UNIVERSITI SAINS MALAYSIA

MEDICAL AND NURSING STUDENTS' VIEWS AND ATTITUDES OF OBJECTIVES STRUCTURED CLINICAL EXAMINATION AS A COMPREHENSIVE PERFORMANCE ASSESSMENT

BY

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LIST OF ABBREVIATIONS

ANOVA	-	Analysis of Variance
CINAHL	-	Cumulative Index to Nursing and Allied Health Literature
EBSCO	-	Elton B Stephens Company
MEDLINE	-	Medical Literature Analysis and Retrieval System Online
OSCE	-	Objective Structured Clinical Examination
USM	-	Universiti Sains Malaysia

ABSTRACT

This is a cross sectional survey study investigating the medical and nursing students' views and attitudes of Objective Structured Clinical Examination (OSCE) as a comprehensive performance assessment. A sample of 172 students was selected from medical and nursing students who had experience an OSCE participate in this study. A set of questionnaire was used for data collection. The questionnaire consists of demographic data and four component of OSCE. The component measured are medical and nursing students' views and attitudes towards the OSCE, students' preparation prior the OSCE, perception aftermath the OSCE and perception to the overall OSCE process. The hypotheses of the study were tested using independent t test through SPSS version 19 for statistical analysis. The results indicated that there is no significance difference between medical and nursing students' views and attitudes towards the OSCE ($p= 0.449$). However, the result shows that there is a significance difference between medical and nursing students' views and attitudes towards the OSCE preparation and performance ($p= 0.001$). There is also a significance difference between medical and nursing students' views and attitudes towards the OSCE aftermath ($p= 0.023$) and the overall OSCE process (0.003).

Keywords: Medical students, Nursing students, Views, Attitudes, OSCE, Assessment, Performance

ABSTRAK

Kajian ini bertujuan mengkaji pandangan dan sikap pelajar perubatan dan kejururawatan terhadap OSCE sebagai penilaian menyeluruh. Seramai 172 subjek telah dipilih di kalangan pelajar perubatan dan kejururawatan yang pernah menduduki OSCE mengambil bahagian dalam kajian ini. Satu set borang soal selidik telah digunakan sebagai bahan kajian untuk pengumpulan data. Borang soal selidik mengandungi maklumat peribadi subjek dan empat komponen OSCE. Komponen OSCE yang dikaji adalah pandangan dan sikap pelajar perubatan dan kejururawatan terhadap OSCE, persediaan pelajar sebelum OSCE, pandangan selepas OSCE dan pandangan terhadap keseluruhan proses OSCE. Hipotesis kajian ini telah diuji dengan menggunakan ujian t sampel tidak bersandar menggunakan SPSS versi 19 untuk analisis statistik. Hasil kajian menunjukkan tidak terdapat hubungan yang signifikan di antara pandangan dan sikap pelajar perubatan dan kejururawatan terhadap OSCE ($p= 0.449$). Keputusan juga menunjukkan terdapat hubungan yang signifikan di antara pandangan dan sikap pelajar perubatan dan kejururawatan terhadap persediaan dan persembahan OSCE ($p= 0.001$). Terdapat juga hubungan yang signifikan di antara pandangan dan sikap pelajar perubatan dan kejururawatan terhadap OSCE ($p= 0.023$) dan keseluruhan proses OSCE ($p= 0.003$).

Kata kunci: Pelajar Perubatan, Pelajar Kejururawatan, Pandangan, Sikap, OSCE, Penilaian Prestasi.

CHAPTER 1 INTRODUCTION

1.1 Introduction

The objective structured clinical examination (OSCE) is one of the strategy to students' assessment in which aspects of clinical competence are evaluated in a comprehensive, consistent and structured manner, with close attention to the objectivity of the process (Byrne & Smyth, 2008). Current literature has shown that the approach to students' assessment plays a major role in the process of medical and nursing education and provides learning experience for students as well as offered a valid means to evaluate students' clinical performance in a holistic manner (Ahmad, Ahmad, & Baker, 2009), the literature also has shown that OSCE was perceived as a stressful experience and intimidating by a considerable percentage of students, particularly first year nursing students (Iqbal, Khizar, & Zaidi, 2009). This concurs with the experiences of the researcher studying in a tertiary teaching hospital. Assessment techniques can appear to have an impact on study strategies and influence the performance of students. Faulty methods of assessment can lead to wrong decisions (pass or fail in certain areas) and this approach was reported to be deleterious to the future activity of students (Barman, 2005; Newble & Entwistle, 1986).

This chapter outlines the background to the quantitative study into the medical and nursing students' views and attitudes of OSCE as a comprehensive performance assessment, the purpose of the study, and the aims of the study with the general and specific objectives, research questions and hypothesis, operational definitions of term

and justification for, and significance of the study. It also details the thesis structure outline.

1.2 Background of the Study

OSCE has been used to provide formative and summative assessment in various medical disciplines worldwide since the mid 1970s and in more recent years has been increasingly utilized to assess students from nursing and the allied health professions (Rushforth, 2007); including non-clinical discipline (Carraccio & Englander, 2000; Pierre, Wierenga, Barton, Branday, & Christie, 2004). One of the main objectives of OSCE was to establish an internal quality assurance system that aimed to improve teaching and learning strategies; and evaluation methods for undergraduates. Another important objective was to ensure that both nursing and medical students have basic mastery of clinical skills upon graduation.

Both the School of Medical Sciences and School of Health Sciences located in the Health Campus, Kelantan, conducts OSCE as approaches in formative and summative assessment and evaluation in medical and nursing education. Medical and nursing students were exposed to OSCE in which aspects of competence such as communication, history-taking, technical and procedural skills were assessed in a structured and formal manner.

Ahmad et al. (2009) pointed out that OSCE offered the students' clinical performance in a holistic manner but several felt that the examination was stressful and intimidating; and at the same thread can be a strong anxiety-producing experience as student progress through OSCE (Allen, Heard, Savidge, Bittengle, Cantrell, &

Huffmaster, 1998). Implementing OSCE has been challenging, it has been described that the approach of OSCE posed biases and subjectivity in the evaluation (Ross, Carroll, Knight, Chamberlain, Fothergill-Bourbonnais, & Linton, 1988) and perceived stress experienced by some students (Iqbal et al., 2009). The researcher believes that the successful use of OSCE depend greatly on its acceptability from students' response about the use of this assessment method worth to be investigated.

1.3 Rationale for the Study

It was felt timely to investigate both the medical and nursing students' views and attitudes of OSCE as a comprehensive performance assessment. These findings were thought that it would enhance the OSCE's preparation process and assessment, the stress and anxiety present that associated with the examination and possibility of future review of the OSCE process. The finding of this study compare the students' views and attitudes between the OSCE experienced by medical and nursing students of USM. The implication on the student's education, assessment and performance are reviewed in relation to the views and attitudes of the students toward the OSCE.

1.4 Problem Statement

Assessing students' competence is most imperative for the reasons of client safety, monitoring students' progress, motivate students and measure achievement. Evaluation of clinical competence has been reported as problematic in medical and nursing education because of its subjectivity and complexity in OSCEs. Researchers have indicated that a lower proportion of students (28%) from both developed and developing countries perceived OSCE to be stressful (Allen et al., 1998; Dadgar, Saleh, Bahador, & Baradaram, 2008). The reasons for stress may include receiving

inadequate prior instructions, the format to students and their inexperience with it, and the presence of faculty-observers at each station were intimidating; and to most candidate timely feedback was not offered after the OSCE. Concerns about intimidation during the exam have been reported in literatures (Duffield & Spencer, 2002; Imani & Hosseini, 2005; Pierre et al., 2004).

In view of the added value of assessment in serving as a learning opportunity, the lack of a regular feedback session on candidates' performance needs corrective measures in the practice of OSCE. Despite the complaints of intimidation at manned stations, the majority of respondents agreed that OSCE was less stressful than other types of tests in their clinical attachments (Shitu & Girma, 2008). Researchers indicated that this attitude appears to contrast with findings from other similar studies in several medical schools that indicated OSCE to be a strong anxiety-producing experience (Duffield & Spencer, 2002; Imani & Hosseini, 2005; Van Der Vleuten, Dolmans, & Scherpbier, 2000). Such a difference could reflect the magnitude of stress our students' experience in their long case and short case examinations in the clinical years, perhaps as a result of an unsympathetic interaction between examiner and examinee among other factors. In light of this, a study that investigate the medical and nursing students' views and attitudes towards OSCE as a comprehensive assessment is warranted, as medical and nursing education institutions in Malaysia are now at a stage where they want to be recognized internationally. This study will inform the medical and nursing education system and hopefully lead to improvement in the OSCE assessment of undergraduate students.

1.5 Purpose of the Study

The purpose of this study is to investigate the undergraduate medical and nursing students' views and attitudes of OSCE as a comprehensive performance assessment. Specifically, the study aims to determine how these undergraduate students perceive the OSCE assessment process and aftermath from the examination. The objectives were formed following an extensive review of the available literature, unfortunately there was paucity in the literature regarding the topic from the Malaysian perspective and this added to the rationale for undertaking this study.

1.6 Aims of the Study

This study is conducted with the intention of narrowing this apparent gap in an effort to refine the OSCE process as a comprehensive performance assessment and derive the maximum out of the suggested benefits.

1.6.1 General Objective

This cross-sectional survey was conducted among undergraduate medical and nursing students with the objective of evaluating both group of students' views and attitudes of OSCE as a comprehensive performance assessment in the medical and nursing programs.

1.6.2 Specific Objectives

a) To assess the medical and nursing students' views and attitudes towards OSCE as a comprehensive assessment

b) To determine the medical and nursing students' views and attitudes in the preparation process and performance in the OSCE

c) To identify the medical and nursing students' views and attitudes towards the OSCEs aftermath

d) To assess the medical and nursing students' perception of the overall OSCE process

1.7 Research Questions

a) What are the medical and nursing students' views and attitudes towards the OSCE as a comprehensive assessment?

b) What are the medical and nursing students' views and attitudes towards their preparation and performance in the examinations?

c) What are the medical and nursing students' views and attitudes towards the OSCEs aftermath?

d) What are the medical and nursing students' perceptions of the overall OSCE process?

1.8 Research Hypothesis

Hypothesis 1 : There is significance difference between medical and nursing students' views and attitudes towards the OSCE ($H_A \neq Ho$).

Hypothesis 2 : There is significance difference between medical and nursing students' views and attitudes towards the OSCE preparation and performance ($H_A \neq Ho$).

Hypothesis 3 : There is significance difference between medical and nursing students' views and attitudes towards the OSCEs aftermath ($H_A \neq Ho$).

Hypothesis 4 : There is significance difference between the medical and nursing students' perception to the overall OSCE process ($H_A \neq Ho$).

1.9 Operational Definitions of Term

The following operational definitions of terms are highly contested notions. Some terms are the subject of ongoing debate about their theoretical construction, meanings and applications in practice. Therefore, it is necessary to give definitions of the way the terms are used in the context of this research study. For the purpose of the study, key terms and phrases are defined.

Assessment - Assessment is defined as a measurement of student learning and achievement within a certain period (Billing & Halstead, 2005).

Attitude - The options and feelings that an individual usually have about something; the way that a person behave towards someone or in a particular situation especially when this shows how one feel ("Longman Dictionary of Contemporary English," 2003). In this study, the attitude is related to undergraduate medical and nursing students' attitude towards OSCE as a comprehensive assessment.

Competency - Competency means 'the combination of skills, knowledge, attitudes, values and abilities that underpin effective and or superior performance in a profession/occupational area' (Australian Nursing & Midwifery Council (ANMC), 2005)

Medical student - A person accepted into a medical school and enrolled in an educational program in medicine, with the goal of becoming a

medical doctor, is referred to as a medical student. In this research, the student studying in the medical program, School of Medical Sciences, USM.

Nursing student - A student in a program leading to certification in a form of nursing. In this study, the student studying in the nursing program, School of Health Sciences, USM.

OSCE - An examination where students demonstrate their competence under a variety of simulated conditions (Rushforth, 2007).

Students' assessment - Assessment for students in the professional stage consisting of several forms, such as clinical examination, clinical performance evaluation, nursing and/ or medical care reports, and case presentation (Gaberson & Oermann, 2007).

Performance - The act of performing or the state of being performed (Goel, 2008)

Views - Subjective evaluation of relative significance; a point of view: The ability to perceive things in their actual interrelations or comparative importance ("The American Heritage Dictionary of the English Language," 2006).

1.10 Justification for, and Significance of the Study

Early review on the assessment of clinical skills indicated that competence and performance, raises an interesting point concerning the performance and action components of future graduates. They indicated that, examinations should be designed to test students in conditions closely related to their future professional function (Allen et al., 1998; Miller, 1990). OSCEs can be intimidating and stressful (Allen et al., 1998; Dadgar et al., 2008), including the running cost of the OSCE is outweighed by the education benefits (Khattab & Rawling, 2001) as well as the students' satisfaction to have learned something useful. Although there are a few drawbacks in using OSCEs they should not be neglected. Many studies on students' preparation and performance on the OSCE have been completed, but only a few studies address both undergraduate medical and nursing students' perception about these examinations.

A study related to faculty feedback given after the OSCE, used a post-OSCE survey of students indicated that students welcomed the idea of receiving feedback after the examination this feedback approach was helpful and had few negative effects (Hollingsworth, Riichards, & Frye, 1994). This study can unravel elements in the OSCE preparation process and addressed problems faced by students during the examinations. The result of this study may benefit undergraduate medical and nursing students, medical and nursing lecturers in implementing better teaching and learning processes, including assessment activities, within medical and nursing education institutions in Malaysia.

1.11 Thesis Structure

This thesis comprised of five chapters. This introductory chapter is meant to explain the study and give a brief overview of its background; the rationale for the study; the purpose of the study and its objectives, including the research questions; and justification for and significance of the study. Following this introductory chapter, Chapter 2 sets a review of the literature pertinent to this study topic and a conceptual framework adopted from the 'Reflective Simulation Framework (RSF)', originally designed in 2004 by Jones and Alinier (2006) used in this study. This is followed by a discussion of the research methodology and methods in Chapter 3. Chapter 4 is a presentation of the data analysis and result findings while Chapter 5 details the discussion and conclusion, the study's strengths and limitations and recommendation for nursing practice, nursing education and nursing research; and suggested contribution to the theory development.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

Assessment of clinical skills through the use of objective measures has been studied since 1964 (Barrows & Abrahamson, 1964) and currently objective structured clinical examinations (OSCEs) are conducted at many medical and nursing schools. A literature review was conducted to examine the use of OSCEs in nursing and medical education utilizing the key words nursing, competence, OSCE, and objective structured clinical evaluation. The databases examined included were CINAHL, OVID, ProQuest, EBSCO, Cochrane Database of Systematic Reviews, Academic Search Premier and MEDLINE. The purpose of reviewing all the related literature is to explore research on medical and nursing students' views and attitudes of OSCE as a comprehensive performance assessment or related researches.

2.2 Competence and Competency Assessment

Like all education processes, clinical learning needs to be assessed. Assessment of competence of practicing students, such as undergraduate medical and nursing students has been identified as crucially important in maintaining professional standards, identifying areas for professional development and educational needs and ensuring that nurse competencies are put to the best possible use in patient care (Dolan, 2003; Husband, Banks-Howe, Boal, & Hodgson, 2000). They argued that in view of the holistic definition of competence, there is general agreement that competence assessment in medicine and nursing cannot solely be based on demonstration of theoretical content, knowledge or technical skills but should also involve some inference about a student's attitudes and practice.

Like all education processes, clinical learning needs to be assessed. Assessment of clinical competence is an essential requirement of health professional education. Since its development in the 1970s, the Objective Structured Clinical Examination (OSCE) has gained acceptance as a benchmark for clinical skills assessment (Barrows & Abrahamson, 1964; Bartfay, Rombough, Howse, & LeBlanc, 2004). The OSCE is defined as "an approach to the assessment of clinical competence in which the components of competence are assessed in a well planned or structured way with attention being paid to objectivity" (Harden, 1988), or as an assessment of well-defined clinical skills (Ward & Willis, 2006). An OSCE requires each student to demonstrate specific skills and behaviors in a simulated work environment with standardized patients. The OSCE typically consists of a series of short assessment tasks or stations, each of which is assessed by an examiner using a predetermined, objective marking scheme (Bartfay et al., 2004; Major, 2005; Ward & Barrat, 2005). The OSCE has become a well-established method of assessment in medical education (Ward & Barrat, 2005) and is increasingly being used as a method of assessment in nursing and allied health curricula (Bartfay et al., 2004; Wessel, Williams, Finch, & Gemus, 2003).

2.3 History of Objective Structured Clinical Examination (OSCE)

The history of Objective Structured Clinical Examination (OSCE) was first described as an assessment tools for final year medical students to evaluate their clinical skills and competency by observing their clinical examination on real patient. It can be either short or long cases which involved different assessor and different patients from one student to another by testing a narrow range of student competence (Harden & Cairncross, 1980; Harden, Stevenson, Downie, & Wilson, 1975). However, the

process of OSCE result in considerable issues, assessor bias risk or issue of validity and reliability which later lead to modification of the OSCE by addressing this issue (Rushforth, 2007).

In Scotland, the OSCE started during the 1970s (Furlong, Fox, Lavin, & Collins, 2005) followed by medical school and residency programs in the United States in 1975 as an assessment tools in assessing clinical competency (Mahmoud & Mostafa, 2011) and spreads to other fields (Rushforth, 2007). Within few years, this assessment also spread beyond medical education to other health care professions including radiology (Marshall & Harris, 2000), physiotherapy (Nayer, 1993; Wessel et al., 2003); and nursing (Alinier, 2003; McKnight, Rideout, Brown, Cileska, Patton, Rankin et al., 1987; Ross et al., 1988).

Harden et al. (1975) also described OSCE consist of several stations and used either real patients or actors to test students' skills. There are also stations that require students to answer written questions related to previous station or visual stimulus such as ECG or photograph. Student movement between each station is control by a bell during the time interval with examiners whom stayed in each station throughout the session (Rushforth, 2007). Sometimes, it is divided to few components such as clinical data collection, interpretation of clinical data, use of clinical data which were assessed at different stations and students will perform specific skills or short assessment task in a simulated work environment and were assessed using a checklist by examiner (Mahmoud & Mostafa, 2011).

The OSCE itself enable students to collect clinical data by history taking and physical examination, identify problem by interpreting clinical data and plan interventions based on clinical data (Mahmoud & Mostafa, 2011).

In summary, an OSCE is typically a series of stations or exercises through which students rotate individually in order to test a broad spectrum of skills and knowledge. Each station relates to one or more skills areas and may be practical or theoretical; and students have to wait for a signal marking the end of the period before moving to the next station (Alinier, 2003).

2.3.1 OSCE Assessments: An Overview

Objective Structured Clinical Examination (OSCE) is an assessment method that is being increasingly used in medical and nursing education; and is geared to assess competencies in relation to communication, clinical reasoning, clinical examination, performing of procedures, analytical skills as well as other health related competency. The structure and the functioning of an OSCE is a series of stations/exercises through which students rotate individually to demonstrate a range of skills and knowledge (Gaberson & Oermann, 2007).

Reported benefits of OSCEs also include enhancement of skills acquisition through a hands-on approach, the opportunity for students to practice skills in a safe and controlled environment and the opportunity to combine both teaching and assessment. OSCEs have been identified as a satisfactory way of assessing communication, clinical skills, knowledge and intention (Jahan, Sadaf, Bhanji, Naeem, & Qureshi, 2011).

However, OSCEs have been reported as costly to run and can be time-consuming. A number of studies reported the OSCE setting to be stressful or intimidating for participants, although none compared the level of stress to other forms of formal examination. Time constraints at each station can also limit the ability for reflection. Inconsistencies between assessors and actors have been reported as a source of frustration and inconsistency for those being examined (Ahmad et al., 2009).

In addition to assessing the competence and performance of the examinee, OSCE has many advantages over traditional methods of evaluation like the conventional bedside long and short case examinations. In nursing, the approach cooperating both knowledge and skills were noted to enable the nurse educator in identifying problem areas in the curriculum (Mahmoud & Mostafa, 2011). Substantially, student's weaknesses and strengths can also be identified during OSCE session (Furlong et al., 2005). Mahmoud and Mostafa (2011) reported the need to focus on training students in managing their time and how to cope up with stress during the OSCE. This concurs with that of Walter and Adams's (2002) and Furlong et al.'s (2005) studies that opportunity through role-play can promote the student's understanding of the OSCE process (Furlong et al., 2005; Walter & Adams, 2002).

Assessment of student performance can be performed by ticking element either 'done' or 'not done' on checklist is an unbiased assessment, however it is insufficient to reveal student mastery of complex skills (Rushforth, 2007). Concurring with Rushforth's report, Newble (1986) identified that the use of checklist by examiners enhanced the inner-rater consistency. Furlong et al. (2005) indicated that the checklists scores are reliable but the approach cannot completely reflect the student's

performance. Apparently, it is believed to affect the score if the examiners are inexperience or fatigue during the OSCE session and the scores might be affected if the examiners are inexperience (Furlong et al., 2005).

A study done in 2001, points out that examiners who are fatigue might have poor concentration, lack of attention and stereotypical in their judgment (Humphris & Kaney, 2001). However, there is no evidence that OSCE duration will influence examiners and marks (Furlong et al., 2005).

A study on perception of bachelor pharmacy students in Malaysia on the use of OSCE to evaluate competency, found that OSCE to be helpful in highlighting areas of weaknesses in their clinical competencies. Seventy-eight percent agreed that it was comprehensive and 66% believed it was fair. About 46% felt that the 15 minutes allocated per station was inadequate. Most importantly, about half of the students raised concerns that personality, ethnicity and gender as well as inter-patient and inter-assessor variability were potential sources of bias that could affect scores (Awaisu, Nik Mohamed, & Al-Efan, 2007). However, an overwhelming proportion of the students (90%) agreed that the OSCE provided a useful and practical learning experience (Furlong et al., 2005).

A study done in 2010 also reported that most students felt that the OSCE accurately assessed their skill. In a different perspective, majority of students felt the tasks required in some stations required a higher degree of learning than they had achieved. They indicated deficiency in the students' learning abilities, the course curriculum, or the OSCE design and emphasizes that future efforts should include providing clear

instructions at OSCE stations and balancing the complexity of the competencies assessed in future examinations (Awaisu, Abd Rahman, Nik Mohamed, SH, & Mohamed Nazar, 2010).

Baez's study of 16 social work students, reported a significant increase in knowledge ($p<0.002$) after the OSCE. However, the study only tested the participants in the OSCE so there is no way of comparing the impact with another form of assessment on knowledge (Baez, 2005).

Mason et al.'s (2005) study involving 17 emergency nurse practitioners reported a statistically significant improvement between baseline and follow-up for students who participated in an OSCE at both time points ($p<0.05$). They found that the improvement was due to the written assessment component of the OSCE. The researchers report that the improvement may have been the result of participants being more familiar with the process at the second time point (Mason, Fletcher, McCormick, Perrin, & Rigby, 2005).

Alinier et al.'s (2003) study on undergraduate nursing education assessed the use of simulation training prior to participation in an OSCE on knowledge for a group of 99 student nurses. They found that both groups participated in an OSCE at two time points and performance improved at the second OSCE for both groups, in line with the findings from Mason's study. The group that received simulation training between the two examinations demonstrated a significantly greater improvement in performance compared with those who did not undertake the training ($p< 0.001$). Perceptions of stress and confidence were similar for both groups. Dadgar et al.'s

study (2008) on medical students in Pakistan reported that the majority of the students (70.8%) perceived OSCE as interesting and educative; and support for OSCE as an acceptable method to assess essentials of practical clinical skills (Dadgar et al., 2008).

In nursing assessment, OSCE is a common method to assess clinical competence and established as most valid, reliable and effective (Erfanian & Khadivzadeh, 2011). In addition to assessing competence performance of the student, OSCE has many advantages over traditional methods of evaluation. It is viewed as an effective assessment strategy in assessing the clinical nursing skills and can evaluate both the theoretical and practical aspects of students' competence in a more objective manner than assessment conducted in clinical setting (Mahmoud & Mostafa, 2011).

McWilliam and Botwinski's (2010) study examining specific aspects of the nursing OSCE toward developing a reliable and valid tool for evaluating selected students' clinical competencies reported that students perceived benefits in OSCEs during their nursing education. They recommend for the variety of case scenarios, frequency of updates, methods by which standardized patients should be trained, remediation and program requirements (McWilliam & Botwinski, 2010).

2.3.2 Factors that Influence Students' Performances in OSCE

In the aspect of student performance, an early study suggested that poor construction of checklist will cause the students to practice wrong approaches in examination (Van Luijk, Van Der Vleuten, & Schelven, 1990). Mahmoud and Mostafa (2011) study revealed that 55% of the Egyptian nursing students agreed that there is difficulty in time management of OSCE. Level of maturity or lack of practice in time management

were constrains faced by nursing students. Rushforth (2007) argued that the student's ability to perform when standardized patient were involved in OSCE. Condition when real patient is used will present their condition consistently and maximize validity. If simulated patient were used in OSCE, this can affect student's performance, hence affecting the reliability of the scores. In contra to Rushforth (2007), Furlong et al. (2005) suggested mannequins instead of real patients or simulated patients on modified OSCE.

Clinical assessor's objectivity is a recurrent issue in the student's assessment process. The problem of lack of objectivity in the assessment process occurs in assessment involves assessing knowledge, skills, and students' attitudes, which can be difficult to be measured (Kevin, 2006) and is compounded by the involvement of value judgments from the assessors (Chambers, 1998). To increase the objectivity of assessment, an assessor should be trained to measure standard criteria that have been established before the assessment is undertaken (Lankshear & Nicklin, 2000). It is also reported that preparation of the assessor is crucial and has a positive effect on increasing objectivity in the assessment process (Calman, Watson, Norman, Redfern, & Murrels, 2002).

Although preparation for assessment is essential, assessors' personal characteristics may also influence the assessment process. It is also points out that by nature, assessment is a human and uncertain process and consequently might involve personal or individual judgments during the assessment process (Ramsden, 2003). This is supported by early phenomenological study conducted in Victoria, Australia analyzing the experience of four clinical educators in their everyday live. One theme that

emerged from this study indicated 'being human'. This means that an assessor sometimes had mixed feeling relating to his/her relationship with students and it implies that subjectivity does creep into the assessment process (Ferguson, 1996).

2.3.3 OSCEs Aftermath: Students' Views and Attitudes of their Preparation and Performance

The student perception of preparation process is revealed in a study by Mahmoud and Mostafa (2011) by assessing the students' perception on the announcement of examination place and the staff cooperation in answering the questions about examination to the students. Their study also assessed the students' perception on the revision done prior the examination. They revealed 39% of the students considered announcement of the data and place of examination were very good while 41% of the student considered revision done before examination was excellent.

In a study by Furlong et al., (2005) on the oncology student revealed that 87% students were prepared for the examination format and 82.7% students were prepared for examination content by ensuring the students is repeatedly exposed to the tasks required. Additionally, demonstration and checklist of learning outcome are given to the students and they will be assessed in clinical area and in OSCE using similar checklist with the goal to enhance students' familiarity with the OSCE expectations. Similar to Mahmoud and Mostafa's (2011) and Dadgar et al.'s (2008) studies also revealed that 70% of students felt that they had received enough OSCE instruction prior sitting for OSCE.

Based on student's personal experience, it is congruent to indicate that the OSCE process can induced stress in student which is similar to the real world of clinical practice provoke (Rushforth, 2007). Furthermore, early study stated that coping doesn't promise success but a solution to a stressful condition (Folkman, 1982). Referring to Lazarus and Folkman (1984) statement, the problem-focused coping is explained by student seeking for information and the emotion-focused coping is explained by student regulating tension and emotional response to OSCE situation (Folkman & Lazarus, 1985). They further described that detailed explanation of OSCE format and content include clinical skills, theory, assessment process and examination procedure is believed to help in reducing anxiety. Students prepared for the OSCE format content and tasks required repeatedly can further reduced the student's anxiety (Furlong et al., 2005).

In the aspect of stress and anxiety, 77% of Egyptian nursing students (Mahmoud & Mostafa, 2011), 62.9% of medical students (Dadgar et al., 2008) and 90% of oncology nursing students (Furlong et al., 2005) perceived OSCE as stressful. Their studies reported that despite adequately prepared for OSCE, the students perceived OSCE as a stressful assessment method. A similar response from studies of Bujack et al. (1991), and Furlong et al. (2005) revealed OSCE as a stressful experience most often felt by students.

Early study reported positive and negative responses from student participants regarding student assessment preparation which indicates that there was not enough time for preparation in OSCE and some student support the importance of assessment preparation; and the words used on the assessment tools were sometimes confusing

and leads to inconsistent interpretation or perceptions of the assessment. The study found that the OSCE examines a narrow range of knowledge and skills, and does not test for history taking competence properly (Neary, 1999). Mahmoud and Mostafa (2011) found that the main skills can be gained from OSCE. This approach were most preferable by the Egyptian nursing students (Mahmoud & Mostafa, 2011)

2.4Reflective Simulation Framework (RSF): Conceptual Framework of the Study

Developed by Jones and Alinier in 2006, (Jones & Alinier, 2006), the Reflective Simulation Framework (RSF) was used as the conceptual framework for this study. The conceptual framework focuses on six dimensions to explore the simulated experience in order to enhance learning and practice. Crucially, the framework acts as a basis for multiple feedback systems. All of the concepts of the framework addressed during this study were apply and embed, simulation activity, feedback and review, self-appraisal, identify learning needs and planned action (Figure 2.1).

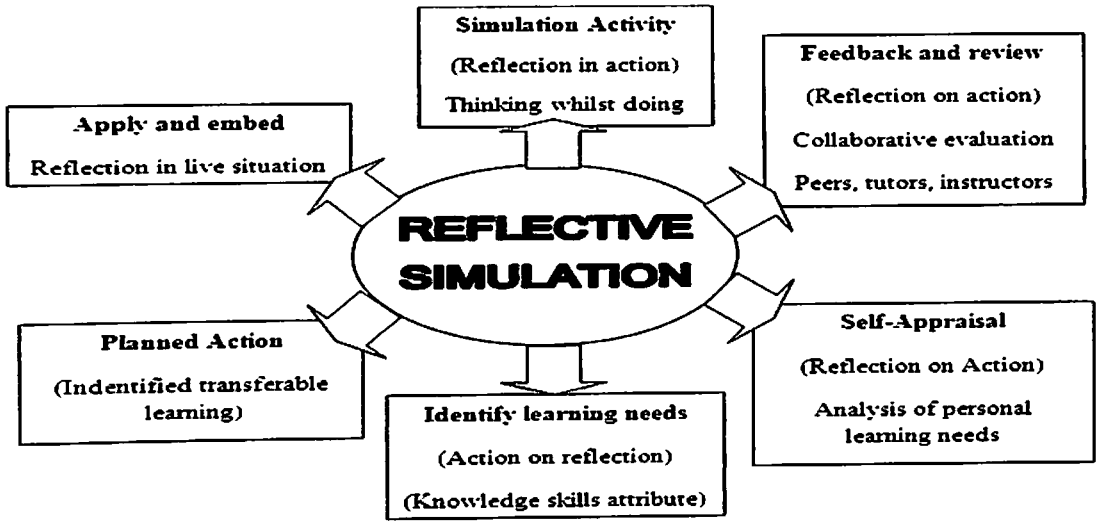

Figure 2.1 Reflective Simulation Framework (RSF) of Jones and Alinier (2006)

The RSF is rooted in Dewey's (1933) ideas of reflective thinking, which distinguished a structured approach from that of 'automatic, unregulated thinking' (pp 4- 9) (Dewey, 1933). The framework also promotes the reflective practice ideologies of Schön (1983, 1987) who argued that it is not possible to tell exactly what students learn from reflection in and on practice thereby providing further justification for our simulation approaches to use a guided approach through the use of a framework.

The RSF is designed to structure and guide the students' experience in ways that foster deep learning about OSCE. The researcher believed that this framework can help provide students with immediate and continuing reference points on what the issues were in order not to lose sight of their immediate concerns as well as any subsequent issues that may arise. Because the RSF can be considered to be a dynamic framework for structuring the debriefing of scenarios which in simulation learning can be quite complex (Breuer & Streufert, 1996), the researcher believed that the framework has the potential to be applied to other groups of learners in a variety of disciplines where reflective practice might not currently be a feature of their curriculum as well as where it may already be established and/or being further developed. For example, work on formative assessment such as the use of Objective Structured Clinical Examinations with nursing and medical students (Alinier, 2003). The researcher believed that by adopting the RSF, it can provide a better understanding and explanation pertaining to the dynamic learning experiences of medical and nursing students' in OSCE (Figure 2.2).

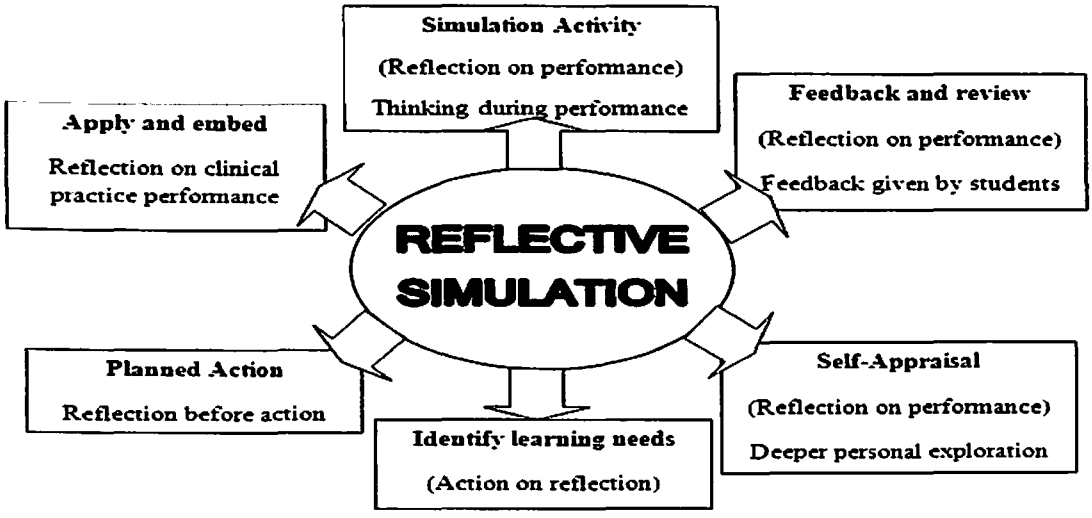

Figure 2.2 Adopted conceptual framework of the RSF of Jones and Alinier (2006) used in this study