Implementation and evaluation of peer assessment of clinical skills for first year student nurses

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Abstract
Enabling student nurses to learn and develop evidence-based clinical skills is the cornerstone of nursing education programmes. This article describes the implementation of a peer assessment scheme for clinical skills within a skills laboratory in a university school of nursing, and the link between peer assessment and clinical skills development. This was a qualitative evaluative study that used questionnaires for data collection and was undertaken on one cohort of students. Findings showed that nearly half of all the statements made by students were about the positive impact of PACS on their skills learning. Students identified giving and receiving peer feedback, reflection and working with peers in small groups as being particularly valuable in clinical skills learning. Increased confidence was also a dominant finding as was the value of repeated practice in a simulation setting on skills development. This study supports some of the previous literature related to use of simulation and peer assessment but the discussion presented in this article also highlights that the findings of this study contradict other findings in the literature. What makes this study unique is its contribution to the literature is the link that was established by students between the peer-assessment process and clinical skills learning.

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Introduction
Enabling student nurses to learn and develop evidence-based clinical skills is the cornerstone of nursing education programmes. Use of simulated nursing scenarios provides one means by which the students can gain new knowledge through examining this knowledge in context. Rush et al. (2010) provided a comprehensive review of literature related to use of simulation in vocational/professional programmes in general, and in nursing in particular, highlighting evidence that suggests that simulation accelerates the learning of complex clinical and critical thinking skills (Rush et al., 2010).

The School of Nursing within the Faculty of Health and Social Care Sciences at Kingston University/St George’s University of London (KU/SGUL) has been using simulation to teach and assess clinical skills development for over 6 years (Rush et al., 2010; Tolley et al., 2010). This article presents the introduction of a Peer Assessment of Clinical Skills (PACS) scheme within a cohort of novice student nurses, and an evaluative study of this.

Literature review
Simulation is being used with increasing frequency as a way of teaching and assessing in healthcare education (Gaba and De Anda, 1988; Good et al., 1992; Stevenson, 1994; Morton, 1997; Gordon, 2000; Eaves and Flagg, 2001; Rauen, 2000; Alinier et al., 2004; Mello, 2004; Graling and Rusynko, 2004; Rhodes and Curran, 2005; Wilson et al., 2005; Canadian Association of Schools of Nursing, 2007; Rush et al., 2010; Tolley et al., 2010; Nursing and Midwifery Council, 2007). In summary, a number of findings appear in the literature related to the use of simulation:

- In many professional education programmes there is often insufficient emphasis on organising information and relating it to existing knowledge (Stevenson, 1994)
- Several studies suggest that simulation accelerates the learning of complex clinical and judgement/critical thinking skills (Alinier et al., 2004; Mello, 2004).
Several studies found that simulations offer advantages over traditional education methods, e.g., providing a safe environment for high-risk procedures, exposure to rare, but complicated, clinical events, creating training opportunities rather than waiting for a suitable situation to arise, providing immediate feedback to students and providing opportunities to evaluate performance (Rush et al., 2010; Tolley et al., 2010)

Exposure to the use of simulation had a significant effect on the clinical assessment performance of the student nurses (Allnier et al., 2004).

Assessment of skills performance through the use of Objective Structured Clinical Examination (OSCE) also appears in the literature in healthcare programmes. Harden and Gleeson (1979) undertook a now classic study of the use of OSCEs in medical training to assess clinical competence. Harden and Gleeson (1979) describe the OSCE as,

‘a timed examination in which medical students interact with a series of simulated patients in stations that may involve history-taking, physical examination, counselling or patient management’ (Harden and Gleeson, 1979, p. 41).

They claimed that the OSCEs provide valid, reliable and practical criteria for assessing clinical competence. Indeed, OSCEs have been shown to be feasible and have good reliability and validity (Hodges et al., 1988), despite issues related to organisational complexity and resource-intensiveness (Jansen et al., 1995). OSCEs are now used in nursing and other healthcare education programmes. Sloan et al. (1995) and Mitchell et al. (2009) showed that the OSCE is an effective evaluation tool to assess practical/psychomotor nursing skills. Alinier (2003) demonstrated that the principles of OSCE can also be used to enhance skill acquisition through simulation, enabling student nurses to gain more confidence when presented by technical instruments within the hospital environment, and that the feedback received is favourably perceived by student nurses.

Bradley and Humphries (1999) found that the use of OSCEs within medical education enabled students to apply evidence to practice, findings supported by Kowlowitz et al. (1991); Townsends et al. (2001) and Park et al. (2004). Interestingly, Wanstall (2010) undertook a study on the OSCE as a predictor of performance on work-based placements. Her study of student dieticians suggested that student grades in OSCEs prior to placements served as predictor of success or failure on placements. Students who had low scores on pre-placement OSCEs, had a higher failure rate in their practice placements and those who scored high marks in pre-placement OSCEs were more likely to pass their practice placements. This finding however, is contradicted other studies. Tolley et al. (2010) created an alternative to the OSCE because within their university there was found to be a disparity between students’ results in OSCEs carried out in university-based skills laboratories, and the continuous clinical assessments that were undertaken in their practice placements. Only a very small number of students failed their clinical assessments in practice, whereas a large numbers failed the OSCEs. This finding had also been reported by Scholes et al. (2004) and Duffy (2003).

Mowl (1996) defined peer assessment as a form of assessment that aims both to improve the quality of learning and to empower students. Brown et al. (1994) suggested that peer assessment helps students to develop the ability to make judgements, which is both an academic and life skill. McDonald and Boud (2003) undertook a controlled trial study into the learning gains for students of training in peer and self-assessment. Their findings demonstrated that when students are trained in peer and self-assessment, they achieve higher scores in future summative assessments. The advantages and disadvantages of peer assessment in healthcare professional education have been summarised by several authors (Orpen, 1982; Ladyshewsky and Gotjamanos, 1996). Advantages cited include students thinking more deeply about the activity being peer assessed, exercise, students gaining insight into how others tackled the similar clinical problems, students learning how to give and receive constructive criticism from peers and students perceiving the lecturer as a facilitator and not just a giver of knowledge. Disadvantages cited in the literature include peers not having the same deep understanding of the situation as the lecturer, students may not provide comprehensive feedback to each other, students may show bias towards their friends and be reluctant to award low marks for poor work because of fear of offending peers (Ladyshewsky and Gotjamanos, 1996).

In addition, questions have been raised in the literature about the reliability of students assessing each other. Much of the literature on peer assessment is related to the medical students assessing each other during viva voce examinations. Falchikov (1986) found that students had a tendency to award higher grades in viva voce than those that would have been awarded by the lecturer, a finding confirmed by Mellops (1992) and Swanson et al. (1991). Others however reported significant correlations between peer-marked work and lecturers marking the same work (de Grave and de Volder, 1994; MacKenzie, 2000). Sullivan et al. (1999) found a moderate correlation was found between peer and tutor ratings and very little correlation between self and tutor ratings. They concluded that peer and self-assessment in the setting of a tutorial group may provide additional valuable information regarding medical student performance during a surgery clinical placement. Calhoun et al. (1999) concluded from their work with medical students that student’s marks became progressively more accurate when compared with faculty marks as the course progressed. In addition, students’ exposure to clinical work enabled them to internalise and more accurately interpret the criteria of the assessment (Sloane et al., 1995).

Dannefer et al. (2005) found that peer assessment is a useful formative assessment tool in undergraduate medical school, reflecting earlier findings of Ramsey et al. (1996), Ramsey and Wenrich (1999) and Rudy et al. (2001), although these prior studies suggested that peer assessment is best used to assess interpersonal rather than clinical skills. Welsh (2007) describes the use of peer assessment in post-registration nursing, finding that although challenging for students in terms of experiencing initial discomfort with assessing their peers, this diminished over time. Giving feedback to peers was also challenging but the students found the process stimulating and invaluable in terms of learning. Her evaluation also showed that engaging in peer assessment enabled students to become more aware of their own strengths and weaknesses and encouraged the development of higher order critical thinking skills. This echoes findings of Norcini (2003) in a paper on peer assessment of competence. Norcini concluded that because of the broad ways of ways that peer assessment can be carried out and the large number of competencies that peers can be asked to judge, peer assessment can be good or bad, f = depending upon how it is carried out.

Peer assessment, therefore, is not without its challenges. Like Welsh (2007) Hanrahan and Isacs (2001) found an element of hostility to peer assessment in their undergraduate courses born out of a feeling of discomfort about evaluating another student’s work. Students can feel untrained for the role of assessor (Cheng and Warren, 1997; Sluijmans et al., 2001). Peer assessment is a complex skill and students need to understand the skills that are involved in judging their own work or that of their peers (Sluijmans, 2002). Another challenge for peer assessment is
ensuring accuracy, validity and reliability of student feedback (Bostock, 2001) although this can be overcome by the use of clear criteria aligned with the learning objectives of the course (van Hattum-Jansen and Lourenco, 2006).

The PACS project was about formative assessment of students by their peers. Formative assessment has been described as a reflective process that promotes student learning and development, and is intended to promote further improvement of student attainment (Crooks, 2001). Nicol and MacFarlane-Dick (2009), however, argue that in order for formative assessment to be successful in promoting student learning in Higher Education, it must be underpinned by a robust conceptual framework and by good principles of practice with regard to feedback to students. Formative assessments take place during a learning activity to provide the instructor with information regarding how well the learning objectives of a given learning activity are being met. The value of formative assessment has been identified by Black and William (1998) who cite evidence that high quality formative assessment impacts on student learning and is particularly effective for students who have not done well in school, narrowing the gap between low and high achievers while raising overall achievement. Much of the literature related to formative assessment focuses on the relationship between teacher and student. In peer assessment, therefore, the focus is on the relationship between the student in the assessor role and the student in the learner role. Cowie and Bell (1999) described formative assessment as a bidirectional process between assessor and student to enhance, recognise and respond to learning.

Background to the project

For many years the School of Nursing within KU/SGUL has used the OSCE to assess clinical skills in year 1 of the pre-registration nursing programme. Evaluation of the OSCEs by students showed that although students found them difficult, they indicated that the experience of the OSCE gave them a good grounding in their clinical skills. In recent years the first year OSCE involved a three station event; if students failed any one station they only needed to return and complete the one(s) they failed. The three stations were: the recovery position for unconscious patients; taking and recording vital signs; and moving and handling. Moving and handling involved placing of a hoisting sling. However failure rate has been high, with some students still not achieving the required standard after four attempts. There has been no pattern as to which of the three stations had the highest failure rate and at times, students managed to fail all three.

In addition, the nursing lecturers observed that during the OSCEs they could hear the students merely repeating, almost verbatim, what the lecturers had said to them previously. The quality and depth of learning that was actually taking place was being called into question. When lecturers asked students to apply certain knowledge to new simulation scenarios, or if the (simulated) patient asked them an unexpected question, the students were completely thrown by this and were unable to manage this new event.

With the creation of the Essential Skills Clusters (Nursing and Midwifery Council, 2010) the School of Nursing decide to rethink its use of simulation within clinical skills assessment. A decision was made to provide students with a set of compulsory simulation activities built around the Essential Skills Clusters whereby students could have as many attempts as they needed to achieve competence. The focus was to be on developing and refining skills rather than on passing or failing.

The PACS sessions

Adult learning theory (Knowles, 1980) underpinned the approach of the PACS sessions. According to Knowles, adult learning (andrology) is “the art and science of helping adults learn” (Knowles, 1980, p. 43).

Lieb (1991) suggests that in adult learning, the emphasis is on the process of learning. Knowles’ six principles of adult learning (See Fig. 1) formed the basis of the approach to the PACS skills session.

In creating a new clinical skills development programme for year 1 students, the team took into account the large number of students in each cohort. The skills required for students to demonstrate competence by the end of year 1 were identified from the Essential Skills Clusters and were given to each student on a card that was called, “The Clinical Skills Passport.” Fig. 2 shows this Passport.

Each of the skills identified in the Passport were treated as small formative assessments. Students were required to place a tick (✓) when they attended a session related to each skill. Timetabled sessions were offered in the University’s Skills laboratory. These sessions were called “Peer Assessed Clinical Skills” (PACS). At these sessions, students worked in teams of three – one playing the role of student, one role-playing a patient and one observing and giving feedback. Several lecturers and/or senior clinical nurses were always present at these sessions. Their role was firstly, to ensure that feedback information being relayed by the students to each other was accurate and comprehensive, and secondly, to add additional information as appropriate. Feedback involved elements of self-assessment, self-awareness, praise and constructive criticism. Prior to these sessions, students were given formal teaching sessions on how to give and receive constructive feedbacks with opportunities to practice.

At the end of each skills week in year 1 (four weeks in all over the year), students record their attendance at the PACS in their Passports (See Fig. 3).

There is a final (summative) compulsory skills assessment at the end of Year 1 through simulation activities which is carried out by lecturers from the Skills Laboratory Team against agreed criteria.

- Adults are internally motivated and self-directed
- Adults bring life experiences and knowledge to learning experiences
- Adults are goal oriented
- Adults are relevancy oriented
- Adults are practical
- Adult learners like to be respected

Fig. 1. Principles of adult learning (From Knowles, 1980).
Year 1 Semester 1

<table>
<thead>
<tr>
<th>Clinical Skill</th>
<th>Sessions Attended</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection Control Theory</td>
<td>✓</td>
<td>1½</td>
</tr>
<tr>
<td>Infection Control Practical</td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>Hand Decontamination / Safe disposal of sharps,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>clinical waste and cleaning of spillages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Life Support (Adult)</td>
<td>✓</td>
<td>2</td>
</tr>
<tr>
<td>Medicine Management – Theory 1</td>
<td>✓</td>
<td>1</td>
</tr>
<tr>
<td>Bed Making</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Recovery Position and Management of Choking</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Vital Signs (TPR)</td>
<td></td>
<td>2½</td>
</tr>
<tr>
<td>Personal Hygiene</td>
<td></td>
<td>2½</td>
</tr>
<tr>
<td>Nutrition Theory</td>
<td></td>
<td>1½</td>
</tr>
<tr>
<td>Feeding Skills / Height, Weight and BMI</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td></td>
<td>2½</td>
</tr>
<tr>
<td>Basic Life Support (Infant and Child)</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Management of Bleeding</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Urinalysis and Fluid Balance</td>
<td></td>
<td>2½</td>
</tr>
<tr>
<td>Attended and Completed Skills for Semester 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sessions Attended: Student to tick

Year 1 Semester 2

<table>
<thead>
<tr>
<th>Clinical Skill</th>
<th>Sessions Attended</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine Management Theory 2</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Wound Healing and Factors Affecting Wound Healing</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Theory 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound Assessment – Theory 2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Respiratory Assessment Theory</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Respiratory Assessment – Practical</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Caring for a patient with an intravenous infusion</td>
<td></td>
<td>2½</td>
</tr>
<tr>
<td>(aseptic technique)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicine Management Practical – Oral</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Medicine Management – Injection Technique</td>
<td></td>
<td>2½</td>
</tr>
<tr>
<td>In-Hospital Resuscitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound Care Products Theory 3</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Wound Management Practical 4</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Elimination – Administration of Suppositories &amp; Enemas</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Blood Glucose Monitoring</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Care of the Patient with a Urinary Catheter</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Attended and Completed Skills for Semester 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Peer assessed Clinical Skills (PACS)
(Taken at the end of each skills week)

Semester 1: Week 1

1. Hand Hygiene
2. Vital Signs - Documentation
3. Basic Life Support

Semester 1: Week 2

1. Developing Competency in Numeracy
2. Record and Document Blood Pressure
3. Record and Document Height, Weight and BMI

Semester 2: Week 1

1. Oral Medicine Management
2. Basic Life Support
3. First Aid – Recovery Position and Management of Bleeding

Semester 2: Week 2 – Revision of skills

1. Respiratory – Peak Flow Measurement
2. Record and Document Vital Signs
3. Wound Management – aseptic / clean technique

Simulation Exercise:

Date Attended

.................................

APPL Group Tutor Sign

Off................................

Fig. 2. Record of PACS.
learning from PACS in practice. As with the pilot study, data analysis was undertaken using the Framework Method (Ritchie and Spencer, 1994) and their five stages of data analysis (See Fig. 5).

Findings

Six themes emerged from the data about the students’ experience of PACS. Fig. 4 shows the coding framework and the themes. One theme emerged as significantly dominant — the impact of PACS on student learning/development of clinical skills.

Clinical skill learning

Almost half of all statements made by students in the questionnaires were about the impact of PACS on their clinical skills development.

Within this theme, 8 sub-themes emerged. Four of these sub-themes about clinical learning were dominant. These were:

- Demonstrating reflection/reflective skills.
- Giving and receiving feedback and constructive criticism.
- Learning from peers/peer group learning.
- Value of repeated practice

In total, over 1/5 of all statements made about the value of PACS to student learning, were about the reflection and personal insights gained from participating in PACS. With regard to the first of these sub-themes, some of the students actually used the word “reflection” in their answers:

“I reflected on it and changed. I will do things better next time.”

However, the majority of statements made under this sub-theme were in the form of personal insights gained as a result of engaging in PACS, demonstrating that students had reflected on their PACS experiences.

“At first I thought I understood how to clasp my hands with the patient’s when placing them in the recovery position. After seeing [one of my peers] demonstrating it I realised that I was not doing it right. It was from the extra experience that I realised that there is always something to learn.”

A second sub-theme was the value of giving and receiving feedback and constructive criticism. Again, over 1/5 of all statements made about the impact of PACS on student learning were about giving and receiving feedback and constructive criticism.

“I found I learned from other people explaining things and commenting on the way it could be done. This for me is a good way to learn.”

A third sub-theme was about the value of learning from peers/peer group learning. Again, 1/5 of all statements made about the impact of PACS on student learning came into this sub-theme.

“Invoking friends in my learning, I feel as though I have absorbed a lot more information.”

The fourth sub-theme was about the value of having the opportunity to practice repeatedly during the session. Nearly 15% of all statements within the theme of the impact of PACS on learning were about the value of repeated practice.

“We kept practicing all the skills. Practice makes perfect.”

Students also cited the value of being assessed by peers and many of the statements were about how it was less daunting/more relaxed to be assessed by one’s peers.
## 1.0 General (non-specific) statements about PACS

<table>
<thead>
<tr>
<th>Positive</th>
<th>Number of statements</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 interesting</td>
<td>77 (out of 80)</td>
<td>96%</td>
</tr>
<tr>
<td>1.2 helpful</td>
<td>13 (out of 77)</td>
<td>17%</td>
</tr>
<tr>
<td>1.3 good/great experience</td>
<td>34 (out of 77)</td>
<td>44%</td>
</tr>
<tr>
<td>1.4 enjoyable</td>
<td>13 (out of 77)</td>
<td>17%</td>
</tr>
<tr>
<td>1.5 worthwhile/would recommend it</td>
<td>2 (out of 77)</td>
<td>2.6%</td>
</tr>
<tr>
<td>1.6 fun</td>
<td>4 (out of 77)</td>
<td>5.2%</td>
</tr>
<tr>
<td>1.7 useful</td>
<td>4 (out of 77)</td>
<td>5.2%</td>
</tr>
<tr>
<td>1.8 An excellent process</td>
<td>1 (out of 77)</td>
<td>1.3%</td>
</tr>
<tr>
<td>1.9 informative</td>
<td>1 (out of 77)</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negative</th>
<th>Number of statements</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.10 Not a good experience</td>
<td>1 (out of 3)</td>
<td>33.3%</td>
</tr>
<tr>
<td>1.11 Unnatural experience</td>
<td>1 (out of 3)</td>
<td>33.3%</td>
</tr>
<tr>
<td>1.12 Self-conscious of being watched</td>
<td>1 (out of 3)</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

## 2.0 General statements about the value of skills practice and PACS

<table>
<thead>
<tr>
<th>Positive</th>
<th>Number of statements</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Gave confidence</td>
<td>49 (out of 82)</td>
<td>60%</td>
</tr>
<tr>
<td>2.2 Applicable to practice/good preparation for placements</td>
<td>33 (out of 82)</td>
<td>40%</td>
</tr>
</tbody>
</table>

## 3.0 Specific skills identified as being developed during PACS session

<table>
<thead>
<tr>
<th>Positive</th>
<th>Number of statements</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Communication with clients and/or colleagues</td>
<td>7 (out of 60)</td>
<td>12%</td>
</tr>
<tr>
<td>3.2 Vital signs</td>
<td>23 (out of 60)</td>
<td>38%</td>
</tr>
<tr>
<td>3.3 Hand washing</td>
<td>5 (out of 60)</td>
<td>8.3%</td>
</tr>
<tr>
<td>3.4 Basic life support/unconscious patient</td>
<td>22 (out of 60)</td>
<td>37%</td>
</tr>
<tr>
<td>3.5 Gaining consent</td>
<td>3 (out of 60)</td>
<td>5%</td>
</tr>
</tbody>
</table>

## 4.0 Impact of PACS on student learning

<table>
<thead>
<tr>
<th>Positive</th>
<th>Number of statements</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Demonstration of reflective skills</td>
<td>47 (out of 215)</td>
<td>22%</td>
</tr>
<tr>
<td>4.2 Giving/receiving feedback and constructive criticism</td>
<td>44 (out of 215)</td>
<td>21%</td>
</tr>
<tr>
<td>4.2.1 Did not receive constructive criticism</td>
<td>1 (out of 215)</td>
<td>.4%</td>
</tr>
<tr>
<td>4.3 Putting knowledge into practice</td>
<td>9 (out of 215)</td>
<td>4.2%</td>
</tr>
<tr>
<td>4.4 Developed competence</td>
<td>4 (out of 215)</td>
<td>1.9%</td>
</tr>
<tr>
<td>4.5 Value of repeated practice</td>
<td>31 (out of 215)</td>
<td>14%</td>
</tr>
<tr>
<td>4.6 Value of working with a group of peers/learning from peers</td>
<td>44 (out of 215)</td>
<td>20%</td>
</tr>
<tr>
<td>4.7 Developing knowledge and understanding</td>
<td>2 (out of 215)</td>
<td>.9%</td>
</tr>
<tr>
<td>4.8 Value of being assessed by peers</td>
<td>4 (out of 215)</td>
<td>1.9%</td>
</tr>
<tr>
<td>4.8.1 Comfortable making mistakes</td>
<td>1 (out of 215)</td>
<td>.4%</td>
</tr>
<tr>
<td>4.8.2 Less daunting/more relaxed</td>
<td>25 (out of 215)</td>
<td>12%</td>
</tr>
<tr>
<td>4.8.3 Improved performance</td>
<td>2 (out of 215)</td>
<td>9%</td>
</tr>
<tr>
<td>4.8.4 Felt real</td>
<td>1 (out of 215)</td>
<td>.4%</td>
</tr>
</tbody>
</table>

## 5.0 Value of teaching skills to others

<table>
<thead>
<tr>
<th>Positive</th>
<th>Number of statements</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 Value of teaching skills to others</td>
<td>16 (out of 470)</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

## 6.0 How PACS sessions could be improved

<table>
<thead>
<tr>
<th>Positive</th>
<th>Number of statements</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 Skills carried out and assessed by teachers</td>
<td>4 (out of 17)</td>
<td>24%</td>
</tr>
<tr>
<td>6.2 More physical space in CPR room</td>
<td>5 (out of 17)</td>
<td>29%</td>
</tr>
<tr>
<td>6.3 Sessions could have been shorter</td>
<td>2 (out of 17)</td>
<td>12%</td>
</tr>
<tr>
<td>6.4 Insufficient equipment some of the time</td>
<td>2 (out of 17)</td>
<td>12%</td>
</tr>
<tr>
<td>6.5 Should only have two attempts at the PACS (not 3)</td>
<td>2 (out of 17)</td>
<td>12%</td>
</tr>
<tr>
<td>6.6 Need more practice time</td>
<td>1 (out of 17)</td>
<td>5.9%</td>
</tr>
<tr>
<td>6.7 We could be challenged more</td>
<td>1 (out of 17)</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

Total number of statements 470

Fig. 4. Coding framework – qualitative data from open-ended questions.
Con

number of these are worthy of comment and further explanation. A
fairly equally distributed across a number of lesser themes. A

including the development of judgement and critical thinking

evident between student and peer assessor.

speci

and were being taught basic skills by the

form pupil in their group. The pupils were both observing skills

school. Some of the peer groups in the PACS sessions had a sixth-

groups to spend time learning some basic nursing skills as a prep-

implementation and evaluation of PACS. This second project

Value of teaching others

were about suggested improvements to the PACS session, despite

Cheng and Warren (1997) and Sluijmans et al. (2001) who argued for the

ment is working towards ensuring that this happens.

Fig. 5. Five stages of data analysis (From Ritchie and Spencer, 1994).

“...more relaxed because you are being watched by people who are

at the same level as you.”

The other themes in the coding framework (see Fig. 3) were

fairly equally distributed across a number of lesser themes. A

number of these are worthy of comment and further explanation.

Confidence

Confidence was a word that appeared frequently in the student

questionnaire responses.

“When I go out [into placement] I will feel confident and calm doing

the skills that I have learned.”

Value of teaching others

Another project was being undertaken at the same time as the

implementation and evaluation of PACS. This second project

involved sixth-form pupils from a local school joined the small peer
groups to spend time learning some basic nursing skills as a prep-

aration for them applying to undertake nursing when they left

school. Some of the peer groups in the PACS sessions had a sixth-

form pupil in their group. The pupils were both observing skills

and were being taught basic skills by the first year student nurses
during the PACS sessions. The student questionnaires did not

specifically ask for comments about working with the sixth-form

pupils but a number chose to comment on the experience in their

questionnaires in terms of the impact on their own learning.

“I learned how to explain procedures which is important for when

we are on placement...”

How PACS sessions could be improved

Under 4% of all the statements coded in the coding framework

were about suggested improvements to the PACS session, despite

the fact that on the questionnaire students were specifically invited
to suggest improvements. Only one statement from one student

suggested that the skills assessments should be carried out by

teachers. Others indicated that for some sessions, more physical

space should be provided, specifically for cardiopulmonary resus-
citation practice. There were no suggestions for improvements to

the PACS process or criteria.

Discussion

It would appear from the analysis that formative assessment

through PACS promotes learning in the

first year student nurses, supporting the definition of formative assessment from Crooks

(2001). Through the process of feedback and constructive criti-
cism during the PACS sessions, this bidirectional process of

formative assessment described by Cowie and Bell (1999) was
evident between student and peer assessor.

PACS enabled students to learn some very complex skills,

including the development of judgement and critical thinking

skills, echoing previous studies by Alinier et al. (2004), Mello (2004)
and Welsh (2007). Although the PACS scheme was not the same
thing as an OSCE, some of the principles of OSCEs influenced the

PACS process. Alinier (2003) demonstrated the principles of OSCEs
can be used in a formative way to enhance skill acquisition through

simulation and enables student nurses to gain more confidence.

Indeed, it would appear that the PACS process developed the

confidence of the students in their first year essential skills.

Mowl (1996) argued that peer assessment aims to improve the

quality of learning. Brown et al. (1994) suggested that peer assess-
ment helps students to develop the ability to make judgements which is

both an academic and life skill. The findings of the PACS study

supports both of these works. Interestingly, Ramsey et al. (1996),
Ramsey and Wenrich (1999) and Rudy et al. (2001) all concluded

that peer assessment is the best for assessing interpersonal rather than

clinical skills. The PACS study presented here appears to

contradict this as students articulated in the findings that PACS helped

them to learn clinical skills as well as interpersonal skills.

In nursing, Welsh (2007) found that post-registration nurses

were initially uncomfortable assessing their peers and being

assessed by them, but that this diminished over time, a finding that

supported a previous by Hanrahan and Isaacs (2001) who found

hostility to peer assessment born out of a feeling of discomfort

about evaluating another student’s work. In the PACS study,

however, the findings showed that rather than either discomfort or

hostility the nursing students were almost unanimously positive

about being assessed by peers, citing the additional learning that

took place as a result of working in a team of peers and being

assessed by them. Students in the PACS study felt prepared for the

assesor role, possibly because of the training that was provided to

them prior to the PACS assessment. This supports Cheng and

Warren (1997) and Sluijmans et al. (2001) who argued for the

need for training in peer assessment. In addition, the creation and

use of clear criteria for the PACS assessment seemed to be a positive

factor in the success of PACS, supporting Bostock (2001).

Previous literature on peer assessment shows a relative absence of

research into peer assessment in clinical skills learning and this

study, therefore, offers new insights into the value of peer assess-

ment in the development of clinical skills.

This study could have been enhanced by the enlargement of the

questionnaire to include questions whose answers could be ana-

lysed quantitatively through tools such as SPSS. Additional studies

into the use of PACS in years 2 and 3 of the undergraduate nursing

programme would also be useful. An additional study will be

undertaken to examine the results of the end-of-year summative

assessment on this cohort of students. It is likely that this

approach to peer assessment of clinical skills could be used for

students in other health-related education programmes.

Conclusion

The PACS scheme has demonstrated that formative assessment

can be successfully undertaken into the development of essential

clinical skills in first year student nurses. The PACS scheme proved
to be a valuable tool for promoting learning of skills, teamwork,

communication and the ability to give and receive constructive

feedback. The creation and use of clear criteria for students for use

when assessing each other was seen as a positive, as was the

training received in peer assessment prior to the PACS assessment
taking place.

Enabling student nurses to learn and develop evidence-based

clinical skills is a key component of nursing education pro-

grammes. The PACS scheme within a simulated clinical environ-

ment is working towards ensuring that this happens.