Title: USING AN OBJECTIVE STRUCTURED CLINICAL EXAMINATION FOR BACHELOR OF MIDWIFERY STUDENTS' PREPARATION FOR PRACTICE.

Running title: PREPARING FOR PRACTICE.

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Abstract:**Background:**

Contemporary midwifery practice needs a rigorous and standardised assessment of practical skills, and knowledge to ensure that safety is maintained for both women and neonates before, during and after childbirth.

Aim:

To evaluate the use of Best Practice Guidelines (BPG) for Objective Structured Clinical Examinations (OSCE) as a standardised tool to develop clinical competence of Bachelor of Midwifery students.

Method:

A pragmatic mixed method approach with surveys, focus groups and interviews was used to evaluate the OSCEs for first year students. Quantitative and qualitative data were combined to understand student and academic perceptions of students' confidence for clinical practice following the OSCE.

Findings:

Thirty-four students responded to surveys (response rate 94%); and 13 participated in focus groups. Two academic lecturers participated in an interview (100%). Two major themes emerged (1) the OSCEs improved student confidence (2) the OSCEs were relevant and prepared students for practice. Most students indicated that they practised for the OSCE using an integrated approach (70%), and that this assisted them in their approach to the assessment of the neonate or post-partum mother.

Conclusion:

The use of BPGs to ensure that OSCEs focus on important aspects of knowledge and practice helped students to learn and to perform well. Students' confidence in their ability for the imminent professional experience placement was high. OSCEs designed with the BPGs should be implemented broadly across midwifery education to enhance students' competence and provide rigorous meaningful assessment.

Introduction

In contemporary midwifery practice, rigorous assessment of clinical skills is required to ensure safety for both women and neonates before, during and after childbirth. When achieving this, the specific details of the assessment may vary, but if we are to ensure requisite competence, there are

parameters of rigorous assessment practice that cannot be compromised (e.g. safety). Expressed this way, we may conceptualise this aspect of assessment as a 'standard'. The Best Practice Guidelines (BPGs) ¹ comprise that standard because they ensure that specific parameters of assessment through Objective Structured Clinical Examinations (OSCEs) are present.

When conducted prior to the clinical practicum, OSCEs can assist and consolidate the broad skills set needed for students' practice². This is particularly relevant and important in situations where students are yet to engage in their very first placement. Indeed, there are considerable educational and pragmatic benefits to proceeding in this manner ^{3,4}. Specifically, midwifery students have identified that deliberate rehearsal (or simulation) of practice helps them to develop an internal mental capability before performing a skill in the real world ⁵; and an OSCE is a preferred method of assessment when compared to practical examination of clinical competence in a real clinical setting ^{6,7}.

However, consideration of the practicalities of running OSCEs is vital given that the OSCE experience can impact negatively on students' satisfaction and increase anxiety ^{8,9}. Furthermore, clarity of content, effective processes and communication across the midwifery team involved in OSCEs is essential for successful experiences ¹⁰. When carefully structured and organised, OSCEs can increase the depth of student learning about midwifery practice ^{2,5}. Explicit considerations in the form of BPGs for OSCEs have identified important aspects of planning including that OSCEs should be clinically relevant, students sufficiently prepared, and assessment methods appropriate to both the clinical requirements and students' year level ¹. Using these considerations to maximise student learning for practice is essential in the Bachelor of Midwifery (BM) degree because graduates need to practice as autonomous midwives, demonstrating ability and competence during common and significant clinical situations.

Although OSCEs have been found to be a positive learning tool at the completion of a midwifery program⁴, few studies have examined their worth early in students' midwifery education. This

project explored the question: What is the value of OSCEs, based on BPGs, on student preparation for midwifery practice within the first year of a BM program in Australia? Approval for the study was obtained from the university's ethics committee.

Methods

A pragmatic mixed methods approach with concurrent data collection was used with surveys, focus groups and semi-structured interviews to explore student and staff perceptions of whether newly developed OSCEs based on BPGs assisted in student midwife preparedness for practice. There are several strengths when qualitative and quantitative approaches are blended in one study¹¹. It can clarify understanding¹² so that the findings become more meaningful as a number of perspectives are examined to facilitate a more comprehensive picture of the situation¹³.

Site

This study took place in an Australian city university's School of Nursing and Midwifery with over 2,400 students. The 3-year BM program comprised 90 students. This study focussed on a core first year BM subject [for this paper, a subject refers to a program of study that constitutes one quarter of a full-time student load]. The OSCE formed a mandatory summative assessment that students were required to pass.

Participants

Two groups of participants were invited to participate: (1) 36 students enrolled in the subject (2) the two academic lecturers who were involved in the OSCE development, teaching and assessment. The study was explained to both groups by an independent research team member. The provided information sheet described the research and invited their participation. Participation was completely voluntary - no coercion was used and no follow up occurred.

OSCE development

A pre-implementation visit was undertaken by two research team members. During this visit the existing OSCEs were systematically analysed in accordance with the BPGs for OSCEs¹ and two new OSCEs were developed. That is, each BPG guided the new OSCEs' development. For example, BPG 2 states that the basis for an OSCE should be around practices that are most relevant and likely to be encountered by the student in clinical practice¹. The new OSCEs were revised from ones that required each student to examine a single body system (in isolation) to one that required each student to perform an entire patient assessment. One of the new OSCEs had a post-partum mother as the client and the other OSCE had the full assessment on a newborn. The new OSCEs were therefore based on the types of assessment that were fundamental to providing care in a maternity facility and thus constituted OSCEs based on relevant and likely encountered clinical practice. Further details of how the previous OSCEs were altered can be seen in Table 1.

Table 1: Changes and modifications made to the subject OSCE in line with the BPGs

Best Practice Guideline	Modifications
1. Knowledge, skills and ability related directly to the delivery of safe patient-centred care	The basis of the two OSCEs was changed so that the activities used were instrumental and specific to safety in midwifery care. Specifically: a systematic assessment of a new-born and a systematic assessment of a post-partum mother were selected for the scenarios.
2. Practices which are most relevant and likely to be commonly encountered	The core skills that were assessed were changed to everyday practice activities, such as a systematic assessment of a post-partum mother.
3. Be judged via holistic marking guide to enhance both the rigor of assessment and reliability.	A global marking guide was implemented that reflected the broad dimensions required of student attainment for each scenario.

4. Require students to perform tasks in an integrated rather than piecemeal fashion by combining assessments of discrete skills in an authentic manner.	The integrated activity of the new OSCE necessitated the introduction of a composite approach reflecting good clinical practice.
5. Be structured and delivered in a manner which aligns directly with mastery of desired knowledge and skill.	The timing of the OSCE was strategically modified to ensure all students had a safe appropriate beginning level of skill prior to entering into practice. (See also BPG 6 below)
6. Be appropriately timed in the sequence of students' learning to maximise assimilation and synthesis of disparate subject content and to minimise the potential for students to adopt a piecemeal, superficial learning approach.	The alignment of the subject within the Bachelor of Midwifery program was improved to support student learning via an acquisition of knowledge across <i>all four subjects</i> being currently undertaken. In addition, the OSCE was placed at the end of semester to further facilitate incorporation of all content.
7. Allow for ongoing practice of integrated clinical assessment and intervention skills in a secure supportive environment thereby ensuring the appropriate and provision of feedback to guide students' development.	Students were given greater encouragement and practice opportunities with their peers in the clinical laboratory sessions at designated times in the weeks leading up to the final OSCE. There was also increased time allocated at the end of each tutorial for practice with tutors giving feedback.

The teaching team implemented the modifications and new OSCEs that aligned with the BPGs.

Students were randomly allocated one of two scenarios for their OSCE as mentioned above, either (1) a postnatal assessment of a woman following a Caesarean Section (with another student also enrolled in the subject acting this role) or (2) a 'head to toe' assessment of a newborn (a mannequin baby was used). In preparation, all students were instructed that they should respond to questions, and resist coaching or leading the other student. Each student was allocated 45 minutes to conduct the assessment in a clinical skills laboratory. All students were expected to demonstrate competence

in carrying out the skills in an holistic manner while articulating the theoretical underpinnings by giving rationale for their actions.

Students were assessed using a marking guide that had four broad sections (1) preparation [five marks allocated]; (2) communication [10 marks allocated]; (3) technique [20 marks allocated] and (4) overall evaluation of student's performance [15 marks]. There were no weighted criteria that meant that a specific behaviour (or absence of a behaviour) would lead to an immediate fail – a mark of 25 out of 50 constituted a passing grade. The revised OSCEs and marking processes were critiqued by three expert colleagues.

Data collection

Concurrent data collection occurred and included student surveys, student focus groups and staff interviews. The survey sought demographic data, questions about students' perceptions of the OSCE as both an assessment and learning instrument; the authenticity (or real-life nature) of the OSCE scenario, and, their self-confidence for key clinical abilities associated with the scenarios. They were also asked "When I practised for the OSCE throughout the semester I focussed on just getting the skills right" and "When I practised for the OSCE throughout the semester I focussed on using an integrated approach". The concept of an integrated approach was explained to the students on the survey as "Using an integrated approach – that is not only focusing on the clinical skills but also bringing in all aspects of a therapeutic midwife–patient relationship such as comfort and privacy etc." A final open-ended question invited students to add free-text comments. The survey was developed by the research team with feedback from a reference group of senior researchers and educators in Australia and the United Kingdom. The survey was piloted for clarity and understanding with other first year students not enrolled in this subject. No changes were required. Surveys were anonymous - students placed completed surveys in a secure collection box.

Focus groups were conducted by two researchers three weeks after the OSCE assessment and clinical practicum (in a maternity facility). Some examples of questions that guided discussions included: “How do you think the timing of release of the details of the OSCE impacts upon your learning?”; “Can you explain how feedback affected your OSCE performance?”; and “How did the OSCE prepare you for your recent clinical experience?” Notes that recorded participants’ comments were verified with participants at the end of each focus group to ensure accuracy and authenticity.

Individual semi-structured interviews were conducted with the two midwifery academic lecturers to explore their perceptions of the design, delivery and marking of the OSCEs in assisting student preparation for practice. The interview commenced with “What is your previous experience with OSCEs and how did this revised OSCE compare?” Other questions included: “How do you think the timing of the release of the details of the OSCE impacts upon students’ learning?”; “How did the holistic marking guide work in regards to assessing students?”; “What were the implications for clinical practice for the students with the new OSCEs?”; prompts were used such as “Can you elaborate?” Notes were taken during the interviews by one of the researchers. Transcripts were sent back to the academic lecturers to ensure their accuracy.

Data Analysis

Surveys were analysed using the statistical program *Predictive Analysis Software* (PASW Statistics® Version 19; SPSS Inc., Chicago, IL). Frequencies and means were calculated. The qualitative data from the focus groups, interviews and open-ended question on the survey were subjected to thematic content analysis by two of the research team and then independently analysed by a third researcher to validate the themes thereby supporting the trustworthiness and credibility of the qualitative results¹⁴. The quantitative and qualitative data were converged to provide a better understanding of the research problem with equal weighting given to the qualitative and quantitative data. The combining of the two forms of data analysis, helped us better understand and interpret the study results^{11, 12}.

Results

Thirty-four of the 36 students returned completed surveys (response rate 94%). Approximately a third of the students (n=13) provided written consent and participated in one of three 60 minute focus groups. All respondents were female with a mean age of 25 years (range 18 - 42 years). Nine students identified as school leavers, 17 were mature age, two were graduate entry students who had a previous university degree, and six were classified as 'others'.

Two main themes emerged from the data: (1) the OSCEs improved student confidence (2) the OSCEs were relevant and prepared students for practice. Another minor theme emerged that highlighted the importance of good feedback to student learning. The majority of students (n= 24, 70.6%) indicated that they used an integrated approach when practising for the OSCE – that is, they considered the assessment in its entirety, not just as a list of tasks to be conducted. During the assessment OSCE the 'patient' was central and assessment findings were evaluated in light of the individual 'patient'. An overwhelming majority of students (n=31, 91.2%) specified that the OSCE felt more real-life when they used an integrated approach to patient assessment. Following completion of the OSCE over 80% of students (n=28) felt confident to perform the required patient care (Fig. 1). As outlined below, this was reflected in students' comments in the focus groups where the OSCEs provided them with confidence in assessment skills. Two participants said the following:

"Having to do a full assessment makes me feel really good about going out there – I know I can do it now – this is what we'll have to do"; and

"Doing bits of assessment are Ok but when you have to put it all together at the one time – that's what makes me feel good – they'll expect us to be able to do this."

Fig. 1. Students' confidence in performing an overall patient assessment (n=34)

The second theme that emerged was the relevance of the scenarios to their knowledge and practice as first year student midwives. The students said that the OSCEs gave them the knowledge base that was essential to their role as midwifery students. Comments included:

"I know so much more about the newborn and post-natal woman now";

"It was logical to finish the subject with this OSCE – I had prac just afterwards –

this is what we are expected to do";

"I found the OSCE a really good learning tool. It was entirely relevant to practice,

and gave a good basis to add knowledge onto" and

"I [even] did something one of the lecturers didn't know- due to [my extra] reading."

The relevance of the OSCEs was further highlighted as students were able to compare their OSCE experience with students' comments from the previous year. Comments included:

“[The OSCE] was so much better than last year [where they were asked to assess one body system in isolation], for example, the musculo-skeletal”; and

“[it was an] extremely helpful way of learning, taking in all the skills we have learnt ...very beneficial.”

The focus groups were conducted after students had a period of clinical practicum, so they were able to reflect on the OSCEs in relation to its potential impact on their clinical performance. They considered that the OSCEs supported their preparation for practice. For example one said,

“The OSCE does prepare you for clinical – it makes sense” and another:

“It has taught me valuable clinical skills as well as communication skills” and

“It’s [the OSCE] practical, hands on and relevant – I can do it”.

They did however, acknowledge that as first year student midwives they had a lot more to learn and sometimes this depended on their life experiences. For example one said:

“I feel more confident with it [assessment of a newborn] but handling a

tiny baby is still scary – I do not have much experience with real babies.”

The ‘importance of good feedback for learning’ was a minor theme from the focus groups and surveys where 29 students (> 85%) indicated peer feedback was helpful. Only one student indicated it was not helpful. Students reported ongoing practice was vital in preparation for the OSCE to reduce their nervousness, and they considered a trial OSCE would have been useful. Students indicated more time to practice with academic staff would help. In one case, the practice with their peer was detrimental as both students did the assessment incorrectly and neither knew it to be wrong, hence they continued to practise the incorrect method. They said:

“[We] practised and practised with peers-[but my] peer didn’t pick up on

some mistakes.....so [we] kept learning the wrong thing."

Staff interviews took approximately 45 minutes. One staff member was an experienced academic with extensive OSCE assessment experience over four years whereas the other was relatively new to academia and this was her first OSCE assessments. Staff identified the benefits of the revised OSCE format. In particular, their comments related to the value of BPG 2 (Practices which are most relevant and likely to be commonly encountered), BPG 4 (Perform tasks in an integrated manner) and BPG 6 (Be appropriately timed in the sequence of students' learning as the OSCE assisted with integrating knowledge). From the staff interviews, the main theme that emerged was the OSCEs' relevance and how it prepared students for practice which concurs with student feedback. The academics said:

"A lot of students last year were worrying why they were learning it [previous OSCE which focussed on one body system per OSCE], this [OSCE] linked in far better. Students found it more relevant. Students can use skills they have learnt straight away. Assessment approach is more valid than last year." (aligns with BPG 2)

"Seeing how things are inter-related with midwifery - better related in this OSCE than previous OSCE." (aligns with PG 6)

"Students got it better, looking at the whole person, not just (for e.g.) the respiratory system. A couple of [students] demonstrated knowledge that they hadn't learnt in class but that incorporated things from extra readings. When the OSCE is relevant they want to learn more." (BPG 2, 4 & 6)

DISCUSSION

This study explored student and staff perceptions of revised OSCEs based on seven BPGs ¹ with first year BM students using a mixed method approach ¹¹. This approach provided additional understanding not possible with survey or focus groups alone ^{11, 12}. Data analysis highlighted that OSCEs provide an opportunity for student learning that counters many clinical practicums where a “random access opportunity model of clinical education” ¹⁵ can occur. Therefore the utility of OSCEs is that it tailors learning opportunities that are beneficial in association with clinical practicum ¹⁶. In addition this assessment choice facilitates assessor objectivity and equity as all students experience the same scenarios thus achieving high levels of assessment reliability and validity ^{17, 18}.

Development and implementation of the revised OSCEs was collegial and consensus was reached without difficulty. This could be attributed to the mutual respect and close collaborations between the research and teaching teams. Collaboration ensured OSCEs: were appropriate for students and their learning requirements ²; built on prior learning; and, were directed to students’ attainment of graduate professional competencies ¹⁹. The academic lecturers noted that OSCEs formulated according to the principles of BPGs were pedagogically sound and therefore useful for assessment of clinical application – a key requisite for midwifery competence ⁴.

The two primary themes relating to the value of the revised OSCEs that emerged from the convergence of data from the student surveys and focus groups, and staff semi-structured interviews were consistent with key benefits of OSCEs as described in the literature ^{1-4, 15-18}. The selected activities, learning and teaching processes and assessment for the OSCE were effective in:

1. relevant practice preparation; and
2. improved student confidence.

We speculate that it was the relevance to practice that enhanced student learning and led to the reported high student confidence levels following the OSCE. How student confidence translates into

clinical competence is, however, not known ²⁰. Preparation for the OSCE was important for students as it was their first experience with this type of assessment. A number of students indicated they needed extra time to prepare and practise because they were nervous and anxious. These are common factors in any high stakes assessment where students potentially fail. Anxiety is not necessarily an indicator of poor performance and the most anxious students can achieve top marks ⁹. Provisions at the end of each week's clinical laboratory session were made for students to practise with their peers and prior to the OSCE in an effort to increase familiarity with OSCE content. As in other studies with masters students in midwifery ⁹ and psychiatry ¹⁸, the first year students in this study reported that they really liked the OSCE but also were nervous. Completion of a clinical practicum was influential in students' perception of their preparation and the adequacy of their practice for the OSCE. Students who had not yet experienced clinical practicum, felt less prepared than those who had this experience. The academic lecturers reported, however, that it was obvious which students had taken extra time to prepare for the OSCE, irrespective of having a previous clinical practicum.

These comments emphasise the importance of BPG 7: *Allow for ongoing practice of integrated clinical assessment and intervention skills in a secure supportive environment thereby ensuring the appropriate and provision of feedback to guide students' development and ongoing reflection.*

Implementation of OSCEs should *facilitate* practice ¹. Such facilitation is not just the opportunity to access laboratory space to simulate a 'real situation' but also to access academic lecturers and experienced students who can provide constructive formative feedback. This type of engagement with learning opportunities appears to increase student capability and confidence. However, increasing demands on academics affects the balance between students' self-directed learning and academic supervision. This needs to take into account academic work demands and the benefits of students gaining independent learning skills which will benefit them in future practice as midwives ²¹⁻

²³. It provides opportunity for more senior students to develop professional practice attributes in formally preceptoring junior students.

Midwifery students reported the revised OSCEs were helpful for their learning. During focus groups, students shared comments from students of previous years who told them that the new OSCE was a better way of learning. Students' comments suggested that the revised OSCE was helpful because it was presented as a 'situation' not a 'task' and was thus more 'real life'. The deliberate rehearsal of clinical practice situations helps midwifery students to perform in the real world ⁵. Furthermore, it was also beneficial because when the OSCE was placed at the completion of the subject it helped students with 'putting it together'. These particular factors related mostly to BPG 4 and BPG 6 (Table 1) which expects students to perform tasks in an integrated rather than piecemeal fashion by combining assessments of discrete skills in an authentic manner. This assists students to consolidate their learning ² – of particular importance prior to clinical practicum. In addition, the OSCE should be appropriately timed to maximise assimilation and synthesis of disparate subject content and minimise potential for students to adopt a superficial learning approach.

Open-ended comments and focus group feedback suggested that participation in the OSCE assisted in incorporating previously learnt content. Students commented that the OSCE preparation taught them valuable clinical skills as well as communication, interpersonal and research skills; all fundamental to practice and core elements in the Australian Midwifery Competency Standards ²⁴ and more broadly in all areas of health care deliver where safety and quality are essential ²⁵. In particular in relation to this study with student midwives, Competency 3 of the Australian Midwifery Standards requires a midwife to communicate effectively to determine what is important to the woman and her family; and Competency 5 which focuses on assessment, planning and provision of safe and effective midwifery care ²⁴.

Interview data from the experienced academic indicated that students in this cohort demonstrated a higher level of performance than previous students. This higher performance was characterised by greater integration of skills that considered the 'whole' person, and demonstration of skills that required knowledge gained from extra readings. Furthermore, as with other studies^{9, 18} it seemed that student comments about how the OSCE benefited their learning also influenced their perception of its effectiveness as an assessment strategy.

Overall, responses revealed that students found the revised OSCE to be a valuable assessment experience. Effective assessment practices need to encourage students to appraise their knowledge and understanding and realistically reflect on their ability²⁶. Importantly, the students said that the OSCE prepared them for their clinical practicum through developing and extending their knowledge base. Students indicated that it was more real-life when they adopted an integrated approach, and this helped them prepare for clinical practice. This integrated approach is unlike that seen within medical education where OSCEs involve a number of short skills stations with trained standardised actors^{27, 28}. The authenticity of an OSCE developed using the BPGs¹ was shown to support the realistic nature of the assessment.

The students stated that they felt more confident to undertake clinical practice in a 'real' setting. The value of the semester's teaching and assessment of the OSCE is how it prepares students to enter into clinical practice. The collective factors of facilitating student preparation, an activity that is helpful for student learning, and a positive assessment experience all contribute to increased student confidence in their practice ability.

Limitations

This study was conducted with one small cohort of midwifery students. Accordingly, generalisation beyond this cohort of students may only be undertaken with caution. One of the OSCEs required a

fellow student to act as the post-partum mother. The inability to have professional actors detracted from the fidelity of the OSCE process which may have been detrimental to some students' performances.

CONCLUSION

The first year midwifery students (n=34) and academic lecturers (n=2) in this study suggested that the BPGs provided a constructive framework for the development, implementation and assessment of practice by way of OSCEs in midwifery education. We have shown that a program of study that is structured, taught and assessed using BPGs¹ for OSCEs can provide student learning that is relevant to contemporary midwifery practice both academically and professionally. The OSCEs enabled students to consolidate a broad set of skills and concepts, to feel confident in a 'real-life' situation in a clinical environment, and so feel well prepared for practice. The OSCEs and related activities provided a significant contribution to students' learning experience, and was a valuable assessment. Having structured time for student feedback from academics is recommended but this should not devalue peer feedback. It is recommended that OSCEs designed with the BPGs are implemented broadly across midwifery education in combination with other learning opportunities to enhance students' abilities to develop midwifery competence.

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References

1. Nulty DD, Mitchell M, Jeffrey CA, Henderson A, Groves M. Best Practice Guidelines for use of OSCEs: Maximising value for student learning. *Nurse Education Today* 2011; 31(2):145-151.
2. Barry M, Noonan M, Bradshaw C, Murphy-Tighe S. An exploration of student midwives' experiences of the Objective Structured Clinical Examination assessment process. *Nurse Education Today* 2012; 32(6):690-4.
3. Mitchell M, Henderson A, Groves M, Dalton M, Nulty D. The objective structured clinical examination (OSCE): Optimising its value in the undergraduate nursing curriculum. *Nurse Education Today* 2009; 29(4): 398-404.
4. Govaerts MJB, Schuwirth LWT, Pin AK, Clement MEJ, Van der vleuten CPM. Objective assessment is needed to ensure competence. *British Journal of Midwifery* 2001; 9(3):156-61.
5. Fox-Young S, Brady S, Brealey W, Cooper S, McKenna L, Hall H, Bogossian F. The perspectives of Australian midwifery academics on barriers and enablers for simulation in midwifery education in Australia: A focus group study. *Midwifery* 2012; 28: 495-501.
6. Bolourchifard F, Neishabory M, Ashketorab T, Nasrollahzadeh S. 19 (66). *Journal of Nursing and Midwifery* 2009; 19(66):50.
7. Sweet L, Glover P. Utilizing Follow Throughs in Midwifery. In: Billett S, Henderson A (Eds.), *Developing Learning Professional Integrating Experiences in University and Practice Settings*. USA: Springer. 2011.
8. Rennie AM, Main M. Student midwives' views of the objective structured clinical examination. *British Journal of Midwifery* 2006; 14 (10): 602-7.

9. Jay A. Students' perceptions of the OSCE; a valid assessment tool? *British journal of Midwifery* 2007; 15 (91): 32-37.
10. Zaidi F. Developing and running on OSCE: a personal reflection. Objective Structured Clinical Examination. *British Journal of Midwifery* 2006; 14(12): 725-9
11. Creswell JW. *Research design: qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, California: Sage Publications; 2009.
12. Jones A, Bugge C. Improving understanding and rigour through triangulation: an exemplar based on patient participation in interaction. *Journal of Advanced Nursing* 2006; 55(5), 612-621.
13. Annells M, Whitehead D. Analysis data in qualitative research. In: Schneider Z, Whitehead D, Elliott D, Lobiondo-Wood G, Haber J. (Eds.), *Nursing & midwifery research : methods and appraisal for evidence-based practice* (3rd ed.). Sydney: Elsevier; 2007. p. 138-155.
14. Holloway I, Wheeler S. *Qualitative research in nursing and healthcare Qualitative research in nursing and healthcare* (3rd ed.). Chichester, West Sussex: Wiley-Blackwell. 2010.
15. Nieslen AE, Noone J, Voss H, Mathews LR. Preparing nursing students for the future: An innovative approach to clinical education. *Nurse Education in Practice* 2013;
<http://dx.doi.org/10.1016/j.nepr.2013.03.015>
16. Nelson OO, Che AA, Nora A, ROSNIDA AB. Assessing nursing clinical skills competence through objective structured clinical examination (OSCE) for open distance learning students in Open University Malaysia. *Contemporary Nurse* 2012; 41(2), 233–241.
17. Rushforth HE. Objective structured clinical examination (OSCE): review of the literature and - implications for nursing education. *Nurse Education Today* 2007, 27(5), 481-490.

18. Selim A, Ramadan FH, El-Gueneidy M M, Gaafer MM. Using Objective Structured Clinical Examination (OSCE) in undergraduate psychiatric nursing education: Is it reliable and valid? *Nurse Education Today* 2012; 32 (3), 283-288.

19. Australian Nursing & Midwifery Accreditation Council. *Interim Standards for Accreditation of Professional Practice Review Programs* 2010. Available at:
<http://www.anmac.org.au/sites/default/files/documents/ANMAC%20Interim%20Standards%20for%20the%20Accreditation%20of%20Professional%20Practice%20Review%20Programs.pdf> . Accessed May 9, 2013

20. McClimens A, Ibbotson R, Kenyon C, McLean S, Soltani H. Confidence and performance in objective structured clinical examination. *British Journal of Midwifery* 2012; 20(10): 746-751.

21. Levett-Jones TL. Self-directed learning: Implications and limitations for undergraduate nursing education. *Nurse Education Today* 2005; 25(5): 363-368.

22. Patterson C, Crooks D, Lunyk-Child O. A new perspective on competencies for self-directed learning. *Journal of Nursing Education* 2002; 41(1): 25.

23. Williams B. The Theoretical Links Between Problem-based Learning and Self-directed Learning for Continuing Professional Nursing Education. *Teaching in Higher Education* 2001; 6(1): 85 - 98.

24. Australian Nursing & Midwifery Council. *National Competency Standards for the Midwife* 2006. Available at: <http://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Codes-Guidelines.aspx> Accessed May 9, 2013.

25. Australian Commission on Safety and Quality in Health Care (ACSQHC) (September 2011), *National Safety and Quality Health Service Standards*, ACSQHC, Sydney. Accessed October 30, 2013.

26. Boud, D. and Associates. *Assessment 2020: Seven propositions for assessment reform in higher education*. Sydney: Australian Learning and Teaching Council. 2010.

27. Avelino-Silva TJ, Gil LA, Suemoto CK, Kikuchi EL, Lin SM, Farias LL, Jacob-Filho W.
Implementing the Objective Structured Clinical Examination in a geriatrics fellowship program-a
3-year experience, *Journal of the American Geriatrics Society* 2012 ; 60 (7): 1322-1327.
28. Yap K, Bearman M, Thomas N, Hay M. Clinical Psychology Students' Experiences of a Pilot
Objective Structured Clinical Examination, *Australian Psychologist* 2012; 47(3): 165-173. .