NURSES’ EXPERIENCES OF DISTANCE EDUCATION PROGRAMMES

ABSTRACT

Background: While distance education has many advantages in terms of the flexibility, autonomy and freedom that it affords to learners, the literature reports that students undertaking distance education programmes can also experience feelings of being disconnected and isolated in the educational experience.

Aims: This paper reports a study exploring the experiences of nurses in undertaking distance education programmes.

Design/Methods: A convenience sample of 15 participants was selected, and data were collected using in-depth interviews. Data were analysed using a qualitative design that drew most heavily on the methodological procedures of grounded theory.

Findings: Habermas’ theory of communicative action was found to be relevant to the interpretation of data and four categories were constructed to explain participants’ experiences in relation to distance education, namely; lifeworld lamented; lifeworld experienced; lifeworld ceded; and learning within a bounded system. These categories reflect the manner in which participants experienced the lifeworld component (the interactive and subjective dimensions) and the system component (objective and
outcome orientated dimensions) of the educational realm. While data indicated diversity in how the boundedness of the programmes was experienced, overall such standardised, instrumental courses were reported on favourably by participants within the limitations of their own personal circumstances.

**Conclusion:**

Based on the findings of this study we conclude that DE as a means of disseminating nursing knowledge should be strengthened. The challenge for nurse educators is to develop DE programmes that minimise their limitations and maximise their potential.

**Key words:** Nurse education; Critical thinking; Grounded theory; Republic of Ireland; Distance education; Habermas.
SUMMARY

What is already known about this topic

- Flexibility, autonomy and freedom in pursuing personal learning goals are seen as the main advantages of distance education.
- Students undertaking distance education programmes tend to experience feelings of disconnection and isolation.
- Distance education for nurses is a growing enterprise in many countries, and increasing numbers of nurses are availing themselves of it.

What this paper adds

- Educational lifeworld experiences may be less relevant as a person ages.
- The limited educational lifeworld of distance education has implications for the development of critical thinking.
- The content of nursing programmes, with an emphasis on a reflexive type of learning, may have the capacity to offset the some of disadvantages of learning within a relatively constrained and bounded DE programme.
INTRODUCTION
Distance education (DE) for nurses is a growing enterprise in many countries, and many nursing and non-nursing organisations have reported the need for flexible and innovative delivery methods in education (An Bord Altranais 1997, World Health Organisation 1999, Government of Ireland 2000). In this paper, the experiences of nurses in undertaking DE programmes will be explored. Since the analysis draws on critical theory, the concept of DE for nurses will be linked to the notion of modernity (changes in society that have arisen with industrialisation over the past 200 years) in the course of the paper.

BACKGROUND
The potential for the use of distance education within nursing and midwifery was first highlighted in the United Kingdom in a major national survey carried out by Rodgers et al (1989), who concluded that distance education materials had the potential to link theory to practice, to develop the clinical role of the nurse, and to help link service and education. Clark (1994) notes that, looking back over the 1980s, there was awareness in the United Kingdom that flexible approaches to education were beginning to percolate through nursing and midwifery education and through higher education generally. In Ireland, the National Distance Education Center began to offer nursing degrees through distance education in the 1990s (Oscail 1999).

There are various styles of DE, ranging from the industrial model self-study course package with limited teacher-student interaction to the fully interactive audio and
video conferencing of the virtual classroom. Jarvis (1998: 157) defines distance education as:

Those forms of education in which organised learning opportunities are usually provided through a technical media to learners who normally study individually, and removed from the teacher in both time and space.

Distance learning is not usually mediated through a group, and it may have to be sustained in a relationship in which the teacher and learner never meet (Robinson 1989). However, the inclusion of different technologies in DE can offer some choice of learning medium (Clark & Robinson 1994). Revolutionary technological advances in telecommunications, computers, the internet and audio systems make it feasible to deliver such programmes (Leasure et al. 2000). However, critics of DE suggest that these give excessive control to course designers and too little opportunity for the student to challenge the ‘facts’ presented in study materials (Coulter 1989). Educational endeavours with a heavy reliance on educational technology have been accused of adopting a controlling, scientific/behavioural model of education that focuses almost entirely on instrumental knowledge (Koetting 1983 cited in Nichols 1989).

Clearly, the possibility of students feeling disconnected and isolated is a very real one, and empirical evidence in nursing education research suggests that for many students this is indeed a feature of DE (Ryan et al. 1999, Carnwell 1998, Price 2000, Leasure et al. 2000). However, research on nurses pursuing DE programmes also indicates
that they have the advantage of providing flexibility, autonomy and freedom in pursuing personal learning goals (Carnwell, 1998, Rogerson and Harden 1999). Over the past decade, with the rapid development of technologically-mediated learning, there has been a proliferation of DE programmes for nurses (Field 2002; Carr & Farley 2003; Alexander et al. 2003).

**Distance education and modernity**

Theoretical accounts of DE have tended to link it to modernity and the way in which industrial capitalism effected the separation of producers and consumers, and prompted a relationship mediated by technology (Keegan et al. 1985, Robinson 1989). In pre-industrial society, home and workplace were often merged and children were educated within the family (Jones 1994). The advent of industrialisation and compulsory schooling for children altered this social arrangement, and education became part of the public realm, split off from the domestic or private one. Drawing on the public/private dichotomy, Keegan et al. (1985) equate DE with the privatisation of the learner, that is, the dislocation of the learner in time and space from the public realm. Dislocation of the producer and consumer is a key feature of DE, and is characteristic of industrial systems (Robinson 1989). In data presented later in this paper, the notion of DE as a feature of late modernity is further developed drawing on the writings of Jürgen Habermas, whose work is considered briefly here before moving on to explore the data.

**Habermas and the problems of late capitalism**
Habermas (1984, 1987) observed a growing sense of goal, success and outcome-oriented culture in late capitalist societies, at the expense of equality-oriented interactive discourses. His theorisation is conceptualised in relation to two societal perspectives: the system and the lifeworld. The system represents the component of society associated with technical-scientific rationality, and is mediated by power and economic concerns. The system requires efficiency and strategic rationality in its operations (Habermas 1984). Within the system, the objectives of actors are self-serving insofar as the aim is to maximise the individual pursuit of utility or economic profit (Andersen 2000: 332).

Habermas developed the notion of lifeworld from the work of Edmund Husserl, and the writings of Alfred Schutz (Habermas 1984). For Habermas, the 'lifeworld' refers to the 'symbolic space' where meaning, solidarity and personal identity are communicated verbally. It is characterised by reflexive discourse, human rights and relationships, and aims at consensus through dialogue (Habermas 1984). It encompasses the background understandings and assumption shared within a culture that mediate everyday interactions (Habermas 1987).

The system is associated with purposive-rational action, an instrumental kind of action in which the social actor determines the most effective means to an end in an objective and detached way (Weber 1968). The lifeworld is developed through a kind of rationality underpinned by negotiation and understanding, or what Habermas (1987) calls communicative action (Habermas 1987).
Although Habermas (1984) acknowledged the need for purposive-rational action, he was concerned with the expansion of technological and scientific expertise at the expense of rules of conduct based on ethical considerations. This he referred to as the colonisation of the lifeworld, in which the system, with its purposive rationality, intrudes into the lifeworld, moderating its communicative potential. Habermas (1987) contended that the colonisation of the lifeworld could be arrested by human action in the form of resistance by value-oriented social movements.

The educational domain: system and lifeworld
Habermas’ dualism of system and lifeworld may be very useful conceptual tools in considering the concept of education, and in particular DE. The system may loosely be conceptualised as that aspect of education removed from a personal and social context in which the overriding objective is to achieve the goals of the formal curriculum, transmitted in a top-down fashion, with the expertise of the educational provider relatively unchallenged. Dialogue between the provider and recipient of the education is at a minimum, and the scope for exchange of ideas in a two-way process is limited. A successful outcome at examinations is the aspiration, with little emphasis on the personal and social context of the educational process. The educational lifeworld, on the other hand, may be perceived as the realm in which verbal discourses and dialogues oriented to mutual understanding are articulated. The goals of this lifeworld go beyond the need for purely academic success, and involve discursive dialogue where subjective involvement for the purposes of human development is valued.

THE STUDY
Aim
The aim of the study was to examine nurses' experiences in undertaking DE programmes.

Methodology
In order to explore nurses' experiences in undertaking DE programmes, a qualitative methodology was deemed preferable. Qualitative research is concerned with exploring the meaning of experience and behaviour in context, in its full complexity and was considered the most appropriate strategy for examining interactive and subjective aspects of experience.

Participants
A purposive sample of fifteen participants took part in the study. The inclusion criteria were that potential participants must have completed a course at diploma level or higher by DE at a third level (higher education) institution within the previous five years. One participant had completed a diploma programme, 9 had done bachelor's degrees, and five had completed Masters degrees by DE. All participants were recruited from within the Republic of Ireland. The first 5 were accessed through the Director of Nursing at a hospital where it was known that some nurses had completed courses through DE. The remaining 10 participants were accessed by placing notices on the staff notice boards of 4 health care institutions, inviting suitable candidates to participate. The notice outlined the aims of the study, and those interested were invited to telephone or e-mail the researcher. Thirteen of the 15 participants were female. Participants ages ranged from 26 to 54 years.

Data collection
Data were collected by semi-structured in-depth interviews in 2002-3. All interviews took place at a private location either at the hospital where the participant worked, or at another location deemed suitable by the participant. They ranged in length from 45 minutes to 1 hour and 35 minutes, the average being 1 hour and 10 minutes and were tape-recorded and transcribed verbatim.

A general topic guide was used, starting with broad questions such as, 'Tell me about what studying at a distance was like for you?' At each successive interview, questions became more focused on the basis of evolving theoretical insights and, in grounded theory style, were 'guided by successively evolving interpretations' (Strauss, 1987:10).

**Ethical considerations**

Ethical approval for the study was obtained from the Ethics Committee at each of the health care institutions where participants were currently employed. Informed consent was obtained, and privacy and anonymity were guaranteed. Provision was made that should the process of recounting their experiences create distress for participants, a debriefing would occur after the interviews. However, this was unnecessary as all participants appeared very relaxed during the interviews.

**Data analysis**

Data were analysed concurrently with the interviews using a process resembling grounded theory (Glaser & Strauss 1967, Strauss 1987, Glaser 1992). The central techniques of grounded theory used were the constant comparative method, openness
to evolving theoretical insights, and theoretical sampling where questions used are
generated from previous data.

The relevance of Habermas' work to the data did not emerge until the analysis stage of
the study was well underway, and theoretical insights that emerged through an
engagement with data gleaned in early interviews were tested out in later ones. While
some writers consider grounded theory as 'inductive theory' because of Glaser and
Strauss's attack on speculative theory ungrounded in data in their earlier work, *The
Discovery of Grounded Theory*, Strauss (1987) perceives this as a mistake. Rather, he
asserts, developing theory from data involves three aspects of inquiry - induction,
deduction, and verification. Induction is concerned with actions that generate a
hypothesis - insights, hunches, and questions from previous experience with similar
phenomena or from theoretical sensitivity through knowledge of technical literature.
These are transformed into provisional and conditional hypotheses. Deduction refers
to deriving implications from hypotheses so that they may be verified. Finally,
verification concerns the procedures for qualifying or refuting the hypothesis (Strauss
1987). In this study, all three aspects of inquiry were employed in order to arrive at
an explanation that ultimately draws heavily on the work of Habermas. The move
from substantive to formal theory, where a series of interrelated concepts developed
in one substantive area may be used to conceptually analyse other areas, is a strong
feature in the work of Glaser and Strauss (1967).

**FINDINGS**
Registered nurses’ experiences of distances education programmes were conceptualised within four categories: *lifeworld lamented; lifeworld experienced; lifeworld ceded;* and *learning within a bounded system*. These categories comprise the most dominant ideas to emerge.

**Lifeworld lamented**

Eleven of the 15 participants reported that they lamented the limited degree of educational lifeworld in which they could engage. The virtual absence of fellow students, and the related lack of support and interpersonal camaraderie, created a sense of isolation:

> I think that is one of the missing links really. For me all through my training in nursing and through further education, I have always been involved in groups… I would have travelled a distance to meet up with people even once a week… that I maybe could bounce things off . . . Yes, definitely, one of the difficulties is being on your own really (Participant 2)

> I suppose you can feel very isolated, where my experience in [attendance programme] we were very much part of the team, everyone worked together. (Participant 4)

Nine participants also referred to the fact that they missed the human contact with course tutors, and the quality of direct dialogue over and above text-based
communications. In the following example, the participant refers to the absence of two-way communication in the kind of text-based assignment feedback that she received:

Although it was good to get written feedback, there is something cold and sterile about . . . hearing how bad your essay is from written feedback. . . It was almost like one-way communication. . . there was something a bit eh, cold or something about things just being written. (Participant 7).

The example below suggests a hierarchy in terms of human contact, with direct human contact most favoured by the participant, followed by auditory human contact, with text-based communication considered to be the least satisfactory:

I have e-mail … but I don’t feel it is as effective as human contact even by telephone. It does not replace it but I do agree you need to have access to it. (Participant 2)

Among those who regretted a limited lifeworld, three indicated that they attempted to overcome their sense of isolation by creating a version of an educational lifeworld in an informal way within their own social realm:

. . . we had a study group in the hospital with a few people doing a MSc in nursing. We do meet and we do try and work together, sometimes to give out and chat but at least it is support and you discuss the grades and that together . . .

(Participant 4)
Now and then, I meet up with a girl who did the same course as me – a year ahead of me, and now that’s been great. . . We’d talk about things on the programme, giving out mostly [laughs], ah no. (Participant 11)

**Lifeworld experienced**

Although 11 participants really felt the impact of a restricted lifeworld on their educational experience, as demonstrated in the first category, there were reports that when the lifeworld was experienced, it was generally very gratifying. Nine participants generally expressed considerable levels of satisfaction with tutor interactions:

I had great tutors. OK, I didn’t like the idea of contacting busy people, and you didn’t know if you were interrupting them… I always felt that it was worth contacting them because I felt encouraged after (Participant 13)

They (tutors) were very supportive really. I always felt that there was good quality contact. There was a sort of friendliness there – you know on my level. I didn’t feel intimidated. (Participant 6)

The data suggest that the style of communication was far from disconnected, functional and detached, but rather was personalised, engaging and affectively mediated. The examples below suggest that students had the freedom to actively select tutors who they were most compatible with their ‘natural attitude’:
I found them [tutors] 100% helpful… if you found you were not getting on with them or you found they were no support you were allowed to change. (Participant 3)

We were actually told that you could ask for someone else if there was a problem with a tutor, which I think was great. As it happened, I didn’t need to (Participant 12)

While the support from tutors was found to be generally good, it was nonetheless mediated by a range of possible technologies. This suggests that technologies might actually facilitate rather than undermine value-based interpersonal communications:

You were given a contact number that you could telephone at any time and leave a message, you were given their mobile number, e-mail address or you could fax them and they would fax straight away . . . (Participant 3).

The DE courses undertaken by some participants did have a limited number of tutorials, which also facilitated lifeworld experiences:

I found the tutorials a great support, they actually made the course real, you actually meet other people who were doing the course and that was similar to the network that we were had in college. (Participant 4)

Although all students were assigned personal tutors and, as indicated above, the nature of the relationship with these for many students was usually very satisfactory,
this was not always the case. There is some suggestion in the following extract that the mode of communication (telephone), and the openness of time schedules within DE contributed to the problem:

I felt I was annoying them when I rang them. I always felt that I rang them at the wrong time… I felt they were supportive but at the same time they would say sorry you feel like that. I did not feel that they came up with any solution to my problem … In fairness, they tell you to ring them as much as possible … maybe it’s just me . . .I got to the stage where I felt I should know this and they probably feel I haven’t got a clue. (Participant 2)

**Lifeworld ceded**

Although there appears to be a general assumption that a rounded, interactive educational system is superior to a functional, outcome-oriented one, not all participants bemoaned a limited lifeworld. While 11 participants missed aspects of an educational lifeworld, almost one third (n=4) of these simultaneously identified positive dimensions to being largely released from it. Four more participants stated that they did not miss the lifeworld experience at all:

I didn’t miss the class work at all, because I find a lot of the time in class is wasted by other people perhaps bringing in their grievances from work into class, it wastes a lot of time … I actually went to one tutorial in … I found I preferred to be studying on my own and if I wanted support, I had the tutor at the other end of the telephone (Participant 1)
I know people go on about how it’s becoming a faceless society, but really, e-mail is brilliant. It’s fast and … the person can open and answer it in a time that suits them… you don’t feel you are wasting people’s time (Participant 9)

I actually used to drive for nearly 3 hours on a part-time course every week, and you’d get there and, OK, there were good lectures, but to be honest, it wasn’t worth the drive… Well I think you would get more done just concentrating on the reading materials and getting on with the coursework (Participant 14)

There is a suggestion in the extracts below that engagement with aspects of the educational lifeworld may be more important at specific stages in a person’s life compared to other stages:

I think if I was younger, if you were a real typical student I mean that is ideal at the time and I would not like to be isolated at that stage. I feel having done general training and other different courses and diplomas, you are more educated your self and you're more disciplined, you know the score, you know the scene of what is going on. (Participant 3)
When I left school, I would have loved to go to college… I have missed out on that anyway. I’m settled with responsibilities so taking part in College life – it was too late for me (Participant 15)

There was a sense among some that they were satisfied to relinquish the educational lifeworld because of the time demands from other dimensions of the lifeworld:

I was glad that I could just get on with it. It’s not that I didn’t want contact with others while I was doing the course, it was just that there are so many demands. Work, and I have three kids … my mother had a stroke and needed a lot of care (Participant 9)

I sort of felt that I did the course for myself. Attending and being in touch with others like a normal course would be have been wonderful, but it would’ve been a luxury for me … If I had done it the other way, it would really have affected the family routine, our holidays, and I’d never expect that (Participant 10).

**Learning within a bounded system**

All participants elaborated on the nature of the DE programmes that they had completed (the system component), describing these predominantly as circumscribed, bounded programmes with lectures and reading material provided. This contrasts with attendance programmes, where students are required to attend and listen to lectures, make their own notes from these, and search for and photocopy or electronically
download reading material. The standardised input received in DE courses, where all students received standardised technologically-mediated materials, generally appealed to students because it was an efficient and efficacious way of achieving ends in a limited time:

"The course content and course design is excellent, they send you all the reading materials, they send you articles, you don’t have to do that much searching… You do have to do a bit of research but everything is there, you read your articles and you get discussion documents. You're nearly spoon-fed." (Participant 4)

"The course content basically consisted of two folders one which was the course material and the second was the handouts and all the relevant research relating to whatever topic you were studying." (Participant 3)

Although generally regarded in a positive way (by 12 of the 15 participants), there were some mixed feelings about the boundedness of the programmes, with one student suggesting that additional reading was not encouraged, and another believing that there was a sufficient amount of course material supplied:

"The course design was excellent and the course content was brilliant…but it didn’t allow for expansion… when they send you the course work and the course books, you had to use those because it said with reference to course books. You were not encouraged to do wider reading." (Participant 5)
I can’t complain about the quality …and I do get extra stuff… they do give you a lot of off prints as well. They also give you a reference list but they also give you the actual articles you can read as well. It’s more than enough. (Participant 2)

In spite of being a bounded system, some participants reported that the course content facilitated development of their critical thinking skills:

I have to say that thinking for yourself was stressed, and the stuff really got me to see things differently (Participant 15)

I have to admit that I was surprised at how I began to think differently about things. There was a lot of academic bullshit in the course but also some really good readings that gave me a whole new perspective on things. I found that very satisfying (Participant 6)

Overall, the data suggests that learning within a bounded system was reported favourably by participants.

DISCUSSION
The study findings broadly concur with those of existing studies, in which students were found to experience isolation while undertaking a distance learning course (Cragg 1994a, 1994b, Ryan et al. 1999, Carnwell 1998, Price 2000, Leasure et al. 2000). However, our data indicated that participants’ lifeworld experiences of DE,
albeit very limited, were generally very positive. Although critics of DE have pointed to the limited scope for learning offered by ‘packaged’ programmes (Coulter 1989, Keegan et al. 1985), our participants generally expressed satisfaction with quasi-circumscribed standardised courses. Moreover, some who expressed a sense of seclusion from the full experience college life at the same time valued the time and space that a restricted educational lifeworld freed up for alternative experiences. These alternative experiences comprised both system and lifeworld dimensions, and included paid employment, childcare, elder care, and leisure time. What this suggests is that educational lifeworld experiences may be less relevant as one ages, as broader life experiences infiltrate the 'symbolic space' where meaning, solidarity and personal identity are expressed.

Thus, although participants valued the autonomy and flexibility of DE, the implications of individualised learning need to be considered. Although some considered that their programmes encouraged critical thinking, the scope for dialogue and debate about the nature of the knowledge being presented was clearly curtailed. Weldon (1995: 13) notes the diversity in meaning of the word ‘critical thinking’ in educational circles. He suggests that its meaning in contemporary educational discourse relates to processes of validating arguments, and that this pseudo critical stance serves to sustain the legitimacy of an unjust economic social and political system. A really critically-informed education ought to facilitate understanding of ‘how ideological systems and social structures hinder and impede the fullest development of humankind’s collective potential to be self-reflexive and self-determining human actors' (Weldon 1995: 14). Within the isolation of a DE
programme, the scope for collective critical learning is potentially diminished by the lack of interactive learning, and participation in discourses. Collective action to challenge domination becomes highly difficult to achieve. However, it must be acknowledged that an outcome orientation, rather than an aspiration of enlightenment, may be a feature of higher education more generally. In addition, individual needs and goals of learning must be considered. Individual students may arrive at programmes with particular goals and orientations - some open to raising their consciousness for political transformation, others to improve their practice, and others still simply to succeed at examinations - irrespective of whether the programme is delivered through DE.

Notwithstanding these individual needs and orientations, DE programmes are more deficient in opportunities for verbal communication, which is the central element to the transformational capacity of humans identified by Habermas (1984, 1987). Drawing on Habermas to explore the limitations of self-directed adult education Collins (1995:91) proposes that:

The notion that the human capacity for speech signifies an innate potentiality for making practical decisions around reasonably presented arguments, free of coercion, provides a hopeful scenario for an emancipatory practice of adult education

Much criticism of DE relates to specific reified, commodified programmes that rely on multiple choice questionnaires as a means assessment (Collins 1995). These are
rooted in a highly instrumental rationality and include pre-packaged learning formats (Collins 1995).

Theorists such as Brookfield (1993) have defended the emancipatory potential of self-directed learning, and propose that it has an empowering potential. Delanty (1999) contends that the information age holds the promise of providing a discursive space to promote human autonomy and democracy. In the absence of an analysis of the content of the programmes undertaken by participants in our study, it is impossible to establish to what extent such programmes were experienced as enlightening, empowering, or consciousness-raising. Evidence suggests that subjects like sociology are taught in some nursing curricula, albeit in a conservative manner (Cooke 1993, Mulholland 1997). However, while the motivations of nursing elites to centralise caring and communication as dimensions of educational programmes have been associated with a self-serving striving towards professionalism and the development of nursing as a separate discipline (Witz 1992), post-registration nursing programmes in particular tend to value notions of holistic, human-oriented knowledge forms of a value-rational kind over knowledge forms mediated by purposive-rationality. Reflective practice (orientated towards consciousness-raising) and interpersonal issues (with a value-rational orientation) are topics that tend to be included in nursing curricula.

On the one hand, it may be argued that the advent of DE has enabled large numbers of people to become enlightened, empowered and liberated. On the other hand, it may be viewed in terms of ‘learning for earning’ (Cunningham 1992:99), with an outcome
orientation towards advancing economic achievements and personal gain. In this sense, DE might be constructed as the archetype of lifeworld colonisation within the educational sphere. Alternatively, it might be perceived to have emancipatory potential at a societal rather than individual level. For this to occur, the content of the programmes would appear to be very important, because consciousness-raising would rely almost entirely on students being inspired to act on the basis of their engagement with the substantive content of the programme. Further empirical research is required to explore the nature of students' engagement with DE programmes in terms of their transformative potential.

Limitations
This study is limited by the relatively small sample size. In addition, there are many different styles of DE being delivered at various institutions, and our study is limited because it did not evaluate the various styles against one another.

CONCLUSION
Nursing leaders are challenged to find the most effective ways of disseminating nursing knowledge to as wide a body of nurses as possible, in order to ensure the highest standard of nursing practice. DE is one means of doing this. A better understanding of DE and how it is received by those pursuing it is important to enable it to become strengthened and to enable nurses to make choices about the various educational options available to them. Our data suggest that DE was a largely
favourable strategy for undertaking nursing programmes for mature students with a range of competing demands on their time. The challenge for nurse educators is to continue to work towards developing DE programmes that minimise drawbacks and maximise their potential. As technology becomes more sophisticated, new possibilities are opened up to make DE appealing to potential students, with the possibility of a wider dissemination of nursing knowledge.

References


