Teaching students in the classroom and clinical skills environment


Summary
This article demonstrates that careful planning and management can help to ensure effective learning for pre-registration students during theory and practical skills teaching. It highlights two lesson plans with intended learning outcomes, one for a didactic teaching session and the other for a psychomotor clinical skills session. The article identifies a variety of teaching and learning strategies that could be adopted.

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Keywords
Clinical education; Education; Education: teaching; Resources
These keywords are based on the subject headings from the British Nursing Index. This article has been subject to double-blind review. For related articles and author guidelines visit the online archive at www.nursing-standard.co.uk and search using the keywords.

Lesson planning
Reece and Walker (2000) believe that a lesson plan has two functions: as a strategy or plan for teaching and as a series of cues to be used during the lesson. They also believe that a lesson plan is intended to help teachers to proceed with the teaching session logically but, even with detailed planning, every eventuality cannot be catered for. A lesson plan is, therefore, tentative and flexible. In addition to providing structure to a lesson Hinchliff (1999) notes that the sequence of events when planning teaching is the introduction, the progression of the subject material and the conclusion. The introduction should include setting the scene for the session, finding out what the students already know and telling them why they need to learn the knowledge, and the method by which they are to learn it.
Quinn (2000) identifies many reasons for the use of lesson plans and for them to be effective the key details that should be included are:

- Title of session, date, venue, time and duration.
- Details and number of learners.
- Aims and learning outcomes.
- Teaching resources required.
- Layout of venue.
- Sequence and process of session.
- The teacher’s initial self-evaluation.

Teachers should focus on planning for effective learning and develop learning outcomes specific to the lesson or scheme of work. Ashcroft and Foreman-Peck (1994) believe that planning for learning involves long-term, medium-term and short-term goals and, in their experience, inexperienced teachers tend to plan too much content and focus too little on management and organisation. They also warn that if teachers try to cover too much material, most of it will not be understood by students.

Welsh and Swann (2002) explain that teachers should not have to teach students everything and it is reasonable to expect that students will already have some background knowledge. However, they remind teachers to ascertain this information by identifying pre-requisite knowledge before commencing a session.

**Learning outcomes**

A learning outcome, as defined by Neary (2000), is what a student should know, understand and be able to do following a period of learning. It includes an indication of the evidence required to demonstrate that learning has been achieved. Each learning outcome represents an expectation that the student must learn a different item of knowledge, but Welsh and Swann (2002) warn that too many may create unreasonable expectations. Jarvis and Gibson (1997) note that learning outcomes are a result of educators attempting to provide direction for the development of a curriculum at every level. However, they also note that the desirability of providing such detailed direction is questionable, particularly because it proposes a teacher-centred learning approach that might not be acceptable to educators of adults.

The theory of andragogy highlighted that the one of the principles of teaching adults involves learners in a mutual process of formulating learning objectives (Knowles 1984), so perhaps a more mature approach would be to invite students to identify their own learning outcomes at the beginning of each session. However, realistically this would not, or could not, happen because of the time limitation of the sessions.

Teaching in nurse education is an intentional enterprise that aims to encourage learning and is characterised by planned and purposeful educational interventions (Quinn 2000). Quinn believes the practice of stating aims and learning outcomes is universal in the higher education sector and is represented as general and specific learning outcomes. Hinchliff (1999) suggests that learning outcomes should be ‘SMART’. This stands for: Specific, Measurable, Achievable, Realistic and Timed. Although learning outcomes are useful in terms of deciding what to teach, they have limitations.

Another influencing factor was derived from Bloom (1965), who describes a taxonomy of educational objectives that demonstrates how learning outcomes can range from low level knowledge to complicated thinking processes required for evaluation. This taxonomy describes three domains to be considered when developing learning outcomes, and these have been widely adopted by teachers and trainers. These are the cognitive, affective and psychomotor domain.

These domains are divided into a hierarchy of categories that demonstrate the different levels at which the learner may operate or be asked to operate (Huddleston and Unwin 1997). Learning outcomes in nurse education in Wales are further influenced by the higher-level descriptors (Quality Assurance Agency for Higher Education (QAAHE) 2001) and other appropriate mechanisms associated with Health Professions Wales (HPW 2003) and the Nursing and Midwifery Council (NMC 2004a).

**Strategies for didactic teaching sessions**

Planning and organisation are essential requirements for teaching (Welsh and Swann 2002) and teaching strategies are chosen for reasons that go beyond being a mechanism for ensuring that students achieve the subject-specific outcomes (Huddleston and Unwin 1997). Figure 1 shows a template that could be used for a didactic teaching session.

The strategies used in Figure 1 include a quiz, lecture with oral questioning and group work. **Quiz** This is used at the beginning of the lesson to ascertain the student’s knowledge and understanding of the previous session. Although the questions are pre-determined by the teacher,
the quiz is student-led and students nominate each other to answer questions.

**Oral questioning** This is an integral part of the two-way activity between the teacher and class that characterises many successful lessons (Curzon 2003). It can be used to discover the level of class knowledge, provide informative feedback and demonstrate what progress in teaching and learning has been achieved and any revision needed.

**Group work** Approximately 25 minutes into the lesson the students are asked to split into four groups and discuss the content of a pre-operative checklist. They are allocated 20 minutes to do this, giving sufficient time for students to become involved and complete the task (Quinn 2000). The individual groups are then required to feedback to the rest of the class using acetates and an overhead projector. Quinn (2000) also identifies that not everyone likes group work because some students have a tendency to dominate small groups. Reece and Walker (2000) note that group work can be noisy and degenerate into an informal chat. The benefits of group work, however, are evident and appear to outweigh the negative aspects.

Petry (2004) argues that during group work students’ opinions are valued and accepted, while during didactic teaching they are ignored. Group work is active as it gives the students an opportunity to use the methods, principles and vocabulary that they are being taught. Petry (2004) also recognises that shy students who will not contribute to a full class, can usually be coaxed into contributing to a small group. Reece and Walker (2000) believe that group work is useful for changing students’ attitudes. It promotes deep learning and encourages students to become articulate and creative when providing feedback on knowledge gained through a learning activity.

**Clinical skills teaching session**

The clinical skills session (Figure 2) focuses on limb fractures and it is presumed that the students have little or no knowledge of first aid in relation to fracture management before this session. Some students, however, contribute extremely well, having followed a first aid programme before entering nurse education, sometimes as a result of having completed a nursing access course.

**Strategies for clinical skills teaching sessions**

There are many teaching strategies available to teach clinical skills although Reece and Walker (2000) note that the choice of strategy often relates to two aspects: the objective of the session and the number of students in the class.

The strategies adopted for teaching fracture management include demonstration, questioning, small group work and teacher transmission or lecturing. When teaching a lesson that incorporates a psychomotor skill, such as fracture management, the demonstration of that skill by a teacher is an essential strategy to ensure student learning. Quinn (2000) details a checklist for teachers during a demonstration that includes:

- State the learning outcomes for the students.
- Motivate them by explaining why the skill is important.
- Write the sequence of each part of the skill on an overhead projector.
- Write each part of the skill slowly, in the correct sequence.
- Obtain feedback by questioning and observation of non-verbal behaviour.
- Avoid the use of negative examples and variations in technique.

Quinn (2000) also notes that immediately after the demonstration, the students should be given a chance to practise this skill, although it should be remembered that they often acquire such skills at different rates. Therefore, timing is an essential component of teaching skills. Quinn (2000) emphasises that demonstration is also an excellent strategy for linking theory and practice and is well received in nursing. Direct questioning can reinforce that learning has taken place. It stimulates the students and allows the teacher an opportunity to expand on the subject being discussed. One disadvantage, however, as explained by Reece and Walker (2000), is that it could include a minority of students participating and, in such cases, careful planning may be required. In other words, there is a potential that, with direct questioning, the more reluctant students would not participate. Quinn (2000) discusses the purpose of small groups and points out that the function of a small educational group is to put the student at the centre of things. This allows opportunities for face-to-face interaction with other group members to exchange ideas and feelings. A similar view is shared by Oliver and Endersby (2000) who state that small group work also involves peer support and the fostering of cooperation between students.

Part of a skills lesson can be delivered by teacher transmission but this is autocratic in nature and allows little or no active participation (Walkin 2000). This method can, however, be
Date: January 2004   Time: 13.30-15.00   Group: Cohort 1   Subject: Nursing assessment of the surgical inpatient

Group number: 60   Duration: 1.5 hours   Venue: Lecture theatre   Session Style: Lecture

Previous relevant knowledge:
Second year pre-registration nursing students who have completed the common foundation unit in year one and a 16-week medical module at the beginning of year two

Aim of the session:
- To apply knowledge base to the safe principles of pre-operative preparation for surgical patients

Learning outcomes: At the end of the lesson the students will be able to:
- Demonstrate correctly an understanding of the importance of maintaining a safe environment and ensuring patient safety during the pre-operative phase
- Critically examine the theory underpinning the pre-operative checklist for surgical patients
- Provide a rationale for nursing care, taking into account the social, legal and ethical influences within the peri-operative environment

<table>
<thead>
<tr>
<th>Duration</th>
<th>Content and development</th>
<th>Method</th>
<th>Rationale</th>
<th>Student activity</th>
<th>Audiovisual aid</th>
<th>Assessment</th>
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<tbody>
<tr>
<td>15 mins</td>
<td>Re-cap on previous session</td>
<td>Quiz</td>
<td>To identify knowledge and understanding from previous session</td>
<td>Student-led questions and answering</td>
<td>PowerPoint™ slides one to four</td>
<td>Verbal feedback to indicate prior learning</td>
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<tr>
<td>5 mins</td>
<td>Introduction to session</td>
<td>Teacher transmission with direct questioning</td>
<td>Signposts where the lesson fits into the peri-operative care programme. Highlights structure of the session</td>
<td>Listening with the opportunity to ask questions</td>
<td>PowerPoint™ slides five to seven</td>
<td>Allows assessment of prior knowledge</td>
</tr>
<tr>
<td>10 mins</td>
<td>Development 1: Questions</td>
<td>Teacher transmission with direct questioning</td>
<td>To assess prior knowledge and understanding</td>
<td>Listening with the opportunity to ask questions</td>
<td>PowerPoint™ slides eight to 11</td>
<td>Allows assessment of prior knowledge</td>
</tr>
<tr>
<td>15 mins</td>
<td>Development 2: What information does the pre-operative checklist comprise?</td>
<td>Practical exercise: circulation and facilitation while students on task</td>
<td>To foster students’ critical thinking abilities</td>
<td>Student participation: group work (four groups) to document what the pre-operative checklist comprises</td>
<td>PowerPoint™ slides 12-13 Acetates and pens</td>
<td>Feedback to the group Assessment of prior knowledge</td>
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successful if well prepared, rehearsed and supported by audiovisual material.

The quality of learning in a clinical skills laboratory versus hands-on learning has been debated for some time. Increasing numbers in student cohorts have placed unprecedented pressure on the availability of appropriate clinical practice placements (NMC 2004b). Because of this, the lack of attention that students sometimes experience at these placements is in danger of compromising the quality of student education (NMC 2004b).

During the 1980s, nurse education institutions believed the development of psychomotor skills would be best achieved during clinical placements (Hilton and Pollard 2004). However, the use of clinical skills laboratories now plays a key role in the teaching and learning strategies of clinical skills.

There appear to be conflicting arguments over what is considered an appropriate environment in which to teach practice skills. The NMC (2004b) believes that skills laboratories can enhance the student learning experience, but they are not a substitute for clinical education. It is currently reviewing its policy on the use of clinical skills laboratories to contribute to a proportion of clinical practice training.

**Conclusion**

Planning and organisation are essential factors that influence teachers and their teaching methods. Approaches to teaching are not only plentiful, but are also highly complex processes, that require understanding of the theories of learning, the subject matter, lesson planning and the background and expectations of students.

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**FIGURE 1 CONTINUED**

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<tr>
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<tr>
<td>25 mins</td>
<td><em>Development 3:</em> Examining patient safety during the pre-operative stage allows the teacher to further expand on the subject</td>
<td>Teacher transmission with direct questioning</td>
<td>Highlights the importance of patient safety during the pre-operative stage</td>
<td>Listening with the opportunity to ask questions</td>
<td>PowerPoint™ slides 14-40</td>
<td>Direct questioning will confirm understanding of the subject</td>
</tr>
<tr>
<td>15 mins</td>
<td><em>Development 4:</em> Summarise and state the main points of the session</td>
<td>Teacher transmission with direct questioning</td>
<td>Ask questions to confirm learning (diagnostic assessment to gauge learning) Inviting questions and comments provides the opportunity for students to engage in a group discussion</td>
<td>Listening with the opportunity to ask questions</td>
<td>None</td>
<td>Verbal feedback to demonstrate knowledge and understanding</td>
</tr>
<tr>
<td>5 mins</td>
<td><em>Development 5:</em> Information giving</td>
<td>Teacher transmission with direct questioning</td>
<td>To provide further reading material for students Handouts are now available on the website for students who are absent Preparation for next session</td>
<td>Listening with the opportunity to ask questions</td>
<td>PowerPoint™ slides 41-42</td>
<td>This session is not formally assessed, however, intermittent questioning is used to confirm understanding and learning</td>
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</tbody>
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**Lesson plan one continued**
Lesson plan two

Date: January 2004  Time: 13.30-14.30  Group: Cohort 2  Subject: Fracture management

Group number: 20  Duration: 1 hour  Venue: Clinical skills laboratory  Session Style: Clinical skills session

Previous relevant knowledge:
First year pre-registration nursing students who have completed one theory module

Aim of the session:
- To acquire basic first aid skills in the treatment of people with fractured limbs

Learning outcomes: At the end of the lesson the students will be able to:
- Identify correctly common sites and types of fractures
- Explain how to correctly recognise the signs and symptoms of a fracture
- Describe the appropriate treatment of fractures
- Demonstrate correctly an elevation sling, broad-arm sling and immobilisation of lower limbs as in the St John Ambulance (1997) first aid manual

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</table>
| 10 mins  | Introduction: Aim and objectives  
Q1. Are there any trained first aiders in the class?  
Q2. Has anyone experienced a fracture and is willing to share it with the group? | Teacher transmission with direct questioning | Signposts where the lesson fits into the first aid programme, and highlights structure of the session | PowerPoint™ slide one | Verbal feedback to indicate prior learning |
| 10 mins  | Development 1:  
Common sites of fractures – upper and lower limbs  
Q3. Where are these bones situated in the body? Identify bones on skeleton model | Teacher transmission with direct questioning. Demonstration of skeletal bones using skeleton model | Visualisation, aids to retention of learning, better than continuous teacher transmission | PowerPoint™ slides two and three Skeleton model | Allows assessment of prior knowledge |
| 5 mins   | Development 2:  
Types of fractures  
Q4. Can anyone identify any types of fractures?  
Draw identified fractures on flip chart – compare with tutor slide | Teacher transmission with direct questioning. Illustrate different fractures on flip chart | Reinforces learning and gives the teacher the opportunity to further expand on subject matter. Visualising the fractures when drawn, aids retention of learning | PowerPoint™ slides four and five Flip chart/pens | Allows assessment of prior knowledge |
| 5 mins   | Development 3:  
Signs and symptoms of fractures  
Q5. What are the signs and symptoms of a fracture?  
Write student answers on flip chart – compare with tutor’s slide | Teacher transmission with direct questioning | Reinforces learning and gives the teacher the opportunity to further expand on subject matter | PowerPoint™ slide six Flip chart/pens | Allows assessment of prior knowledge |
Lesson plan two continued

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<tr>
<td>20 mins</td>
<td>Development 4: Immobilisation of upper and lower limb fractures Q6. Can anyone remember where these particular bones are situated? Students to demonstrate application of slings and bandages in pairs</td>
<td>Teacher demonstration of application of slings and bandages. Students in pairs to practise skill on each other. Circulate and facilitate</td>
<td>Demonstration enhances transmission of information, by the use of tangible equipment. Students are given the opportunity to practise this psychomotor skill in a safe environment</td>
<td>PowerPoint™ slides seven and eight. Second teacher as a model. Slings/ bandages</td>
<td>By circulating around the students, allows for visual assessment of the skill</td>
</tr>
<tr>
<td>5 mins</td>
<td>Development 5: Treatment of an open fracture Q7. How do you think an open fracture should be treated? Compare with tutor slide</td>
<td>Direct questioning and teacher transmission</td>
<td>Reinforces learning and gives the teacher the opportunity to further expand on subject</td>
<td>PowerPoint™ slide nine</td>
<td>Allows assessment of prior knowledge</td>
</tr>
<tr>
<td>5 mins</td>
<td>Development 6: Revisit learning outcomes and conclusion Q8. Any questions or comments?</td>
<td>Teacher transmission</td>
<td>Reinforces lesson content and signposts end of lesson</td>
<td>PowerPoint™ slide ten</td>
<td>Allows assessment of what has been learnt and retained during the session</td>
</tr>
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</table>

References


