks, fair than other exams
	Skill outcomes	Improves counselling, communication & procedural skills, no mark difference in skills improvement
	Working efficiency in practical life	not much difference, make us better doctor, more concerned with patients during house job.
	Students' attitude towards OSPE	Don't like change, enjoy OSPE practice sessions, come for attendance, adult learners, immediate goal is to pass exam, not spending much time in the wards, happy with didactic teaching, concentrating only on limited topics, wise enough to learn, good in technology, not satisfied with the type of stations.
	Time for study	Once a month initially, bit by bit throughout the year, 2-3 days before exam is sufficient, 2 – 3 hours per day.
	Preparation for OSPE	Instead of reading books now interested in doing things, group discussion, use previous questions on website and videos, making notes, multidisciplinary approach for study, see instrument in OT, procedures in emergency, deliveries in labour room, books, internet, Google website, no difficulty in preparing OSPE, hostel life helpful to prepare OSPE and viva, practice on each other, practice on patients, skill lab help students to practice, different from theory
	Faculty attitude towards OSPE	Pointing students about probable questions, stimulate critical thinking, motivating students, taking orientation classes, guided during routine lectures.
Psychological impact of OSPE on students learning	Changes in teaching strategies	Teaching practical things, stopped teaching theory in wards, demonstrate things, need to change teaching overall and not just by changing the exam system, interactive lectures, discussing clinical scenarios, aligning teaching with OSPE,
	Stress for students	New exam generate fear, currently it's stress free because more than 90% pass, majority are not stressed in OBGY, every exam have some stress, exposure to OSPE station & guidance reduces anxiety, less time at stations is some time stressful.
	Students support	No support by college, individual unit support by extra classes, no skill lab in college, senior guidance, Psychiatry people guided.

Most of the students said that OSPE preparation is quite different from theory examination.

*“You have to study your books aaa, from a different point of view you have to study pictures and graphs more deeply in more detail as compared to the theory examination”.* XY12.

A few teachers felt that students use strategic approach to pass exam.

*“Depth is not sure but they have started to read the books also, thorough study they have started”.* FH 4.

#### **Sub theme: Challenges**

Some of the teachers and students thought the questions asked are mostly theoretical and same basic questions repeated in exam after exam.

*"No the impact is not there because more than 90% qualify in the OSPE...and they nearly know the question which will come in the exam". BC1*

Therefore seventy percent of teachers said

*"OSPE is meant basically to check the clinical skill of the students it is not just to study the theoretical knowledge, however the skills are not checked, the way it should have been, however the purpose of the OSPE is not fulfilled". EG3.*

### **Sub theme: Strength**

All the participants spoke of positive feelings and educational practices, experienced with the OSPE.

*"Different practical skills can only be assessed by the OSPE stations not by papers SEQ MCQS and viva". M1 6.*

Students' views regarding OSPE as a learning tool were appreciable.

*"I think it is very wonderful approach towards examinations, OSPE guided us very well" RK7.*

### **Sub theme: Skill Outcomes**

In our study this was appreciated by most of the teachers and students that the OSPE has facilitated students to learn skills.

*"Students have polished their own skills due to OSPE" FH 4.*

### **Sub theme: Working Efficiency in Practical Life**

50% teachers felt overall the level of house officers coming toward following OSPE are not much different in working efficiency from those who passed through conventional examination system.

*"Regarding practical work, when they come to us as house officers, there is a little difference; there is not a marked change" FH4.*

Most of the students were of the opinion that,

*"OSPE has improved me to become a good doctor in future life"XY12.*

### **Sub theme: Students' Attitude towards OSPE**

About 90% of teachers felt that OSPE has brought positive change in students' attitude towards studies and clinical performance.

*"Introduction of OSPE has produced a lot of changes in student's attitude toward study because for OSPE purpose they have to study the subjects in depth.". ML6.*

One of the teachers said:

*"I don't think that there is any change as most of them are doing it to pass the examination" FH4.*

It is also favoured by one of the student.

*"But at that time we learnt only from exam's point of view that we have to give exam" RP11.*

### **Sub theme: Preparation for OSPE and Time for Study**

Regarding the preparation of OSPE both the teachers and students were of the opinion that it was different from theoretical papers.

*"The preparation of OSPE was different from preparation of written examination or from the viva's the voci, it was rather more of a practical and clinical approach towards my subject rather than a theoretical approach." XY12.*

Almost all the teachers and students said that for preparation of OSPE. *"Students prepare OSPE from books, internet, ward rounds, ward patients and the indoor studies" ML6.*

Regarding time for study students were of variable opinion, one of the student said:

*"If you have prepared your text book you have to go through it thoroughly then there is no need to prepare OSPE separately". MT8.*

Some other students' said:

*"Time for OSPE vary from individual to individual, RP11.*

Regarding preparation of different instruments images etc. almost all the students were of the opinion.

*"Images were provided to us from our ward seniors" MT8.*

*"For instrument we have to go to the theatre and where we have proper classes about instruments." XY12.*

### **Sub theme: Faculty Attitude towards OSPE**

Some of the teachers felt that in order to get the full impact of OSPE as a learning tool they need.

*"We require broad work rather than simple changes. We first of all have to devise teaching protocol. We need to clearly define our objective then we need to find a way of teaching those objectives, and then we need to identify how we will assess that". BC1.*

### **Sub theme: Changes in Teaching Strategies**

With the introduction of OSPE not only there were changes in students study strategies but teachers also modified their attitude towards teaching.

*"I tried to prepare the students for theoretical part of the examination and then for the OSPE. For the theoretical part of a certain topic what I tried to do was formulating scenarios. For practical part we make our clinical discussion very much OSPE oriented". DF2.*

Most of the students were of the opinion that their coaching in Obstetrics and gynaecology was good.

*"Teaching during undergraduate year was much synchronized with examination; which made OSPE easier" MT8.*

## Psychological Impact of OSPE on Students Learning

### Sub theme: Stress of OSPE for Students

Most of the teachers and students thought that newness of examination definitely lead to some stress and anxiety for the students, but almost fifty per cent of students were easily able to cope with it.

*“Currently it is stress free because more than 90% pass. The questions are bad and are predictable and most of the questions are not only theoretical but are very simple they require re call rather than any use of brain”. BC1.*

One of the students said:

*“I was introduced to OSPE in my first year at that time it was really a panic because there was no senior to guide us, none of them had experience. However as the time passed we get to know this and then it became easier after wards”. XY12.*

### Sub-theme: Students Support

Almost all the teachers and students were of view that their teachers' guidance helped them to overcome the stress of OSPE and to perform better.

*“Our formative assessment exactly on the same patterns as the university takes in final so they feel it comfortable and they are quite satisfied with this technique”. FH4.*

Almost all teachers and students stressed the need for skill laboratory in the college.

*“I think aa... in any...institution aa skill lab is mandatory as many of the students would like to come there and practice it at their own leisure, they don't need a teacher or facilitator” DF2.*

## DISCUSSION

Assessment has an array of effects on students' learning approach. Assessment not only influences what students learn but also the ways they learn.<sup>13</sup> There is an association between students' perception of assessment requirements, the learning context and the students' learning approach.<sup>14</sup> Therefore, evaluation of a nature of an assessment method gives an insight regarding students' approach to learning.

This qualitative study was carried out to explore students' and teachers' experiences with the OSPE and its impact on their learning in subject of Obstetrics and Gynaecology. Student teaching and learning is influenced by a number of factors like assessments, students' motivation and self-regulation towards learning.<sup>15</sup>

The method of assessment and its weightage were substantial factors that influenced students' approach to learning in our study. This was in agreement with other studies where type and weight of assessment<sup>16</sup> were recognized as key factors that affect students' learning approach. Although OSPE is recently introduced by UHS, it has given a significant weightage in exami-

nation, so students adapted their learning according to the demands of the task. In this study most of the participants were of the view that, OSPE has definitely improved in depth learning of the students. Samples of perception were *“previously selective in their study but now they study the book all throughout”*, Contradictory to what others have supported, few of the teachers and one of the participant students said OSPE has not led to, in depth learning. *“No, I don't think so; there were superficial questions”* Baeten et al, in his study reported there is no evidence that assessment drives a deep instead of superficial learning.<sup>17</sup>

The students stated that study preparation for OSPE is quite different from theory examination. *“You have to study them more deeply as compared to the theory examination”*. This was consistent with Race and Pickford perception that OSCE/OSPE promotes deep learning.<sup>18</sup> Students may use deep, surface or strategic approaches according to challenges they encounter in the learning environment. Same observation reported in other studies.<sup>19,20</sup>

The supposition that OSPE motivates the students to allocate more time to practice clinical skills on patient is not much supported in our study; it is partially because students near exam feel more comfortable to practice skills on each other and rehearsal in groups. This was also supported by Rudland study.<sup>21</sup> One of the teacher in our study said students are now not interested to go to operation theatres, they just look at the instruments in class or tutorial, it is in accordance with Pressley and Broekkamp studies.<sup>16</sup>

Some of the participants in our study thought that construction of OSPE is flawed. The questions are mostly theoretical, basic and are repetitive. Therefore, students are familiar with the topics and prepare only those aspects of the subject and easily qualifying OSPE, without any in-depth knowledge of subject. Rudland reported that for summative assessment students also use some strategic approach, they identify topics to learn and take help from past OSPE papers, teachers note or some senior guidance.<sup>21</sup>

Some of the teachers in our study perceived *“we were not making the OPSEs up to mark, that's why students are not studying the subject in depth”* This was contradictory to Iqbal et al, study who reported that 48.3% of students were satisfied with the content and information level asked in the OSPE while 55.7% agreed that the tasks/skills asked in the OSPE were in accordance with their clinical practices.<sup>22</sup>

Momsen, in his study concluded, students selectively learn and practice the course content/skills that they think are critical to pass through an examination in a particular subject.<sup>23</sup> Same was observed in our study, as one of the teacher said *“Moreover the students are sharp and intelligent enough to guess, what likely questions they will get in the examination”*. In our study about 70% of teachers said OSPE is not ful-

filling its purpose properly as OSPE stations given to students comprises of very basic and theoretical knowledge, moreover lack of clinical skill testing at OSPE stations. Sample of commentaries includes "*OSPE is meant basically to check the clinical skill of the students, however the skills are not checked.*" Literature has shown that poor performance of students in any given assessment is not only because of poor understanding, but inappropriate structuring of question or task may cause students to gain superficial knowledge and inadequate reasoning strategies.<sup>24</sup>

All the participants' spoke of positive feelings and educational practices experienced with the OSCE. In our study participants were of perception that at least OSPE has led the students to take interest in instrument, pictures and X- rays, especially where the number of students are very high and it is not possible to accommodate all students in practical things like operation theatres. Literature also supports the use of teaching methodologies and learning materials that inspire students to practice deep learning strategies.<sup>25</sup>

OSPE helps to assess clinical competencies of students in structured, comprehensive and consistent manner. Research has shown that OSCE/ OSPE encourage and promote students to develop communication, physical examination and procedural skills.<sup>26</sup> In our study participants were also of similar views as one of the teacher said. "*OSPE has always brought a positive change in the doctor's*". In Lavinia, study 83.4% teachers reported that OSCE scores truly represent important clinical skills that are required by the students to become a competent doctor.<sup>27</sup>

A total of 50% teachers and most of the students were of opinion that OSPE has actually improved their working efficiency by their practical skills and they felt more confident as house officer. A student commented he *has started performing the actual things which seniors weren't doing.*" This is also supported by literature, OSCE/OSPE is a form of assessment which can develop confidence in the students to deal with challenges in their practical life.<sup>28</sup> Contradictory to above comment one of the student said "*Whether this has added some impact towards practical life, not sure*".

About 90% of teachers felt that OSPE has brought positive change in students' attitude towards studies. It has stimulated them to work hard, has improved their clinical performance and their approach to learning. Another teacher commented "*I don't think any change as most of them are doing it for passing the examination*" It is also favoured by one of the student.

One teacher said "*Bring the students to a level so they can take some responsibility of their learning*". Literature also supports these students well when they take responsibility for their learning.<sup>29</sup>

Preparation and rehearsal of the OSCE/OSPE process is documented as a key concern in the research.<sup>31</sup> Similar findings were observed in our study, regarding

the preparation of OSPE both the teachers and students held the opinion that it is different from theoretical paper. To prepare for OSPE they have to go to wards and operation theatres. Another student said "*Our teacher used to guide us, we used to discuss among friends' circle, how to prepare, so basically multiple things helped us to prepare OSPE*".

Rudland reported, 91% of students opted for some practical preparation and only 15% opted for theoretical preparation, while the group practice instead of patient was found to be the commonest mode of preparation for OSCE.<sup>21</sup> Similar finding regarding group practice reported in our study as well. Barry et al, perceived that preparation in collaboration with other colleagues helped students to learn more and feedback from colleagues add value to their learning.<sup>32</sup> The finding that OSCE/OSPE stimulates the students to practice skills on each other, rather than on patients in clinical setting does not refute the importance of OSPE/OSCE as a learning tool.

In order to prepare and compete through examinations, students usually adopt blend of learning approaches that is, deep approach along with strategic learning. In our study to prioritise and learn important topics, students consulted past OSPE papers, internet, books on OSPE, topics pointed out by faculty during routine classes/wards, notes prepared by themselves and previous senior students. Similar preparation is carried out by students in study carried out by Rudland et al<sup>21</sup> and Barry et al.<sup>32</sup> Students perceived the preparation for OSCE/OSPE assessment very useful and rewarding.

An important factor is the way in which students invest time to study. In our research students were of different opinions, one of the students said "*Time for OSPE vary from individual to individual*". McCormick and Alexander Cin their study reported in US institutions on average, fulltime student spends only 14.7 hours per week and Canadian students studied an average 14.3 hours per week.<sup>33</sup> The less study time in our study as compared to other study may be because students were mainly talking about OSPE preparation rather than whole subject, once the subject is properly prepared than less time is required for OSPE preparation.

Some of the teachers in our study felt that in order to get the full impact of OSPE as a learning tool they need to define their objectives and then to teach the students according to those. This is reflected in research as well that assessment must appropriately test the aims and objectives set by medical faculty.<sup>34,35</sup>

With the introduction of OSPE not only there were changes in students' study strategies but teachers also modified their attitude towards teaching. They also incorporated the changes in their teaching methodology which were found to be helpful for students to prepare OSPE. This is in accordance with research, Fidmentin his study reported in order to sensitise the students to

assessment they need to be given full information regarding assessment method and the teacher should discuss that in detail with students.<sup>36</sup>

The same is the case in our study, since the introduction of OSPE teachers have also brought changes in their teaching methodologies and their guidance helped students' to cope with the stress of OSPE, leading to better performance. Teachers have made arrangement to assess clinical skills regularly with formative OSPE and long case viva throughout the year. This has brought a definitive change in our students' behaviour. *"when we take their test and their OSPE sessions this partially relieve their anxiety and stress during examinations"*.

Finding from other studies also supported this.<sup>37</sup> The non-availability of appropriate supervision and guidance from teacher affect their image as a role model<sup>38</sup> and can let the students to develop surface or strategic learning approaches.<sup>39</sup> Most of the students were of the opinion that their coaching in Obstetrics and Gynaecology was good. Students stated that their motivation and study strategies were linked to teaching methodologies.

### Conclusion and Recommendations

There is no doubt that assessment has an influence on students learning strategies and it also directly or indirectly influences the teachers' instructional methodologies.

OSPE is a valuable learning tool. It has good reliability, validity and education impact, as it not only assesses the cognitive base of Bloom's taxonomy but also assesses the attitude and skill of the students. Therefore, in this study participants emphasized that with OSPE students not only need to read the subject in depth but they also need to bring a change in their learning strategy and behaviour. In detail, this develops them into deep and strategic learner. Furthermore, it helps students to learn self-assessment and to achieve higher goals.

Faculty also emphasized the need to constructively align the OSPE to curriculum objectives. They said this type of assessment provide opportunities to measure clinical skill competencies. Therefore, it should not be wasted in assessing theoretical knowledge. The findings conclude that students appreciated the OSPE as a valuable learning and assessment tool. Evaluation and assessment of students during their teaching and learning plays a vital role both for students and their trainers to improve students in depth learning and as well as faculty development.

### ACKNOWLEDGMENTS

We are grateful to The University of Health Sciences staff for their support and guidance for writing this paper.

### Authors' Contribution

AB is the main investigator of the study. JSK reviewed, modified and edited the whole data according to the subject. ST&RYhelped in analysis and triangulation of data.

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