

**STUDENTS' AND LECTURERS' PERCEPTION OF OSCE, IN
PUSAT PENGAJIAN SAINS KESIHATAN, UNIVERSITY SAINS
MALAYSIA DEGREE NURSING PROGRAMME**

By

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LIST OF ABBREVIATIONS

- OSCE** : Objective Structured Clinical Examination.
- OSPE** : Objective Structured Practical Examination.
- SD** : Standard Deviation.
- 95%** : 95% Confidence Interval.
- SPSS** : Statistical Package for Social Sciences.
- PPSK** : Pusat Pengajian Sains Kesihatan.
- USM** : Universiti Sains Malaysia.
- SPs** : Standardized Patients.

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PERSPEKTIF PELAJAR DAN PENSYARAH TENTANG OSCE DI PPSK, PROGRAM IJAZAH MUDA KEJURURAWATAN USM

Abstrak

Kajian ini bertujuan untuk menilai perspektif pelajar dan pensyarah tentang kemudahan kaedah penilaian OSCE di PPSK, bagi program ijazah muda kejururawatan USM. Ini adalah kajian non-experimental yang melibatkan seramai 109 orang pelajar dan 11 pensyarah dari program ijazah muda kejururawatan USM di PPSK pada tahun 2007. Kedua-dua kumpulan ini (pelajar dan pensyarah) sengaja dipilih dari kalangan program ijazah muda kejururawatan USM, PPSK. Pelajar dan pensyarah yang tidak memenuhi kriteria pemilihan awal dikecualikan dari kajian ini. Kumpulan yang terpilih ditemuduga menggunakan soalan soal selidik berstruktur.

Keputusan menunjukkan bahawa 57 pelajar (52.3%) melihatnya sebagai sesuatu yang bermanfaat dari segi pendidikan dan 66 pelajar (60.6%) melihatnya sebagai sesuatu yang wajar. Sementara itu 58 pelajar (53.2%) menganggapnya sebagai satu tekanan terhadap mereka. Seramai 7 pensyarah (63.6%) menganggapnya sesuatu yang bermanfaat dari segi pendidikan dan 6 pensyarah memandangi ia sebagai sesuatu kaedah yang tidak sesuai untuk penilaian.

Keputusan analisis ANOVA sehalu yang berkaitan dengan skor perspektif pelajar bahawa ia OSCE mempunyai manfaat pendidikan dan satu tekanan dengan tahun pengajian, menunjukkan tiada kaitan yang signifikan dengan skor yang terbabit. Namun begitu keputusan menunjukkan terdapat kaitan yang signifikan antara tahun pengajian dengan

skor sebagai sesuatu yang wajar. Pelajar tahun empat di dapati mempunyai skor perspektif yang lebih rendah.

Keputusan ujian non-parametrik (Kruskal-Wallis) skor perspektif pensyarah terhadap OSCE yang bermanfaat dari segi pendidikan dan sesuai di kalangan pensyarah yang mempunyai pengalaman yang berbeza menunjukkan bahawa tiada perbezaan yang signifikan antara pensyarah yang mempunyai pengalaman OSCE yang berbeza.

Setiap kaedah penilaian mempunyai masalah atau kelemahan tersendiri. Disebalik kebatasan-kebatasan pendekatan OSCE, ia tetap mempunyai kebaikan dan kekuatannya. Oleh itu kaedah penilaian ini ia perlulah dilihat dalam konteks kekuatan dan kelemahan yang ada.

Kajian ini juga telah mengenal pasti cabang-cabang lain untuk kajian lanjut. Satu kajian membujur yang lebih luas juga perlu dilakukan untuk memasti keberkesanan OSCE dalam program pendidikan kejururawatan.

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Abstract

The aim of this study is to assess the perception of students and lecturers toward the utility of OSCE as a method of assessment in PPSK, USM degree nursing programme. This study was a non-experimental study involving 109 students and 11 lecturers from PPSK, USM degree nursing programme in the year 2007. These two groups (students and lecturers) were selected purposively from PPSK, USM degree nursing programme. Students and lecturers who did not meet pre-determined criteria were excluded. The selected groups were interviewed using structured questionnaires.

The results indicate that although the OSCE was perceived as an educational benefit by 57 students (52.3%) and as fair by 66 students (60.6%) and as an educational benefit by 7 lecturers (63.6%), the students also acknowledged it as stressful (58 students (53.2%)) and by the lecturers as unfeasible (6 ,54.5%) as a form of assessment.

The one-way ANOVA analysis result of the association of the total students' perception score of the educational benefits and stress of OSCE to the students' year of study showed that there was no significant association between students' year of study and the educational benefits perception score or the stress perception score from OSCE. However, the result also revealed there is significant association between students' year of study and the fairness perception scores. The result showed that fourth year students had lower perception scores.

The result of non-parametric test (Kruskal-Wallis) of the total lecturers' perception score of the educational benefits and feasibility of OSCE for differences among lecturers according to year of OSCE experience showed that there were no significant differences by lecturers' years of OSCE experience.

Any form of assessment has its problems or concerns. Although there are some limitations to the OSCE approach it still has its advantages and must therefore be viewed in the context of the strengths and limitations compared to other forms of assessment. This study has identified many areas for further exploration. A larger longitudinal study is needed to establish the effectiveness of OSCE within nurse education programmes.

CHAPTER ONE

INTRODUCTION

1.1. Assessment to measure clinical competence/performance in nursing.

The assessment of undergraduate nursing students' clinical competence and clinical performance is a challenge for most nursing programs (Brown, 2000; Nicol & Freeth, 1998; While, 1994).

Clinical competence is defined in terms of what is expected of a student at a particular level of training. Clinical performance is defined as what a student does in actual clinical practice. Although nursing educators focus on assessing clinical competence it must be with the prediction of clinical performance in mind.

Bearing in mind the definition provided above it is apparent that the assessment of clinical competence will require assessment of knowledge, relevant skills and the application of these to a clinical problem. Of the components of clinical competence listed here, the assessment of knowledge is understood by far the best. This is fortunate because there is considerable evidence to suggest that knowledge of a domain is the single greatest determinant of expertise (Glaser, 1984).

However, it should be clear that it is insufficient to measure only knowledge as a predictor of clinical performance. The assessment of clinical competence in terms of knowledge application is equally important, though much more problematic, and so has received considerable attention in recent years (Miller, 1990).

The setting where the assessment of clinical competence is usually performed is in clinical settings, such as hospital wards, and formal examinations. Nurses in undergraduate and postgraduate education spend a great deal of time in contact with patients under the direct supervision of a faculty supervisor.

Direct contact with real patients with real clinical problems is as close to clinical performance as trainees can get. This setting would seem an ideal opportunity to assess the higher order elements of competence such as problem solving, communication skills and ethics.

The other setting in which clinical competence can be measured is in formal examinations. The challenge for nursing educators has been to produce reliable and valid examination techniques for measuring the complex skill set of clinical competence such that they can be used with confidence in summative assessment.

It has long been accepted that to obtain a valid measure of clinical competence the examination should simulate, at least in part, a real clinical situation. The traditional bedside examination, in which an examiner would ask a student to demonstrate specific skills on a patient, was used for many years because it brought the examiner, student and patient together.

However, the reliability of this approach was poor because a student's score was dependent to a large degree on the examiner and patient and not just on the student's competence (Hubbard et al, 1965).

Moreover, in response to the dynamic nature of nurse education and as a reflection of changing health care needs, the processes involved in the preparation of a competent nurse are constantly reviewed. Experiential learning plays a major role in any practice based discipline. However, the errors that inevitably arise through experiential learning have to be such that they do not result in unsafe care for patients. This means that whilst students are building up their confidence in their own practice with the aim of becoming competent practitioners, the educational process has to be carefully constructed to ensure appropriate pace and process of learning.

The objective structured clinical examination evolved out of attempts to maintain the ethnical simulation while improving on the reliability of exam by controlling the variability associated with the examiner and patient (Harden & Gleeson, 1979), as well as a means of overcoming the problems inherent in the assessment of clinical competence in medical students and in postgraduate medical education (Campbell & Murray, 1996). OSCE is acknowledged as a valuable tool for both formative and summative clinical evaluation and aims to be an objective rather than a subjective process (Bramble, 1994).

This assessment method specifically addressed the problem of content specificity and the resultant poor reliability of assessment events based on limited sampling of trainee performance (Wass et al 2001; Van der Vleuten & Schuwirth, 2005). OSCEs were designed to sample a greater number, and wider range of performance assessment tasks.

Typically candidates rotate through 10-20 stations, 10 minutes or less per station, at which examiners directly observe candidates performing one or more clinical tasks (Smee, 2003).

1.2. The Utility of assessment practices.

The utility of an assessment procedure refers to the overall usefulness or fitness for purpose of a specific test instrument (Van der Vleuten, 1996; Crossley et al, 2002). The key parameters that determine the utility of assessment practices include reliability, validity, feasibility, acceptability, educational impact and resource requirements (Van der Vleuten 1996; Crossley et al, 2002).

1.2.1. Parameters determining the utility of assessment practices.

The selection of a particular assessment method inevitably involves compromises and trade-offs (Van der Vleuten, 1996; Swanson et al 1995; Van der Vleuten & Schuwirth, 2005). The critical issue is whether these compromises and trade-offs are made at random, i.e. out of ignorance, or whether they represent a conscious decision on the part of the clinician-educator choosing the assessment tool(s).

In order to facilitate the decision-making process, van der Vleuten provided a very useful conceptual framework outlining the key parameters that determine test utility: (1) reliability, (2) validity, (3) educational impact, (4) acceptability, and (5) resources required (Van der Vleuten , 1996).

However, Crossley recently rephrased these five determinants of test utility into two categories: (1) parameters indicating the rigor of a test, i.e. reliability and validity; and

(2) parameters determining the practicality of a test, i.e. feasibility, cost (resources required) and acceptability (Crossley et al, 2002).

For the purpose of this thesis, I focus on the assessment utility parameters determining the practicality of test defined by Crossley and colleagues, and the parameter of educational impact defined by van der Vleuten. The parameters of validity and reliability of assessment utility are not the major focus of attention of the work described in this thesis.

1.2.1.1. Parameters determining test practicality.

The practicality (feasibility) of assessment processes is primarily determined by the resources, human and infrastructure (including equipment), required to perform the test procedure and the acceptability of the test procedure to the primary stakeholders, i.e. the examiners and the examinees.

The resources required to conduct an assessment process are entirely dependent upon the format of the test process. For example written tests usually require a venue, adequate seating and desk space for all candidates, basic stationery and supervision by one or more members of staff. However, the use of inefficient assessment methods frequently continue without giving due consideration to these fundamental issues.

The second determinant of assessment utility, the acceptability of assessment processes to the relevant stakeholders, is not extensively discussed in the literature. Norman and colleagues addressed the question some 15 years ago, and concluded that student perceptions of tests were influenced by their beliefs about the fairness of the test, the

perceived educational value of the test, and the intended use of the test results (Norman et al, 1991). In the same paper they also discuss the factors impacting upon examiner satisfaction, the time spent on preparing, conducting and marking the test, the time required to train examiners and a belief in the intrinsic value of the test.

Although the acceptability of a test is clearly important to both examiner and examinee, it has not been a major focus of attention of the clinical education literature.

1.2.1.2. The educational impact of assessment practices.

All major stakeholders should benefit from the implementation of assessment. From the students' perception, the educational impact may include the regular peer judgments on performance, identifying individuals' strengths and weaknesses and the provision of constructive feedback on progress, all of which can enhance learning. The examiners may benefit from increased awareness regarding individuals' performance, facilitation of targeted teaching and easier recording of learning outcomes. The organization benefits through a reputation of delivering high quality education and training, and ensuring that individuals are competent and adequately prepared for practice.

The impact of summative and formative assessment practices on student learning behavior is well documented (Frederiksen, 1984; Crooks, 1988; Driessen & van der Vleuten, 2000). Crooks provided a comprehensive review of all the literature relevant to classroom-based assessment practices and concludes that test format, content and frequency significantly impact upon student learning behavior (Crooks, 1988).

These are similar to the observations made earlier by Frederiksen. These early papers urged educators to recognize the educational value of assessment events and focus attention on making learning, rather than measurement, the primary outcome of assessment activities. Frederiksen considerably broadened the concept of assessment by stating that a “test may be thought of as any standardized procedure for eliciting the kind of behavior we want to observe and measure” (Frederiksen, 1984).

This recognition of the potential to strategically use assessment processes to manipulate student behavior and reinforce desirable learning behavior has again been recently emphasized (Driessen & van der Vleuten, 2000; Gibbs, 1999). They also emphasized the critical importance of concordance between programme learning outcomes and the format and content of assessment processes used to determine achievement of these outcomes.

Stillman and colleagues suggested that the increase in observed clinical encounters was largely driven by a conscious effort on the part of faculty to improve the clinical skills of students during their clinical clerkship attachments. Thus, it may be plausible to suggest that changes in assessment practices may also impact upon staff teaching behavior, to a greater or lesser extent (Stillman et al 1991).

More recently, attempts have been made to strategically direct student learning by selecting assessment methods that reinforce desirable learning behavior (Driessen & van der Vleuten, 2000; Gibbs, 1999).

Marton and Säljö identified two key approaches to learning: a “surface” approach characterized by rote learning and a “deep” approach whereby learners attempted to understand underlying principles, concepts and ideas and interpret them in a personally meaningful way (Marton & Säljö, 1984). Subsequently Entwistle and colleagues added a third approach based on their observation of the impact of assessment on learning strategies (Entwistle et al 1979; Entwistle & Ramsden, 1983). They called this approach “strategic” learning, which defined as “the conscientious, well-organized learner whose study methods are closely linked to achievement motivation and the desire to excel in an upcoming assessment event”.

1.2.2. Assessment practices and students stress.

All examinations in general may cause stress to the students. The high level of stress in students undergoing examination reported in the literature as causing physiological effects to the point that reduce levels of immune system function (Kiecolt et al, 1999) and led to poor performance (Clarke, 1984; Quick and Quick, 1984).

The assessment of student performance is a stressful event for most college students. Teachers and students often have different goals tied to assessment. Teachers are trying to assess learning or mastery, whereas the students are often focused on the grade. As a result students are often defensive and frustrated about the assessment of their performance.

In addition to the pressure of meeting academic demands, students are at an essential developmental stage, learning how to be independent adults, forming their unique personalities, creating personal value systems, developing significant relationships, and

choosing career paths. Usually, a certain degree of stress will motivate individuals into productive functioning; too much stress, on the other hand, often interferes with positive outcomes.

Sieber, O'Neil and Tobias (1977) quoted in Champion (1989) described anxiety as, 'The set of phenomenological, physiological and behavioral responses that accompany concern about possible failure in any testing or evaluative situation'. Stress and anxiety are believed to be significant elements of all instructional environments and are considered normal and inherent to the learning process.

A minimal level of stress and anxiety combined with motivation may lead to increased task performance. A certain amount of stress can actually enhance performance according to Kagan and Fasan (1988). However, although stress and anxiety are normal and to be expected an increased level is considered to be harmful to student learning. Most researchers investigating the effects of anxiety on learning agreed that a negative relationship exists between anxiety and academic performance.

It's agreed in the literature that students' anxiety is a factor that can influence performance in OSCE examination. Barrows (1987) stated that one of the advantages of using SPs over real patients is that student anxiety may be reduced. These comments however are based largely upon the author's experience in using this educational technology.

McKnight et al (1987) also reported on anxiety levels in a non- compulsory OSCE for level three B.Sc.N. and post-graduate diploma nursing students. Seventy-seven students

participated in the examination and 50 percent found it to be more stressful than the usual evaluation system employed for the assessment of clinical skills, which was direct observation.

Edwards & Martin (1989) also reported on the use of an OSCE in a Canadian occupational therapy program. They report that one of the disadvantages of the OSCE is that students remain anxious despite orientation to the format and pre-test practice sessions.

1.3. Description of the degree nursing programme in School of Health Science, University Sains Malaysia.

The School of Health Sciences USM was established at the Health Campus in Kelantan on the 1st of November 1999. The School's main objective is to holistically expand the Health Sciences disciplines. Within the field of Health Sciences are included areas of specialties like Nursing, Dietetics, Biomedicine, Forensic Science, Medical Radiation, Exercise and Sports Science, Audiology and Speech Pathology. Thus the establishment of the School of Health Sciences is a direct effort of USM to fulfill the national requirement for manpower in the areas of health and paramedical disciplines which is currently experiencing a severe shortage of trained personnel.

The design of PPSK, USM undergraduate Nursing Program is based on the criteria set by the Malaysian Nursing Council which has maintained that any nursing educational program must have sufficient nursing skills training component for the purpose of registration with the Council. It also fits the aim of the university to produce nursing graduates who possess excellent academic knowledge as well as competent clinical skills as to achieve the country's aspiration in producing a healthy society.