Peer learning in clinical education

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SUMMARY The purpose of this paper is to raise awareness of peer learning as a process that is potentially beneficial to clinical education. Peer learning is a well documented learning strategy in paediatric educational literature. Many allied health clinical education programs purport to utilize it as a learning technique. Do we really know what peer learning is, how to promote it and why it is beneficial to facilitate it? This paper addresses these questions by considering terminology and definitions of peer learning and briefly outlining theoretical justification for its use in clinical education. Literature regarding the application of peer learning in clinical education is reviewed and the reported and purported benefits of peer learning are discussed.

What is peer learning?

'Peer learning' refers to two concepts. The first concept, peer, is defined in the Oxford Dictionary (seventh edition) as 'an equal in civil standing or rank or equal in any respect.' Learning is defined as 'to get knowledge of or skill in, by study, experience, observation or teaching.' A dictionary definition of peer learning could then be, to get knowledge through study, experience, observation or teaching of an equal. A peer could be a colleague, a person of the same age, a person from the same school or class or a person from within the same course. Lord & Garfin (1986, p. 34) when reviewing definitions concluded that 'the need arises for a functional definition of peer. This definition may vary according to the objectives of the intervention'. It appears that the concept of peer is defined according to each situation. For the purposes of this paper, a peer is defined as a fellow student.

Another area which needs clarification is the terminology which is used to describe peer learning. It is referred to in the literature as peer tutoring, peer teaching, peer group learning, peer consultation and a number of other descriptors. These all appear to refer to a similar concept, that is, peers helping peers to learn. Yet, the use of 'tutoring' and 'teaching' imply a loss of equality within the
peer relationship. In a tutoring or teaching relationship one peer is the teacher or leader while the other is the subordinate. These terms also imply that a structured interaction occurs. In this case peer learning is not incidental or at the initiation of the learner, rather it may be structured in terms of timetabling, content material to be covered and allocation of the roles of tutor and pupil. ‘Peer group learning’ describes how the process of learning is structured. That is, learning occurs through group interactions rather than individual interaction. Again this implies a structured and formalized process. Another terminology issue arises with the concepts of peer review and peer evaluation. These procedures extend the concept of peer learning to assessment. In these procedures peers are not of equal rank (Hart, 1990), and the reviewer has ‘power’ over the reviewee. Peer review/evaluation refers to an assessment procedure from which learning may or may not result.

From the above discussion it appears that the important distinction among these differing terms is one of process versus procedure. Peer learning refers to a process while peer tutoring, peer teaching, peer review and peer evaluation refer to procedures designed to facilitate the process of peer learning. In an attempt to clarify, the authors of this paper have defined peer learning as a learning process in which learners learn from their peers. It is similar to other learning processes such as rehearsal or visualization. Consequently it is a learning process that learners can choose to utilize. Similarly, peer tutoring and teaching are analogous with other learning procedures such as seminars, lectures and demonstrations, except they are structured to facilitate the peer learning process.

This paper begins by considering why peer learning might be important in clinical education and what the hypothesized and reported benefits of peer learning are. Examples from allied health literature of the application of peer learning procedures to clinical education are then discussed.

Is peer learning educationally sound?

Peer learning as a process is congruent with many of the educational goals of allied health courses. Our current knowledge of students’ approaches to learning, characteristics of adult learners and approaches to clinical education logically support the application of peer learning approaches to clinical learning situations. However, despite the fact that peer learning is congruent with these areas, many of the hypothesized benefits to the learner of peer learning have yet to be empirically tested. This section discusses why peer learning is important in terms of its congruence with educational theories and approaches. Empirically derived and hypothesized benefits of peer learning are discussed in a later section.

It is known that students utilize a surface and deep approach to learning (Marton, 1983, reported in Brown, 1983; Kolb, 1988) and that reflection is an important part of clinical learning (Mandy, 1989). Deep learning is necessary for students to apply theory to clinical situations in an appropriate way and reflection is necessary for students to learn from their clinical experiences. Peer learning procedures may facilitate deep learning and reflection and therefore may be an important part of educational experiences.

The application of the peer learning process is also consistent with our knowledge of how adults learn. The characteristics of adult learners put forward by Knowles (1990) seem to be compatible with the peer learning process. Conse-
quently if we want to maximize the learning of adult learners, peer learning procedures could provide an effective educational experience.

The goals of clinical education programmes are also consistent with the application of the peer learning process. 'The ultimate goal of supervision is to produce a qualified Speech Pathologist capable of self-supervision' (Dowling & Shank, 1981). In other words, clinical education aims to produce independent clinicians who are capable of evaluating their own skills and performance. Given the rate of change in the knowledge bases of allied health professions it is important that students become life-long learners. It will be argued by the authors that peer learning promotes deep learning, reflection and self-direction, all of which contribute to clinical independence.

The preceding discussion suggests that peer learning is congruent with educational theories and goals. In fact the application of peer learning procedures may aid in the achievement of goals. For these reasons peer learning is believed to be an important part of the learning processes of allied health students.

What are the benefits to the learner from peer learning approaches?

Hypothesized benefits

The peer learning process may facilitate deep learning. Procedures such as mutual problem solving, brain-storming, joint analysis, observation of peers, self- and peer evaluation, and group discussion with peers may facilitate deep learning. These types of activities encourage application, reorganization and questioning of knowledge which may have been learned using a surface or strategic approach. Peers may be able to provide real life examples of material learned theoretically which will facilitate application of theory. In other words the actions of the learners' peers may promote a deep approach to learning.

Reflective learning encourages the learner to return to an experience and to recall the events and emotions associated with it. Negative emotions have been identified as a barrier to learning (Boud, Keogh & Walker, 1985). The expression and analysis of negative emotions through reflection may enhance learning. Interaction with peers in similar situations may be conducive to the expression of emotions both positive and negative. It is possible that emotions may be more freely expressed with peers because there may be more empathy and less risk of judgement. The safe and supportive environment of a peer group may facilitate analysis of these emotions.

There are also many benefits which can be hypothesized to result from the fact that peer learning will be compatible with the characteristics of some adult learners. Sharing experiences with a peer may facilitate knowledge and confirmation of why something has to be learned and its relevance to real life situations. Peer interactions allow adults to maintain their independence and control their learning. This contrasts with the traditional clinical educator/student relationship in which the student is dependent on the clinical educator to learn and the choice of learning process is limited. The peer learning process may also affirm the adult's self-esteem, self-concept and perceptions of usefulness which would increase internal motivation. The application of the peer learning process may also result in decreased competition between students and assist them to focus on individual goals and achievements. It may however, highlight differences between
students and contribute to competition. The outcome with regard to competition would largely depend on the personalities of the students and their understanding and experience of the peer learning process. Adults also bring a wealth of past experience to interactions which may facilitate learning by peers. This is analogous to utilizing 'natural resources'. The above observations and arguments suggest that the peer learning process would be compatible with the known characteristics of adult learners.

Another hypothesized benefit of the peer learning process may be the promotion of collegial relationships between peers. It is worthwhile to encourage co-operation between peers because it is an essential skill for allied health professionals in their work environment. Hart (1990), in a review of the literature on the implementation of peer review and peer consultation with nurses in a clinical context concluded that they ‘extend and formalise peer interactions that occur regularly on an unplanned basis’ (p. 45). Participation in peer consultation benefits not only the individual but the group, quality of care and the profession. She reported that it also contributes to a sense of professional identity. In future years, this may result in the establishment of a united professional group which values members’ expertise and whose members actively consult each other. Hart concludes that peer learning promotes the development of professional identity.

Reported benefits of peer learning

Many of the reports describing the benefits of peer learning approaches when used with adults contain anecdotal evidence only. However a substantial body of literature exists which demonstrates its benefits when used with children in an educational setting. Wagner (1982, p. 219) states ‘I can think of no other innovation which has been so consistently perceived as successful’ when referring to peer tutoring schemes in schools. In a summary of the literature in this area, Goodlad & Hirst (1989) outline the benefits which may be expected from such schemes. Benefits to the student tutors include ‘reinforcement of their knowledge of fundamentals, development of insight into teaching, development of a sense of personal adequacy and finding a meaningful use for the subject matter of their studies’. Benefits to the pupils include ‘receiving individualised instruction, receiving more teaching, responding to their peers and receiving companionship.’ Goodlad & Hirst (1989) cite studies which show that peer tutoring has been effective in improving reading skills, verbal skills, and mathematical skills of children compared to those in control groups who received no tutoring.

How do adults benefit from peer learning? In the academic learning environment a goal of teaching is the production of autonomous learners who can apply, analyse and synthesize information (Collier, 1983). Collier discusses a technique called syndication, which is used in higher education to achieve the above goals, through peer learning. Students form ‘syndicates’ and members are responsible for researching and teaching allocated topics to the other members. He considers that the benefits to the syndicate members include heightened motivation, increased involvement in academic work, development of higher order intellectual skills (critical thinking, problem solving), a deep learning approach to content and the facilitation of self-directed and independent learning skills. In the clinical environment Hart (1990) reported that a group of nurses identified the benefits of peer group learning and teaching as:
(1) recognizing group members as untapped resources and acknowledging professional expertise;
(2) encouraging information sharing;
(3) allowing feedback on individual contributions;
(4) providing reassurance;
(5) creating a feeling of equality;
(6) making it OK to admit problems;
(7) taking pressure off individuals;
(8) providing different perspectives;
(9) encouraging a professional approach to problems;
(10) helping organize information;
(11) giving direction for actions;
(12) alleviating/diffusing conflict;
(13) increasing self-esteem and confidence;
(14) developing listening and facilitation skills;
(15) improving small group skills;
(16) creating group power; and
(17) spreading enthusiasm.

Hart (1990) also reports that a group of nurses involved in teleconferences with peers experienced reduced feelings of professional isolation, were able to gain different perspectives on professional issues and were provided with reassurance. Again from nursing literature, Erickson (1987) suggests the benefits from ‘planned peer interactions’ include ‘the establishment of a non-threatening learning environment’ (p. 205). Fontes (cited in Hart, 1990) reports that an atmosphere of ‘openness and respect for differing values promotes self-discovery, growth, development, acceptance and self esteem’. Dowling (1979) reported that peers increase their clinical knowledge beyond the scope of their own cases and that self-supervisory skills increase through observation, analysis and problem-solving during a ‘teaching clinic’. A further article by Dowling (1983) evaluated the interaction between supervisors, peers and clinicians in a teaching clinic. It confirmed that this method of supervision fostered self-supervisory behaviours and increased conference participation, problem-solving and strategy development.

The above discussion briefly outlines some of the benefits of peer learning approaches which are reported in the literature. There is evidence to suggest that the process of peer learning when facilitated with children leads to academic and social gains and that similar gains could be expected for adult learners.

**How can peer learning be promoted?**

It is apparent from the preceding discussion that facilitation of peer learning in the clinical education context is a logical and philosophically congruent endeavour. This section considers both ‘unstructured’ and ‘structured’ approaches to facilitating peer learning, because both techniques are applicable to clinical education.

**Unstructured approaches**

An unstructured approach to facilitating peer learning refers to the creation of an environment which is conducive to peer learning. A clinical program in which
individual students are placed in individual clinics would not be conducive to peer learning. In contrast, a program which places several students in the same or different years in a single setting would be more conducive to peer learning. Rosenthal (1986) reported on a program which utilized peer learning in Speech Pathology clinical education. Year 2 students in their first clinical placement were teamed with Year 4 students who were in their final clinical placement. The Year 2 acted as an apprentice or assistant to the Year 4 student. This approach would best be described as a peer tutoring procedure.

The provision of observation facilities would encourage students to watch their peers treating and assessing clients. The provision of a meeting room for students to meet and discuss clinical issues and concerns without fear of judgement by a clinical educator would also be facilitative. With careful planning it is possible to create an environment which facilitates peer learning even in a small clinic with only two students, for example by making sure students have a time and a place for discussion with each other.

Clinical educators could also facilitate peer learning in an unstructured manner. They could model the process by consulting with colleagues in the students' presence. They could suggest that students observe peers, manage cases jointly, use a peer to get an objective opinion, give another student feedback on a session, consult more advanced students or students with a similar client, caseload or problem. They could ensure students have an opportunity to interact outside of the clinical educator's presence. An awareness of the benefits of peer learning could maximize a clinical educator's use of 'natural educational resources' in the clinic.

Perhaps rather than focusing on the clinical educator facilitating peer learning we should teach students how to facilitate each other's learning. The inclusion of a course in learning theory which has a unit on peer learning early in the students' education might facilitate this. Students could be taught about peer learning, which may make them more aware of this learning opportunity. Role playing could be used to teach students how to ask questions of their peers which facilitate problem-solving and deep learning in the clinical education context. Farmer & Farmer (1989) suggest that broad or open-ended questions, divergent questions and evaluative questions are the most facilitative of students' learning. By providing students with this knowledge educators are empowering students to maximize their learning experiences.

Structured approaches

Structured approaches to facilitating peer learning refers to organized, formalized activities. These are procedures which are instituted to take advantage of the known benefits of the peer learning process. Examples of structured approaches are discussed below.

Dowling (1979) used a procedure called 'teaching clinic' based on a concept of peer group supervision, to facilitate peer learning in Speech Pathology clinical education. During a teaching clinic participants present a video segment of themselves conducting therapy. Members of the group are assigned roles such as clinic leader and group monitor. The teaching clinic has six phases: review of the previous teaching clinic, planning, observation, critique preparation, critique and strategy development and clinic review. The clinical educator at-
tempts to take a non-dominant role in the interaction so as to facilitate peer learning.

The use of conferencing in clinical education is advocated by many experts in the field (Anderson, 1988; Farmer & Farmer, 1989). Group supervisory conferences are an excellent venue for facilitating the peer learning process. By assuming a non-dominant, facilitatory role during a conference the clinical educator may promote the peer learning process through case presentation, mutual problem-solving, idea sharing, role playing, discussion and goal setting. Conference group members may offer each other support, recognize each other’s contributions, promote confidence and self-esteem of members and form a group identity. Further research is needed to identify which clinical educator behaviours are facilitative of peer learning in this context and what structures may be needed for successful interaction, for example rule setting and group size.

Another structured approach to facilitating peer learning was proposed by Buckberry & White (1987). They advocated the use of the Quality Circles concept as a ‘supplementary supervisory technique’. A Quality Circle is a group of people who regularly meet together to identify, discuss and analyse problems in their area. This concept is similar to ‘interest groups’ which are found in many professions. Buckberry & White reported that the supervisor took a secondary role in a Quality Circle of students. Members presented and analysed their own problems through ‘brain-storming’ tactics. The authors reported that this provides students with an opportunity to interact with their peers on a professional level. A survey of participants in Quality Circles found that it was a comfortable setting for the exchange of ideas and that students felt their ability to analyse and solve problems had improved. Encouraging students to establish ‘interest groups’ or ‘Quality Circles’ within educational facilities may facilitate peer learning. These groups may also provide peer support for students in single student placements or placements perceived as ‘difficult’. It may also help students recognize the value of such groups and promote membership of such groups after graduation.

Structured peer learning may also be facilitated by formalizing the observational process. By requiring students to observe their peers conducting assessments and treatment sessions you increase exposure to different cases and disorders. By further requiring students to discuss their observation with the students they observe, collect specific data on the interaction or write feedback to the clinician learning from the observation is assured.

Farmer & Farmer (1989) described a technique called ‘supervision in absentia’. This type of supervision is recommended for advanced students. Farmer & Farmer reported how students meet as a group to discuss an agenda which may have been set by the students, clinical educator or both. The supervisor is not present during the conference but it is videotaped and any unresolved issues or questions are directed to the camera to solicit input from the clinical educator at a later time. The clinical educator meets with the students at a negotiated time and discusses the unresolved issues and the self-supervision process. This structured technique would appear to be highly facilitative of peer learning. However Farmer & Farmer stressed that this technique is only suitable for use with advanced students as less experienced clinicians require more support and direct input from the clinical educator. Table I summarizes structured and unstructured approaches to facilitating peer learning.
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TABLE I. Facilitating peer learning in clinical education

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<th>Unstructured Approaches</th>
<th>Structured Approaches</th>
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<td>Dowling (1979)</td>
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<td>Rosenthal (1986)</td>
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<td>Provision of observation facilities</td>
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Conclusions

Peer learning is a beneficial process to adult learners. It is compatible with the goals of clinical education, approaches to learning required in clinical education, and reported characteristics of adult learners. This paper has described techniques for facilitating peer learning using structured and unstructured approaches in clinical education.

It was only possible to come to the preceding conclusions by first defining peer learning as a process rather than a procedure. Without this definition peer learning became a 'grey' area of confusing terminologies and applications. By viewing peer learning in this manner it could be explored in a wider context and related more easily to clinical education. Also by considering 'peer' as a fellow student, principles could be applied in a discipline-specific manner as well as across students in different years of the course. There are good reasons to believe that peer learning will benefit some students during clinical education. Clinical educators have everything to gain and nothing to lose by actively facilitating peer learning. This paper concludes that facilitation of peer learning in clinical education will help produce independent, self-directed, self-supervising clinicians from whom their peers will be able to learn.

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REFERENCES


