Self-directed learning: views of teachers and students

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HEWITT-TAYLOR J. (2001) *Journal of Advanced Nursing* **36**(4), 496–504

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Aim. This paper reports the findings of an investigation into teachers' and students' understanding of the term self-directed learning (SDL), and their views concerning its value in paediatric intensive care (PIC) nurse education.

Methods. Qualitative methods of data collection and analysis were used. The findings from interviews with teachers and students across eight PIC nursing courses are reported. Local Research Ethics Committee protocols were followed. Data were analysed using constant comparative analysis.

Findings. Teachers and students appeared to experience some difficulty in articulating a precise definition of SDL. Both groups saw it as one teaching and learning method to be used alongside others, and focused their definitions on the observable events thought to demonstrate self-direction rather than the cognitive processes involved. Teachers and students considered SDL of some value, but only when used in conjunction with teacher-led methods. Both teachers and students felt that students take more responsibility for learning in SDL than in traditional teaching. However, there was a difference of opinion as to the manner in which responsibility was devolved and accepted, and neither party was completely convinced that the other respected them.

Limitations. The study explored only PIC nurse education, and was not intended to be generalized beyond this field.

Conclusion. The evidence from this study suggests that SDL has elusive qualities which defy precise definition. It appears that attempting such a definition and reducing SDL to an observable form may detract from its perceived value. It can be inferred from this study that in order to implement SDL issues of control and autonomy within the learning environment merit further exploration, rather than simply focusing on observable teaching and learning tools or methods.

Keywords: self-directed learning, nurse education, qualitative enquiry, paediatric intensive care

Introduction

This paper presents the findings from a qualitative study exploring the use of self-directed learning (SDL) in paediatric intensive care (PIC) nurse education in the United Kingdom (UK). The research questions addressed are:

- What do nurse teachers involved in the postregistration Intensive Care Nursing of Children course (ENB 415) understand by the term SDL?
- What are the views of nurse teachers on the course concerning the use of SDL?
- What do students on the course understand by the term SDL?

- What are the views of students on the course concerning SDL?

In 1987, the English National Board for Nursing, Midwifery and Health Visiting (ENB) instituted a radical change in nurse education, stating that it should move from traditional modes of instruction to the use of adult learning principles (ENB 1987). Knowles's (1983) views on adult learning were adopted, according to which SDL emerges as a major theme. Evaluation of the success of SDL is particularly pertinent at this time, as a further radical review of nurse education is underway in the UK. It is, therefore, timely to consider the success or otherwise of previous educational innovations, and to review the evidence base regarding the educational processes used in nurse education.

Literature review

Knowles's (1983) work, which compares teaching adults (andragogy) with teaching children (pedagogy), forms the basis of nurse education's adoption of adult learning principles in the UK (ENB 1987). Knowles's (1983) emphasis on the adult self underpins his conclusions, one of his major themes being that adults' learning is optimum when self-directed.

The self is generally considered to develop from interpretation and integration of experiences, from which perceptions of reality and one's own being arise (Brookfield 1986, Jarvis 1988). Knowles (1983) considers that the adult self is reached when individuals can take responsibility for their own lives, becoming autonomous, independent and self-directing. It is this view of the adult self that leads him to conclude that adults' learning will be optimal when they are enabled to be self-directed, using their experience as a learning resource, studying in areas which they consider relevant and applicable in a real life situation, and where learning is problem-based rather than subject-based. The teacher's role in this is seen as facilitating learning, and engaging in a process of mutual enquiry with students rather than transmitting specific knowledge. Equality of status and mutual respect between teacher and student are necessary (Knowles 1983). Knowles (1990) describes the main elements of SDL as students identifying their own goals, learning resources, and methods of learning, and being involved in evaluation of their learning.

However, Jarvis (1988) and Brookfield (1986) believe that other-directed as well as self-directed adults exist, and question whether SDL is the best approach for all adults. Hartree (1984) and Darbyshire (1993) also suggest that the differences between adults and children are insufficient grounds for distinct educational approaches. Knowles (1983) acknowledges that adults may be unused to being self-directed in their learning, and may initially find this approach problematic, and his later work (Knowles 1990) also acknowledges that andragogy and pedagogy need not be mutually exclusive.

A further point of contention is the nature of Knowles' perception of andragogy. He describes his view of this as both a set of assumptions and a theory. Others suggest that his concept of andragogy resembles a philosophical position, rather than a theory (Hartree 1984, Jarvis 1988). Merriam (1993) considers that it is unrealistic to attempt to explain a phenomenon as complex as adult learning in a single theory, and a more achievable aim would be a multifaceted understanding. Merriam (1993) also suggests that attempting to define adult or SDL precisely in concrete terms may trivialize the phenomenon.

A variety of teaching and learning strategies have been suggested as vehicles to achieve SDL. Knowles (1990) and the ENB (1987) cite learning contracts as an ideal method of facilitating SDL. Reflection has also been suggested as a way to achieve SDL, as it requires individuals to learn through experience (Parker *et al.* 1995), with the self as central to reflection, and its outcome a changed perspective of self and the world (Atkins & Murphy 1993). Problem-based learning has been linked to SDL, with Margetson (1994) describing this as problem identification, followed by students engaging in SDL to solve these problems. Taylor (1997) also links problem based learning and SDL in so far as students set their own objectives, based on relevant scenarios, access materials on their own and provide feedback on their learning.

Although these approaches may be used to facilitate SDL, a further criticism of Knowles' work is that he reduced the issues involved in SDL to specific methods or techniques, with less emphasis on the important areas of knowledge acquisition processes, power and culture (Grace 1996, Tennant 1997). Candy (1989) considers that the central theme of autonomy in SDL is often superceded by the objective of producing an observable product known as a self-directed learner or a technique which can be categorized as SDL. Collins (1996) supports this view, claiming that the term SDL has become associated with *managing* rather than *facilitating* adult learning.

Numerous advantages of using SDL in nurse education have been suggested. Clarke's (1991) small study of nurse teachers shows that they consider the benefits of SDL to include preparation for lifelong learning, increased interpersonal skills, and increased lateral thinking ability, and Taylor (1997) identifies that SDL can increase student confidence and learning skills. However, Burnard and

Morrison's (1992) study shows that students favour a teacher-led learning experience and Taylor (1997) and Jowett *et al.* (1994) found that some students are concerned about the adequacy of the knowledge that they acquire using SDL. From the teacher's perspective, Darbyshire (1993), Katz and Alavi (1995), and Rolfe (1993) suggest that teachers may find relinquishing control over the learning experience problematic.

Despite these indications that SDL is not universally popular or accepted, Phillips *et al.*'s (1996) large study suggests that, although students are not always well prepared for SDL, when facilitated skilfully the experience is rewarding. Pedley and Arber (1997) and Booth (1993) also found that some students find SDL beneficial, while Prendergast's (1994) and Nolan (1993) report that students favour a combination of teacher-led and student-led learning within a study programme. James and Clarke's (1996) study suggests that students enjoy the autonomy of SDL, but not the increased responsibility and effort needed.

From the literature surrounding SDL, it seems that there may be differences in teachers' and students' definitions, views concerning, and experiences of SDL. Its use and implementation, therefore, merits further investigation.

The study

Methods

One postregistration nursing course was selected for this study: the ENB 415 course, which prepares Registered Nurses for practice in the PIC setting. Qualitative methods of data collection and analysis were used, as individuals' understanding of the meanings and values attributed to SDL were sought, not quantification of responses (Hunt 1991, Rose 1994). Nuances in the definitions and qualities attributed to SDL were also thought to be possible, which would not be captured by quantitative methods.

Design
The study was divided into two phases. The first phase consisted of a case study of one ENB 415 course at one university, which took place over a 6 month period (the duration of the course). The aim of the case study was to gain in-depth understanding of how those involved in the course experienced the phenomenon of SDL. Clarke (1995) states that behaviour and views are best understood in the context in which they occur. The case study allowed in-depth, contextual exploration of the issues involved over the entire course. The case study site selected was not

intended to be representative of all ENB 415 courses (Robson 1993, p. 5).

Patton (1987) and Yin (1989) suggest that multiple data sources are required in case studies, to allow methodological triangulation of responses. The data collection methods selected for the case study were observation of selected lessons, observation of course process, semi-structured interviews with teachers and students, and completion of learning diaries by students throughout the course. Two specialist PIC teachers and 15 teachers who taught generic course elements were involved in the case study (all teachers with whom students had contact). The case study involved only four students, as these were all the students enrolled on this course. This small number of students represented the reality in PICU education at the time and in the course selected.

The second phase of the study involved a less detailed investigation of other universities in England which offered the course, using individual and group interviews with teachers and students. Findings from this study were not intended to be representative of the entire population of nurse education, but the aim of this phase was to ascertain if the case study site appeared congruent with the wider population of PIC education. At the time of the study 12 sites in England offered the course, and access to seven of these (in addition to the case study site) was granted. A total of eight teachers (two from one site, one from each of the other sites) and 28 students participated in this phase.

Ethical issues
Local Research Ethics Committee protocols were followed to gain access to all sites, as students are perceived as a vulnerable population (Burns & Grove 1993). Informed consent from all those potentially involved in the study was obtained, and consent to participate could be withdrawn at any time without penalty (Smith 1992, Rogero-Anaya *et al.* 1994). Individuals were assured of confidentiality, and data were coded with numbers, not names of individuals or institutes. In group interviews, disclosures are made to the group, and not simply to the interviewer. Individuals were advised of this, and groups encouraged to maintain confidentiality.

Data collection
The findings reported in this paper arise from information gathered in interviews with nurse teachers and students on all eight sites involved in the study. Interviews rather than questionnaires were selected to explore teachers' and students' views on SDL, as they allow depth of meaning to be sought (Barker 1991, Burns & Grove 1993), are less prone

to misinterpretation than questionnaires and allow observation of nonverbal behaviour (Polit & Hungler 1993). However, reactions to the interviewer may bias responses, social desirability bias may be increased in comparison with questionnaires, and anonymity is lost (Salazaar 1990, Barker 1991).

Interviews were semi-structured. Although structured interviews may require less interviewer skill, and decrease the risk of bias, they assume that the researcher knows the salient parameters of a subject (Salazaar 1990). This was incompatible with this study. As the study had a specific focus, unstructured interviews were also considered inappropriate (Rose 1994).

Three interviews with each case study teacher were planned: at the start, mid-point and end of the course. These sought to ascertain if any changes in perspective occurred during the course, and to explore issues raised during the study. Fourteen teachers were interviewed as planned. Two were interviewed only once because they stated at the first interview that they felt further interviews would be inappropriate, as their involvement with the course was minimal. One further teacher left the university after one interview and was not available for follow-up. The four case study students were each interviewed four times: at the start, mid-point and end of the course, and 6 months after course completion.

For the students from the seven other sites, group interviews were used. Stewart and Shamdasani (1990) suggest that group discussion may increase interest in the topic discussed, and allow individuals to build on the responses of others. This was seen as beneficial, although censoring and conformity of responses can also be problematic in group interviews (Carey 1995). Group interviews are not necessarily appropriate for in-depth exploration of individual attitudes and views (Breakwell 1990). However, the group interviews did not seek the depth of engagement of the case study. It was anticipated that group membership would be between five and 10 members, which White and Thomson (1995) and Saint Germain *et al*. (1993) consider acceptable. In reality the range of group size was between two and 10 students, as a result of sickness/absence of students, or small course cohorts. Each group was convened once. Individual interviews were selected for the teachers from the seven sites, as creating a group from disparate geographical areas was considered impractical. One interview was carried out with each teacher. All interviews were taped and transcribed, excepting for one case study student who did not wish her interviews to be taped. In this instance, extensive notes were recorded instead.

Data analysis

Data analysis was inductive, as described by McKenzie (1994), seeking understanding of individuals' perceptions, not proof of a preconceived theory. Coding was used to divide data into ideas and contexts. Coded sections were then compared with other similarly coded segments. When a number of codes were considered to have common elements, they were merged to form categories. These categorized groups of data were then clustered around the research questions.

Findings

The findings presented are taken from interviews with teachers and students across all the sites involved in the study. They are presented under the headings of the categories which were developed, with quotes from teachers and students used to illustrate the main themes which were developed.

Teaching method or philosophical position?

This study revealed that teachers and students do not have the same understanding of the nature and purpose of SDL. The majority of teachers identified it as a part of adult learning, whereas almost no students made this link. For example, one of the teachers said:

I feel that self-directed learning is a term that is used for adult learners, as opposed to a pedagogic style of learning.

Whilst defining SDL as a part of adult learning, teachers seemed uncertain of whether SDL was a philosophical basis which underpinned adult learning, or whether it was a tool which could be used to facilitate a learning experience commensurate with the principles of adult learning. One teacher said:

I don't really see that self-directed learning is part of a philosophy. I think adult learning is a philosophy. Because there are certain, tenets that underpin that. But I mean to me, self-directed learning's just a method that you can use to achieve adult learning.

The majority of teachers and students implied that SDL is one teaching method, to be used alongside others (albeit within an adult learning approach), rather than a representation of beliefs about the adult self-concept. However, two teachers considered that this view of SDL could detract from its real intentions. One said:

I think even SDL becomes very behaviourist. It's 'You will produce a contract, that as a teacher you will make a student produce an element of work for you which if not produced will constitute a fail'.

Some teachers and students suggested that the term SDL was used rather flippantly:

Next week, there's: 'Self-Directed Portfolio Development'. I just went in and said: 'It means you've got the day off, but you've got to have your portfolio in the next day'. (teacher)

We did used to joke about it, though. If you had a spare lesson at the end of the day or you got off early, you used to say: 'Right, that's self-directed'. (student)

There was an overall suggestion that SDL defies precise definition. This was illustrated by one student's comment: 'Self-directed learning, you know what it is, like the term, but we don't actually know what it is'.

Given this confusion over SDL's nature and definition, it was unsurprising that evaluating its value as a whole was problematic. However, the majority of teachers and students felt that it had some value as a teaching and learning method to be used amongst others, but none felt that the course should be totally self-directed. One student stated: 'I need both really (SDL and taught)'. Another said:

I enjoy self-directed study and that's what I gain most from, but I also like things structured. And perhaps I like to be given the nuts and bolts and then to add the extra on.

Learning alone?

Almost half of the teachers associated SDL with students learning alone. For example, one described SDL as

…guiding students through things like workbooks, those type of things so they can actually work on their own, but with tutor support.

Some teachers specified that they should provide support for students in SDL, for example one said: 'I feel there has to be support (in SDL)'.

Students all associated SDL with learning alone, for example: 'Just go off and study'. They did not generally include teacher support, with one student specifying: 'The amount of self-directed's been too much left to yourself, and it hasn't been supported'.

Freedom in learning

Several teachers specified that SDL involves students selecting areas which they wish to study. For example, one said: 'I think it's (SDL) about the students doing a needs assessment and the student recognizing what they need to learn'. The majority of students also linked SDL with identifying their own learning needs, for example in one group interview, two students explained:

It's (SDL) basically to decide what you want (student) and then going out and getting it. (student)

Most teachers deemed it important to facilitate achieving the student's individual learning needs. However, they clarified that this still had to be within the set course content or outcomes. Some also suggested that students did not always want to take on the responsibility of making choices in their learning:

I think they'd much prefer me to say: 'Well, we're going to do this'. And sit there. And perhaps afterwards they'll say: 'Oh, that didn't apply to us, we'd have liked to do so and so!' (teacher)

All students appreciated some flexibility to allow them to meet their individual needs, but their views about how much choice they felt able to exercise in their learning varied, illustrated by the following statements:

I think with a postregistration course you've got more idea of things that you want to know anyway. Gaps that you want to fill, things that you want to discover, so it's not like where you're brand new, saying: 'I don't know what I don't know'. (student)

I like someone to tell, me things. Because my argument is…'Well, I don't know what I don't know about'. (student)

Teachers also considered that individual students' ability to be self-directed varied, and that students might need help to develop the skills of SDL. They debated factors which might affect students' ability to be self-directed, including a belief that nursing culture contrasts with the principles of self-direction. Some considered that students with the least PIC experience had the greatest difficulty in identifying their learning needs, and that SDL's value increased with students' knowledge base. However, students' views, when compared with their length of experience in PIC practice did not support this position. No factors were identified that consistently accounted for the students' varied ability to be self-directed.

There was some debate over the level of prescription or guidance appropriate in SDL. Some teachers distanced SDL entirely from prescribed work, whilst others perceived that the term SDL could encompass both set work and students working in areas of personal interest. For example, one teacher commented:

I think it (SDL) can mean two different things, it can mean that this is their time in which they can pursue their studies in whatever way seems beneficial and educational to them, or it can mean we've set 'em something, and they've got to pursue it.

Students also reported a variety of levels of prescription in what they described as SDL. However, all students and

teachers considered that SDL required some guidelines to be successful.

Knowledge and skill acquisition

Only one teacher and one student linked SDL with self-assessment. When asked about the issue of self-assessment, teachers generally stated that it was appropriate for a teacher or clinical supervisor to control assessment. One believed that students often wanted their competence to be tested, saying: 'It's a formal course, they expect a formal assessment. They expect me to tell them'. Another stated: 'No student likes assessing themselves. Basically. They'd rather someone else assess them'.

From the student's perspective, one also believed that formal assessment of competence was appropriate in nursing, saying:

…people said it was going back to task orientation, task allocation or whatever to say: 'You should be seen to be competent in this, this, this, and this'. But I didn't have a problem with that, because I think you ought to know what people are competent to do.

However, students did not summarily oppose self-assessment. Another stated:

Well, I thought it (self-assessment) was a really naff idea at first, and I thought: 'I'm not gonna do that!' But, I suppose we do it all the time really…like my first retrieval (collection of a critically ill child from another hospital) I thought: 'That was really good'. I was really pleased with myself. So, I think you do it without realizing it.

Although most teachers dismissed summative self-assessment as impossible, several considered it appropriate to allow students to perform formative self-assessment, or to select individual goals within the set marking criteria. In this situation, several teachers reported that students often under-assessed themselves. Students also believed that they tended to be over-critical of themselves. However, their statements clarified that they did not always under-estimate their achievements, but rather felt unable to express their views for fear of appearing over-confident. One explained: 'Well, I think: If you give yourself a good mark they'll say: "What's she doing?"' Teachers also suggested that students were actually being modest when they gave an under-assessment of their ability, and that some actually over-estimated their abilities. One teacher remarked:

But as far as them judging that for themselves, I think no, because I think they're subjective about it. I've often had people say, if I go to

them and say: 'Right, how are you doing?' They'll say: 'Oh, I'm fine, you know, no problems'. And the supervisor will come to me and say: 'Well, actually she's got a real problem with something'.

Issues in teacher: student relationships

Some teachers and students saw SDL as a part of a less paternalistic learning experience. Many teachers saw SDL as including treating students with respect, whilst others clarified that it requires mutual respect between teacher and student. For example, one teacher said:

(SDL is) not, 'You don't have to do it if you don't want to'. But: 'You've got to respect me as much as I respect you'.

Some teachers suggested that this was problematic because students did not respect their teachers, and because of the competing demands on their time. Some students also suggested that teachers did not always respect them and their views. Other teachers believed that an uneven power relationship exists between teacher and student, regardless of any espoused educational philosophy, and that a belief that equal status and mutual respect could be achieved in a formal academic course was unrealistic.

Many of the teachers and students linked SDL with students taking some responsibility for their learning. However, students felt that SDL could be an easy option for teachers, exemplified by one student's statement: 'I think it (SDL) got a very bad press, for just being a way that teachers could bunk off'. Another student implied that SDL was sometimes used to overcome a shortage of teaching staff, not for its intrinsic value.

Although there was evidence that both teachers and students felt it appropriate to share responsibility for learning, some teachers felt that students often wanted teachers to retain control, so as to be able to blame them for any problems which arose. Another teacher reported that, despite being supportive of SDL's principles, it was not always easy for teachers to relinquish control.

Discussion

The findings from this study indicate that there is a significant discrepancy in the way in which teachers and students view SDL. Teachers associated SDL with adult learning, as identified by Knowles (1983, 1990), whereas few students made this link. This may impact upon teachers' and students' overall perceptions of SDL's value, and may in part explain Clarke's (1991) and Burnard and Morrison's (1992) identification that teachers are often more supportive of student-centred approaches than students. It may also contribute to a

feeling amongst students that SDL can be an easy option for teachers. Teachers may see SDL as a way of facilitating adult learning, whilst students see it as a dereliction of duty by their teachers.

Despite the teachers' identification of SDL as a part of adult learning, they did not generally enter into any debate over its precise nature, or the beliefs underpinning its use. The emphasis in the definitions given by teachers and students was on activities or observable events involved in SDL. The overall difficulty in articulating what SDL is may be the reason for it being reduced to more easily defined techniques and methods. However, this may detract from its perceived value, as suggested by Tennant (1997), Grace (1996) and Collins (1996).

Some teachers believed that students need to be prepared for using SDL. Knowles (1983) acknowledges that adults may be unused to it, and may initially find it problematic. However, the time taken to understand the principles, and adjust may be problematic in a 6 month course. Moreover, the debate surrounding the precise nature of SDL (Hartree 1984, Jarvis 1988, pp. 98–102, Merriam 1993), and the evidence from this study that the concept is not clearly understood by teachers, means that preparing students for its use may be problematic.

Both groups felt that SDL has some value, but did not favour using it for the entire course. This links with Prendergast's (1994) and Nolan's (1993) findings on students' views and reinforces the suggestion that SDL is generally viewed as an instructional method. This contrasts with the view that it is a manifestation of an underpinning philosophy, or a belief about the adult 'self' as Knowles (1983) suggests, which would underpin the entire learning encounter. Although Knowles (1990) suggests that andragogy and pedagogy need not be mutually exclusive, the findings from this study suggest that the intermittent use of SDL may detract from its perceived value.

Teachers and students both felt that students take more responsibility for learning in SDL than in traditional teaching. However, there was a difference of opinion as to the manner in which this responsibility was devolved and accepted. Teachers' views that some students may not wish to take on the responsibility of SDL reflects James and Clarke's (1996) suggestion that students enjoy the autonomy but not the increased responsibility that it entails. There was also a difference of opinion regarding the issue of mutual respect, with neither party convinced that the other respected them. This may also result from shifting levels of responsibility and changes necessary in teacher: student relationships when

what is deemed to be SDL is used at some times, and more traditional approaches at other times.

The concerns, which Taylor (1997) and Jowett *et al.* (1994) identified over students' fears regarding their own knowledge base when using SDL were slightly supported, but not entirely so. Teachers and students generally believed that students under-assessed themselves. However, this appeared to be because students did not wish to appear over-confident, rather than having a genuinely low perception of the quality of their work. Teachers tended to view their own judgement as more reliable than students'. Potential problems for teachers in releasing students from control were also highlighted, supporting the views of Darbyshire (1993), Katz (1995) and Rolfe (1993). This may add to the difficulty that students experience in SDL, and may be exacerbated when it is used occasionally in an otherwise teacher-led course.

Conclusion

This study aimed to explore the understanding and views of teachers and students on an Intensive Care Nursing of Children course concerning the use of SDL. The findings are not intended to be generalizable across the broad spectrum of nurse education. However, they provide insights that teachers working in other areas of nurse education may wish to consider.

The evidence from this study suggests that nurse teachers and students find SDL difficult to define precisely. It also appears that attempting such a definition and categorizing SDL as a tangible concept, the use of which can be visibly demonstrated, may reduce it to a teaching method, deny its richer nature, and detract from its perceived value.

There is some evidence that attempts to implement SDL in an observable form have led to confusion over its nature and to lip-service being paid to its use. This appears to be particularly problematic when it is used on an occasional basis, alongside more traditional teaching methods.

The findings also indicate that the complexity in defining SDL means that preparing teachers and students for its use will be problematic. It can be inferred from this study that in order to implement SDL, issues of control and autonomy within the learning environment and the precise aims and intended outcomes of postregistration nurse education courses merit further exploration, rather than simply focusing on observable teaching and learning tools or methods.

Acknowledgements

References

Atkins S. & Murphy K. (1993) Reflection: a review of the literature, *Journal of Advanced Nursing* **18**, 1188–1192.

Barker P.A. (1991) Interviews. In *The Research Process in Nursing*, 2nd edn (Cormack D.F.S. ed.), Blackwell, London, pp. 207–214.

Booth A. (1993) Learning history in university: student assessment. Views on teaching and assessment. *Studies in Higher Education* **18**, 227–235.

Breakwell G.M. (1990) *Interviewing*. British Psychological Society and Routledge, Leicester.

Brookfield S. (1986) *Understanding and Facilitating Adult Learning*. Open University Press, Milton Keynes.

Burnard P. & Morrison P. (1992) Students' and lecturers' preferred teaching strategies. *International Journal of Nursing Studies* **29**, 345–353.

Burns N. & Grove S.K. (1993) *The Practice of Nursing Research*, 2nd edn. W.B. Saunders, London.

Candy P. (1989) Constructivism and the study of self-direction in adult learning, *Studies in the Education of Adults* **21**, 95–126.

Carey M.A. (1995) Comment: concerns in the analysis of focus group data. *Qualitative Health Research* **5**, 487–495.

Clarke B.A. (1991) *Self Directed Learning: Nurse Educator's Perceptions*. Royal College of Nursing, London.

Clarke L. (1995) Nursing research: science, visions and telling stories. *Journal of Advanced Nursing* **2**, 584–593.

Collins M. (1996) On contemporary practice and research: self-directed learning to critical theory. In *Boundaries of Adult Learning* (Edwards R. Hanson A. & Raggart P. eds), Routledge, London, pp. 109–127.

Darbyshire P. (1993) In defence of pedagogy: a critique of the notion of andragogy. *Nurse Education Today* **13**, 328–335.

ENB (1987) *Managing Change in Nurse Education*, English National Board for Nursing, Midwifery and Health Visiting, London.

Grace A.P. (1996) Striking a critical pose: andragogy-missing links, missing values. *International Journal of Lifelong Education* **15**, 382–392.

Hartree A. (1984) Malcolm Knowles' theory of andragogy a critique. *International Journal of Lifelong Education* **3**, 203–210.

Hunt M. (1991) Qualitative research. In *The Research Process in Nursing*, 2nd edn (Cormack D.F.S. ed.), Blackwell, London, pp. 117–128.

James C. & Clarke B. (1996) *The Evaluation of the Effectiveness of Flexible Modes of Learning in Post-Registration Nursing, Midwifery and Health Visiting Education and Practice*. English National Board for Nursing, Midwifery and Health Visiting, London.

Jarvis P. (1988) *Adult and Continuing Education: Theory and Practice*. Routledge, London.

Jowett S., Walton I. & Payne S. (1994) *Challenges and Change in Nurse Education – A Study of the Implementation of Project 2000*. National Foundation for Educational Research, Slough.

Katz G. (1995) Facilitation. In *Problem Based Learning in a Health Sciences Curriculum* (Alavi C. ed.), Routledge, London, pp. 52–70.

Knowles M. (1983) *The Modern Practice of Adult Education: From Pedagogy to Andragogy*. Prentice Hall, Cambridge.

Knowles M. (1990) *The Adult Learner: A Neglected Species*. Gulf, London.

Margetson D. (1994) Current educational reform and the significance of problem based learning. *Studies in Higher Education* **19**, 5–19.

MacKenzie A.E. (1994) Evaluating ethnography: considerations for analysis. *Journal of Advanced Nursing* **19**, 774–781.

Merriam S.B. (1993) Adult learning: where have we come from? Where are we headed? *New Directions for Adult and Continuing Education* **57**, 5–14.

Nolan J. (1993) *Student and tutor perceptions of self directed learning within a Project 2000 course*. Unpublished Thesis, Bangor University, Wales.

Parker D.L., Webb J. & D'Souza B. (1995) The value of critical incident analysis as an educational tool, and its relation to self-directed learning. *Nurse Education Today* **15**, 111–116.

Patton M.Q. (1987) *How to Use Qualitative Methods in Evaluation*. Sage, London.

Pedley G.E. & Arber A. (1997) Nursing students' response to self directed learning: an evaluation of a learning process applying jarvis' framework. *Journal of Advanced Nursing* **25**, 405–411.

Phillips T., Schosta K.J., Bedford H. & Leamon J. (1996) *The Evaluation of Pre-Registration Undergraduate Degrees in Nursing, Midwifery and Health Visiting Programmes*. English National Board for Nursing, Midwifery and Health Visiting, London.

Polit D.F. & Hungler B.P. (1993) *Nursing Research: Methods, Appraisal and Utilisation*, 3rd edn. Lippincott, Philadelphia, USA.

Prendergast G.P. (1994) Student centered learning in the large class setting. *Journal of Further and Higher Education* **18**, 48–62.

Robson C. (1993) *Real World Research*. Blackwell, London.

Rogero-Anaya P., Carpenito-Avellaneda J.L. & Vila-Blanco B. (1994) Ethics and research in nursing. *Nursing Ethics* **1**, 216–223.

Rolfe G. (1993) Towards a theory of student centred nurse education: overcoming the constraints of a professional curriculum. *Nurse Education Today* **13**, 149–154.

Rose K. (1994) Unstructured and semi-structured interviewing. *Nurse Researcher* **1**, 23–33.

Saint Germain M.A., Bassford T.L. & Montano G. (1993) Survey and focus groups in health research with older hispanic women. *Qualitative Health Research* **3**, 341–367.

Salazaar M.K. (1990) Interviewer bias: how it affects survey research. *American Association of Occupational Health Nurses Journal* **38**, 567–572.

Smith L. (1992) Ethical issues in interviewing. *Journal of Advanced Nursing* **17**, 98–103.

Stewart D.W. & Shamdasani P.N. (1990) *Focus Groups Theory and Practice*. Sage, London.

Taylor I. (1997) *Developing Learning in Professional Education: Partnerships for Practice*. The Society for Research into Higher Education and Open University Press, Buckingham.

Tennant M. (1997) *Psychology and Adult Learning*, 2nd edn. Routledge, London.

White G.E. & Thomson A.N. (1995) Anonymised focus groups as a research tool for health professionals. *Qualitative Health Research* **5**, 256–261.

Yin R.K. (1989) *Case Study Research*, 2nd edn. Sage, London.