

Evaluation of clinical teaching and professional development in a problem- and community-based nursing module

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Summary

In South Africa the main focus is on primary health care. This affects the education and training of nurses, and training schools must respond by developing appropriate teaching modules. A school of nursing developed, implemented and revised a problem- and community-based learning module over a period of three years (1996-1998). This student-centered module focuses on students' needs, active participation, collaboration, accountability, self-assessment, self-study, life-long learning and appropriate skills. In the formal clinical teaching environment PBL was the main approach. However, this approach was also supported by a variety of strategies, for example group discussions and scenarios. The knowledge, attitudes and professional development skills acquired in the PBL approach were then applied informally in the community setting (CBE). The purpose of the study was to evaluate a first year clinical teaching module as part of an extensive programme. A quantitative research method, a descriptive design, and a variety of data collection techniques were used. Conclusions were that clinical teaching was effective within the problem- (PBL) and community-based (CBE) approaches; 78% of respondents were positive about the clinical learning environment; 61% stated that expectations were met; 81% preferred group activities, and 67% indicated that they had developed professional skills. Facilitators agreed that clinical teaching met the requirements of PBL & CBE. The pass rate also improved.

Opsomming

In Suid-Afrika is die fokus op primêre gesondheidsorg. Dit het 'n invloed op onderrig en opleiding van verpleegkundiges en dit noodsaak verpleegopleidingskole om toepaslike onderrigmodules te ontwikkel. 'n Skool vir verpleegkunde het 'n probleem (PBL)- en gemeenskapsgebaseerde (GBO) leermodule oor 'n tydperk van 3 jaar (1996-1998) ontwikkel, geïmplementeer en hersien. Hierdie student-gesentreerde modules fokus op studente se behoeftes, aktiewe deelname, samewerking, toerekenbaarheid, selfevaluering, selfstudie, lewenslange leer en gepaste vaardighede. In die formele kliniese onderrigomgewing was PBL die hoofbenadering. Hierdie benadering is egter ondersteun deur 'n verskeidenheid van strategieë soos byvoorbeeld groepbesprekings en scenarios. Die kennis, houdings en professionele ontwikkelingsvaardighede wat in die PBL benadering verwerf is, is daarna in die gemeenskapsopset (GBO) op in informele wyse toegepas. Die doel van die studie was om kliniese onderrig en professionele ontwikkeling as deel van die eerstejaar module te evalueer. 'n Kwantitatiewe navorsingsmetode, 'n beskrywende ontwerp en 'n verskeidenheid van data insamelingstegnieke is gebruik. Gevolgtrekkings was dat kliniese onderrig effektief binne die PBL en GBO benaderings was; 78% respondente was positief oor die kliniese onderrig leeromgewing; 61% het verklaar dat aan verwagtings voldoen is; 81% het groepaktiwiteite verkies en 67% het aangedui dat hulle professionele vaardighede ontwikkel het. Fasiliteerders het saamgestem dat kliniese onderrig aan die vereistes van PBL en GBO voldoen het. Die slaagsyfer het ook verbeter.

Introduction

The health care system in South Africa has changed dramatically from curative to primary health care in the past decade. This change has affected the training of nurses and nurse training schools have been obliged to develop appropriate teaching modules. A problem- and community-

based module was implemented in the School of Nursing at the University of the Free State in January 1997. Professional development and clinical skills that first-year student nurses were required to master were taught as part of the four-year programme in a module over two semesters. This entailed the placement of first-year students in various communities in Greater Bloemfontein (Mangaung)

where they could learn and work. In this study concepts such as problem- and community-based learning, clinical teaching, professional- and clinical development skills were regarded as important.

The researcher wishes to stress the fact that two approaches, namely problem-based learning and community-based education were used. In the formal clinical teaching environment PBL was the main approach. However this approach was also supported by a variety of strategies, for example scenarios and group discussions. The application of knowledge, attitudes and professional development skills obtained in the PBL approach were then applied informally in the community setting (CBE).

Review of the literature

Nursing is a practice-orientated profession, and curricula based on practice needs are developed to empower learners to function in the clinical field. This development offers experts the opportunity to implement approaches such as problem-, community- and outcomes-based teaching (Adejumo, 1998:7; Ewan & White, 1996:97; Frost, 1996:1048; Malan, 1997:5; Mbantenkhu, 1996:10; Mulholland, 1994:38; Townsend, 1990:61; Wilkerson & Gijsselaers, 1996:14).

Problem-based learning (PBL) is a teaching method or approach that uses patient problems as context for learners. It promotes problem-solving skills, the acquisition of knowledge of basic and clinical sciences, and is mainly problem- and not content-centred (Biley & Smith, 1999:1209; Mashaba & Brink, 1994:154; Mellish, Brink & Paton, 1998:43; Packer, 1994:411; Quinn, 1980:142; Silins & Murray-Harvey, 1995:248; Townsend, 1990:61-62).

The problem-based approach can be used in community-based teaching (CBE) since teaching is based on the needs of the community and presumes a balance of learning activities between primary, secondary and tertiary settings (Adejuma, 1998:4,5; Yoder, Cohen & Gorenberg, 1998:120). A community-based approach contributes to the launching of health care programmes by professional health care staff and to services being made available for the first time in some communities (Schmidt, Magsoub, Feletti, Nooman & Vluggen, 2000:35-36).

Problem-based models such as the classic, the hybrid variant and Williams' model, have been developed over the years and may be used to develop and implement curricula (Barrows & Tamblyn, 1980; Chen, Cowdray, Kingsland & Ostwald, 1994:361-364; Mbantenkhu, 1996). As far as community-based teaching is concerned, training institutions may choose from a number of models, for instance those of Snadden and Mowat (1995:297-301), the SPICES model (Harden, Sowden & Dunn, 1984:284-285); Freire's model of community empowerment and student learning in the community (Kelley, 1995:385) and Ralph Tyler's outcomes model (Quinn, 1980:272).

It may be inferred from research findings that problem- and community-based teaching and learning has the following

advantages, among others: students are better practitioners than those who have followed the traditional method of learning (Silins & Murray-Harvey, 1995:248); the method has contributed to better integration of theory and practice and the promotion of community health (Maltby & Robinson, 1998:135); the community, as a learning environment, facilitates the personal and academic development of learners (Dana & Gwele, 1998:63); and critical nursing skills such as insight in community problems, problem-solving, communication, interpersonal relationships and cultural sensitivity are improved (Viljoen, Honiball & Botma, 2000:2-9).

One implication of the planning and implementation of a problem- and community-based teaching approach is that the traditional roles of both lecturers and students change. The role of lecturers changes from controllers and providers of information to facilitators and managers of the learning process (Mbantenkhu, 1996:13; Mulholland, 1994:39,42; Silins & Murray-Harvey, 1995:247; Wilkerson & Gijsselaers, 1996:5). The role of students is to take responsibility for their own learning (Bridges, 1992; 34; Ewan & White, 1996:96; Long, Grandis & Glasper, 1999:1171; Maricopa, 1999; Mellish *et al*, 1998:69,212; Oneha, Magnussen & Feletti, 1998:26; Townsend, 1990:68; Wilkerson & Gijsselaers, 1996:4).

As more and more health care is delivered in the community-based setting, nurse educators must ensure that learners obtain a great deal of their clinical learning experiences in this setting (Bellack, 1998:99; Ford-Gilboe, Laschinger, Laforet-Fliesser, Ward-Griffin & Foran, 1997:214; Oneha *et al*, 1998:131; Tagliareni & Murray, 1995:367,369; Yoder *et al*, 1998:119). The selection of suitable clinical learning experiences where student nurses are exposed to a variety of patients and clients is important, which is why various learning environments are necessary (Fothergill-Bourbonnais & Higuchi, 1995:37,39). Clinical teaching in a suitable learning environment prepares learners to integrate acquired basic, scientific information with skills and competencies associated with the diagnosis, treatment and care of patients (Ewan & White, 1996:107; Mellish *et al*, 1998:207,212; White & White, 1991:2,19).

Health care is a partnership between individuals, communities and professional people (Kelley, 1995:384; Tagliareni & Murray, 1995:366). Within this framework community members are equally important team members as the professional health team (Oneha *et al*, 1998:28,129,132; Schmidt *et al*, 2000:36; Yoder *et al*, 1998:120).

Problem statement

The researcher conducted a retrospective analysis of a problem- and community-based module used at the School of Nursing, University of the Free State since 1997 in order to determine whether the module meets the requirements of PBL and CBE. The opinions of the curriculum committee responsible for the development of the module, the facilitators and the students were obtained. This analysis brought to light the fact that clinical teaching and the as-

assessment of clinical skills were the greatest problems. The appropriate amendments were made on the grounds of this feedback and the amended module was implemented in 1999. The researcher believed that it was necessary to submit the amended module to evaluation.

Aim of the study

The aim of the study was to evaluate the different components of clinical teaching and professional development in an amended problem (PBL)- and community-based (CBE) nursing module. In view of the extent of the study the problems with regard to the assessment of clinical skills were not included.

Objectives

The researcher specifically attempted to analyze and describe the clinical teaching and professional development module retrospectively in terms of set guidelines; to evaluate whether the module was offered in a meaningful manner within a PBL and CBE approach, and to make recommendations as to how the existing module should be amended to ensure quality teaching (see Table 1)

Clarification of concepts

The following definitions of concepts were used as guidelines throughout the study:

- **First-year students:** In this study first-year nursing students refer to persons registered with the South African Nursing Council as learner/student nurses and who are following an integrated B.Soc.Sc. degree course in nursing leading to four registrations, at the School of Nursing of the University of the Free State (Nursing Act, No. 50 of 1978 as amended by Act 19 of 1997).
- **Facilitators:** Persons who do not solve problems, but who guide learners to use effective problem-solving methods. Facilitators must create a climate that encourages learners to accept responsibility for their own learning (Silins & Murray-Harvey, 1995:250).
- **Community-based teaching:** CBE is a method of teaching relevant to community needs. Learning activities take place within the community, which serves as a learning environment. Not only learners, but also lecturers/facilitators, members of the community and representatives of other sectors who are actively involved in the whole process, benefit in this way (WHO, 1985:4).
- **Clinical teaching:** Is the method used to help learners to apply theory in such a manner that the integration of knowledge and professional and clinical skills is achieved (Mellish *et al*, 1998:207).
- **Clinical practice or clinical learning environment:** This refers to nursing in any setting, for instance a hospital, clinic, old age home or the home of a patient/client (Mellish *et al*, 1998:207). Clinical practice is complex and represents reality. Real practical situations are encountered here (Benner, 1984:36).
- **Clinical skills:** These are skills that are necessary to

offer effective nursing care to anyone, such as a bed bath, taking vital signs, setting up an intravenous infusion or examination of the chest.

- **Learning experiences:** Learning experiences take place in the clinical setting in response to a rich and continuous stream of teaching opportunities that flow from the daily health care demands of patients/clients (Van Hoozer, Bratton & Ostmo, 1987:174).
- **Professional development and clinical teaching module:** Refers to a module compiled by the training school and offered over two semesters. The aim of the module is to prepare first-year nursing students for clinical practice. A variety of teaching methods, techniques and strategies is used to ensure that integration of theory and practice takes place. Clinical learning offers learners important exposure to professional development and clinical skills.
- **Professional development skills that include life skills, include, among others, team work, communication, social skills (interviewing and counselling) and computer literacy. Other skills are critical thinking, problem-solving and decision-making skills, the application of knowledge, assessment, analysis and synthesis (Carter, 1985:146; Olivier, 1998:36).**
- **Problem-based teaching approaches (PBL):** These are teaching approaches typified by the use of problems as the context in which students learn to master problem-solving skills and acquire knowledge of the basic and clinical sciences (Adejuma, 1998:1).

Research method and design

A quantitative and descriptive research design was used to attain the research objectives (Burns & Grove, 1997:250-258).

Research methodology Techniques

Various data collection techniques were used, i.e. structured questionnaires consisting of various questioning techniques and reply possibilities such as a Likert scale, written, unstructured feedback from students; interviews on the basis of a semi-structured questionnaire with facilitators and the principles of PBL, CBE and clinical teaching (see Table 1).

The questionnaire

The questionnaire consisted of three sections:

- **Section A** included eight (8) sub-sections namely, climate or atmosphere, facilitator, course material, media, presentation methods, availability of resources, practising skills and appointments.
- **Section B** contained ten (10) sub-sections regarding the different aspects of clinical teaching. Questions included were, for example, effectiveness of scenarios used, preparation by students for clinical teaching sessions, ability to adapt and practice skills in the community settings.

- Section C covered professional development skills in the clinical environment.

The semi-structured questionnaire

- This questionnaire consisted of eight (8) questions for the facilitators. These included questions about the effectiveness of the module and whether students had the ability to develop or master clinical and professional skills in the community.

Pilot study

The structured questionnaire was evaluated in a pilot study. In order to enhance validity and reliability eight respondents (16%) instead of the required 10% of the population of second-year student nurses were used for the pilot study. The questionnaire was also submitted to four domain experts in general nursing, community nursing and nursing education and staff of the department of biostatistics. No problems were foreseen regarding the analysis of the existing questionnaire. The semi-structured questionnaire was not piloted due to the fact that only five facilitators were involved in the education and training of first-year students.

Data collection

Structured questionnaire

Data was collected at the end of the second semester as the module extended over one year. Fifty-three first-year student nurses were requested to complete the structured questionnaire in a scheduled period. The researcher was responsible for collecting this data, but was not directly involved in the training of the respondents and was unknown to them. The validity and reliability of the study was therefore not influenced by the presence of the researcher.

Written, unstructured feedback from respondents

Respondents were requested to give an account of their experiences of clinical teaching and professional development at the end of each semester during a contact session. Experiences were documented on a clean sheet of paper.

Interviews using the semi-structured questionnaire

A semi-structured questionnaire was used to conduct interviews with all the facilitators (5) of the first-year students. Tape recordings were made and later transcribed by the researcher.

Data analysis

Staff members of the department of biostatistics analyzed the data. Descriptive statistics, that is, frequencies and percentages, were calculated for all variables on the structured questionnaire used for respondents. A statistical package, SAS (SAS Institute Inc., SAS/STAT User's Guide, 1989:943) was used to analyze the data while the Excel program was used for all graphics. Data obtained from facilitators and from the written unstructured feedback from

the respondents was analyzed and discussed by the researcher.

Validity and reliability

Structured and semi-structured questionnaires

The researcher believed that it was important to ensure that the structured questionnaire met the criteria of content validity. According to Burns & Grove (1997:330,331) content validity is determined by ascertaining whether the measuring instrument includes all the important elements relevant to the item being measured. A comprehensive search of the literature was therefore undertaken and important aspects were identified that were used in the questionnaire. Questions used in a previous research study in the School were also included in the new questionnaire. The domain experts who evaluated the questionnaire were people with teaching qualifications and experience in PBL and CBE.

Reliability refers to the consistency of measurements (Burns & Grove, 1997:327). Statistical calculation of the validity and reliability of the questionnaires was not a requirement according to experts in the department of biostatistics.

Population Students

Fifty-three (N=53) first-year nursing students registered for the clinical teaching and professional development module. In order to achieve the research objectives all the students were included in the study and therefore represented the target population and the sample size.

Facilitators

All the facilitators involved in the clinical teaching and professional development module (N=5:100%) were included in the sample.

Ethical aspects

The ethical committee of the Faculty of Health Sciences at the University evaluated the research project, approval was obtained to continue and an ethics number (ETOVS NO.101/99) was allocated. The dean of the Faculty of Health Sciences consented to the inclusion of student nurses as respondents. The respondents were informed of the research beforehand and written consent was obtained after they were assured that confidentiality would be maintained. No personal data was required. Participation was voluntary and there would be no discrimination if a respondent discontinued participation.

Value of the study

The implementation of a problem- and community-based programme demands new thinking and strategies. Problems identified on the basis of research data were addressed and will be taken into account in the development and implementation of clinical teaching within the teaching approaches mentioned above.

Findings

The data obtained in the research produced the following results:

Research objective 1:

The retrospective analysis of the clinical teaching and professional development module.

The guidelines of PBL, CBE and clinical teaching were used to analyze and describe retrospectively the clinical teaching and professional development module for first-year student nurses (1999). These guidelines included, among others, integration of knowledge and skills, learning of attitudes and professional behavior, personal and active involvement, cooperation within the multidisciplinary team, communication, self-management, positive change in the community and many other guidelines. The comprehensive analysis indicated that the professional development and clinical teaching module met all the important guidelines (See Table 1).

Research objective 2:

To evaluate whether the clinical teaching and professional development module was offered in a meaningful manner within a PBL and CBE approach, and to make recommendations as to how the existing module should be amended to ensure quality teaching.

This research objective was evaluated in terms of a structured questionnaire, a semi-structured questionnaire, written unstructured feedback from respondents and informal feedback from the facilitators.

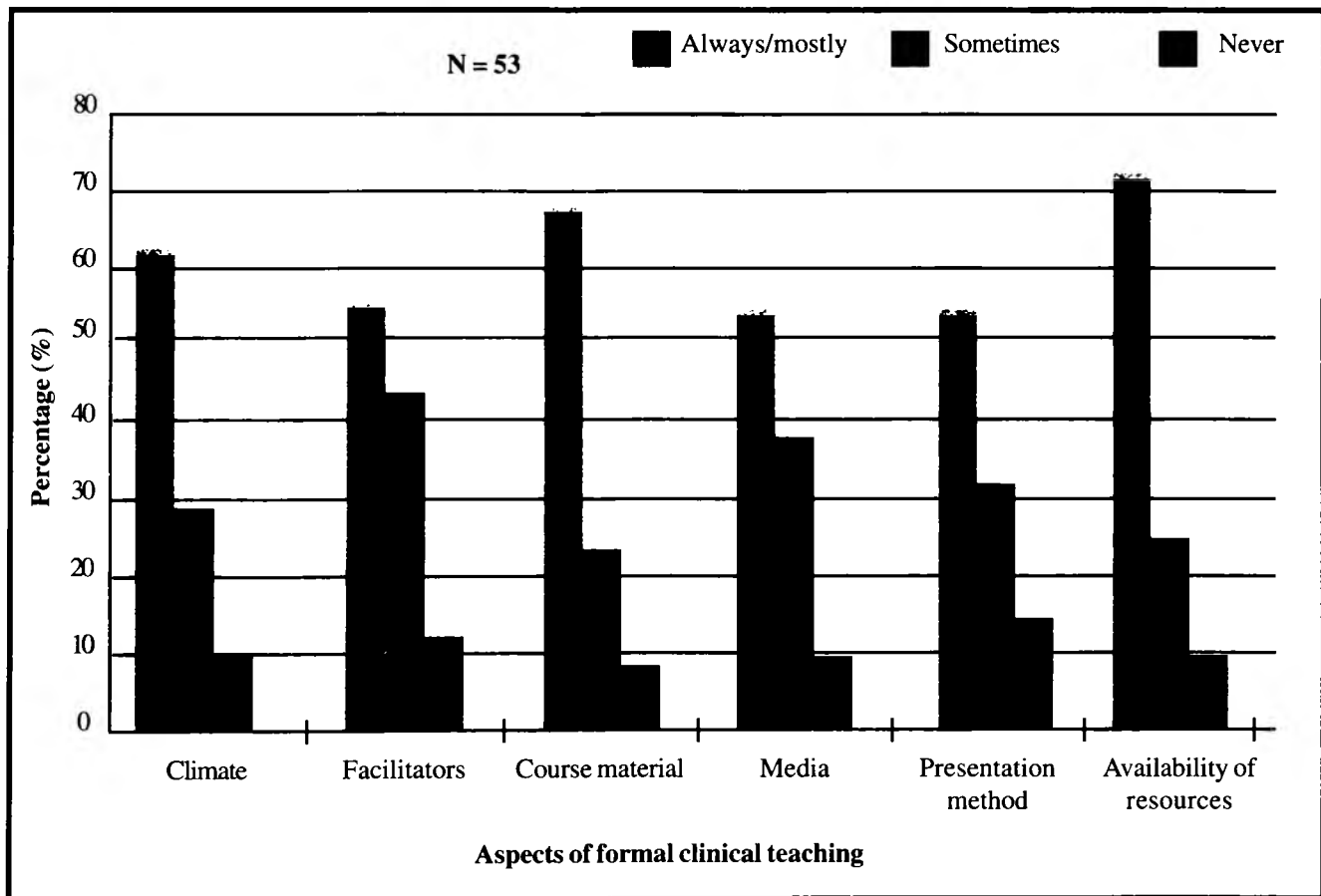
A questionnaire consisting of three sections was used to collect data about formal clinical teaching. Fifty-three (100%:N=53) respondents completed the questionnaire at the end of the second semester.

The response rates regarding formal clinical teaching in the simulation laboratories were calculated by obtaining responses to the categories "always", "mostly", "sometimes" and "never". Generally speaking, almost sixty-one percent (60.9%:N=53) of the respondents had positive experiences of formal clinical teaching, namely climate, facilitators, course material, teaching media, presentation methods and availability of resources (See Figure 1).

Table 1: The guidelines of PBL, CBE and clinical teaching

PBL	CBE	CLINICAL TEACHING
<p><i>Opportunity to promote the following:</i></p> <ul style="list-style-type: none"> • scientific reasoning; • acquisition and integration of knowledge; • development of teaching skills; • development of communication skills. <p><i>Implementation of the following:</i></p> <ul style="list-style-type: none"> • group interactions; • a student/learner-centered approach; • peer group support; • small group discussions. <p><i>Opportunity for:</i></p> <ul style="list-style-type: none"> • self-study; • active participation; • life-long learning. <p><i>Utilization of:</i></p> <ul style="list-style-type: none"> • a variety of evaluation methods and strategies. 	<p><i>Opportunity to promote the following:</i></p> <ul style="list-style-type: none"> • cooperation in the multi-disciplinary team; • cooperation between academic institution and the community; • meeting the real needs of the community. <p><i>Implementation of the following:</i></p> <ul style="list-style-type: none"> • community-orientated teaching program; • active involvement in different groups; • partnerships with shared responsibilities. <p><i>Utilization of:</i></p> <ul style="list-style-type: none"> • clinical learning opportunities; • clinical skills that students/learners will learn nowhere else. <p><i>Ensures that:</i></p> <ul style="list-style-type: none"> • positive changes take place in the community; • teaching program matches the uniqueness of each community 	<p><i>Opportunity to promote the following:</i></p> <ul style="list-style-type: none"> • ability to function effectively in health care services; • integration of existing knowledge and skills; • learning attitudes and professional behaviour and the opportunity of reflecting these in patient care; • reinforcement of material already learned; • the ability to combine elements of cognitive, affective and psychomotor skills and to apply them in clinical practice. <p><i>Teaching ensures:</i></p> <ul style="list-style-type: none"> • a basis on which future professional skills may be built; • knowledge and expertise and the safe use of equipment. <p><i>Utilization of:</i></p> <ul style="list-style-type: none"> • small groups; • self-performing methods and observation; • learning by experience as students observe actions and consequences; • personal or active involvement.

Figure 1: Response rate in formal clinical teaching in simulation laboratories



Information, among others, the presentation of clinical teaching, the availability of laboratory resources and opportunities for practising skills, were selected for further discussion.

Presentation of clinical teaching

Respondents were very positive about presentation methods such as group and individual activities. Forty-three (81.1%: N=53) respondents preferred group activities. Thirty-three (63.5%: N=53) were also in favor of individual activities. In both cases only two respondents rejected both methods. A large percentage (94.2%:n=49) agreed that facilitators and not learners should perform the first demonstration of a procedure to lay down the correct principles.

Almost fifty-seven percent (56.6%: n=30) of the respondents indicated that the sessions were presented in a manner that maintained a good balance between theory and practice. Eighteen (34.6%: N=53) believed that the clinical teaching sessions were too theoretically orientated (See Figure 2).

Availability of resources

Most respondents (83%: n=44) indicated that the laboratory instructor and assistant were always available when they wanted to practice. Thirty-two (60.4%: N=53) never

encountered problems of *access* to the laboratories, while sixteen (30.2%: N=53) sometimes had a problem. A minority, five (9.5%: N=53) could never gain access to the laboratories when they wanted to practise. According to thirty-five (65.6%: N=53) respondents sufficient equipment and supplies were always available. A small group (24.8%:n=13) did not agree with this assessment. Five (9.5%: N=52) were completely negative about equipment and supplies (See Figure 3).

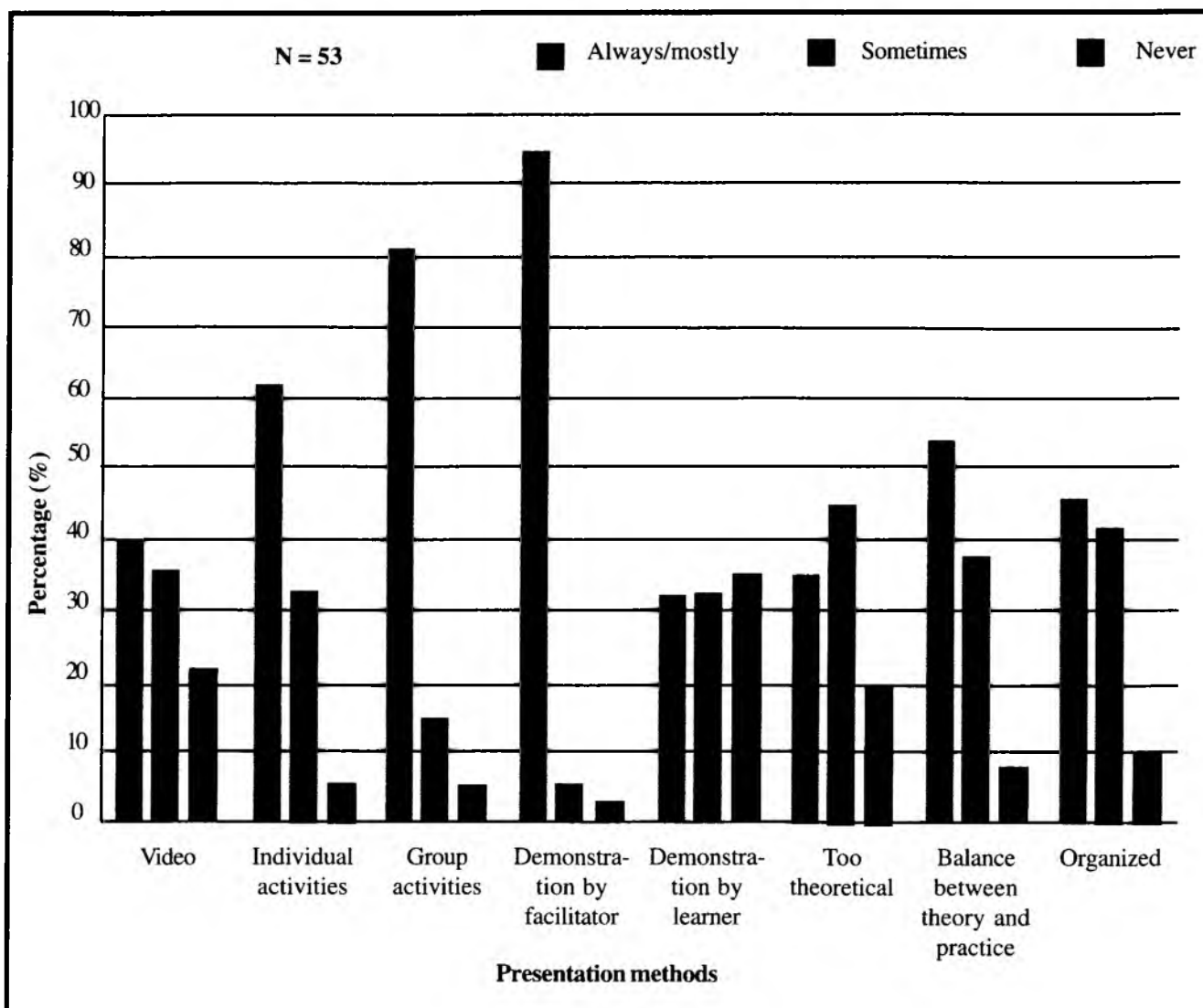
Practising skills

A number of possibilities for practising were listed (See Figure 4). The best method, according to forty-seven (88.7%:N=53) respondents, was to practice under indirect supervision which meant that help was available if requested. Twenty-three (43.3%:N=53) preferred to practise under the direct supervision of the laboratory instructor. The least popular method (11.8%:n=6) was that of practising clinical skills on their own without supervision.

Few respondents (13.5%:n=7) saw their way clear to practising on their own, with the aid of a video demonstrating the skills.

A significant group (73.1%: n=38) indicated that practising certain clinical skills should be compulsory while 35 (67.3%: N=53) regarded all clinical skills as compulsory. On the other hand 27 (51%: N=53) respondents wanted to practise skills on a voluntary basis.

Figure 2: Preferred presentation methods for formal clinical teaching



Opinions on whether clinical skills could be performed independently in community settings

Thirty-four (82.9%; n=41) respondents answered “yes” and seven (17.1%; n=41) “no” to this question. Ten (29.4%; N=34) of the respondents who answered “yes” indicated that they had sufficient knowledge and skills to function independently in the community. According to six (17.6%; N=34) respondents the presentation of clinical sessions by the facilitators was excellent and was to their (the respondents’) advantage. Seven (20.5%; N=34) offered no motivation for their answer. Two (28.5%; N=7) stated that more experience was necessary to become skilled. One (14.2%; N=7) still felt unsure of her/himself and the same percentage stated that facilitators gave them too little time to practise.

Problems experienced with clinical teaching

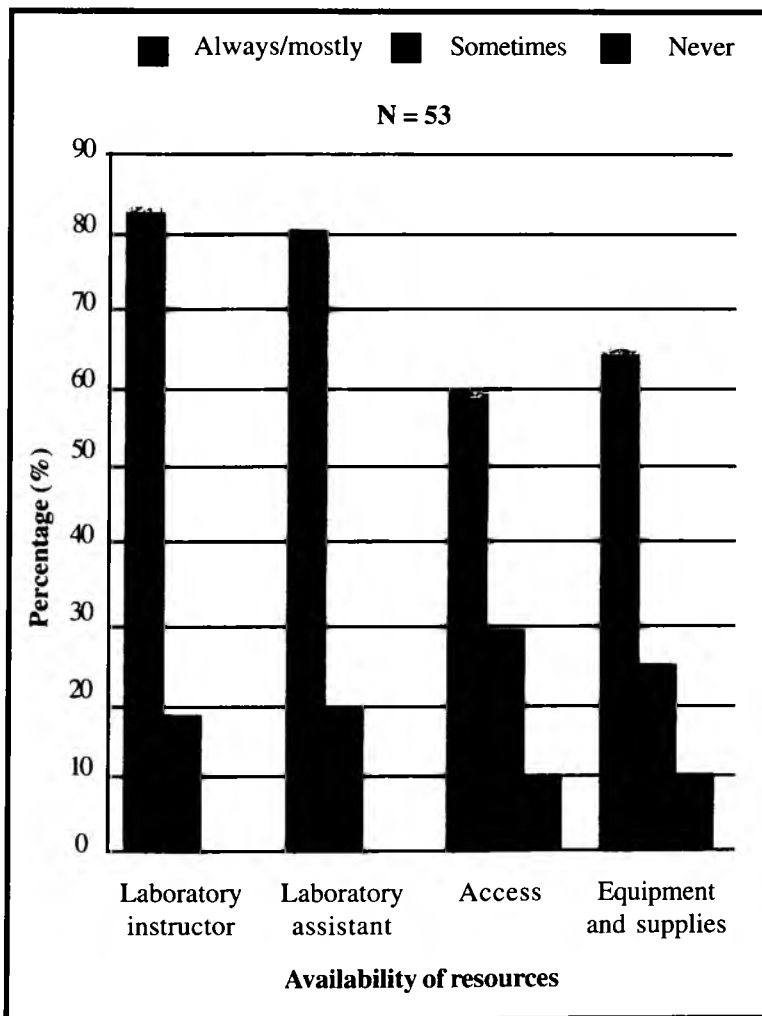
Five (9.4%;N=53) respondents indicated that clinical teaching was presented in a disorganized manner.

Suggestions for the improvement of clinical teaching

Three (5.7%; N=53) respondents suggested that the facilitators should organize demonstrations better with regard to factual content and application. The same percentage felt that videos should be available in Afrikaans and English. Two (3.8%;N=53) found the scheduled clinical session periods inadequate.

Professional skills such as teamwork, communication, meeting procedure, record keeping, referral of patients for further care and client teaching were also examined (See Figure 5). Thirty-four (65.4%; N=53) respondents felt that the teamwork definitely contributed to their professional development. One respondent did not view teamwork as a contributor to her professional development because effective communication with other members was absent. Mastery of communication skills was one of the most important skills contributing to the professional development of thirty-seven (71.2%; N=53) respondents. Only six (11.5%; N=53) did not respond in the same way. As regards meeting procedure the largest group of respondents (46.2%; n=24) were uncertain of its contribution to professional

Figure 3: Availability of resources during formal clinical teaching



(1.9%:n=1), that facilitators should prepare thoroughly for sessions (1.9%:n=1) and that presentations should be more professional (1.9%:n=1).

According to an analysis of the written unstructured feedback 52 (85.2%:N=61) respondents evaluated the module positively, while only 14.8%(n=9) responded negatively. For instance, respondents indicated that the module contributed to professional development; helped them to understand community needs better and effective care could therefore be provided in all clinical learning environments; that it promoted the integration of theory and practice; awakened and reinforced a sense of responsibility and promoted and addressed multicultural interaction and understanding and improved problem-solving skills. Negative comments were that teaching was experienced as being disorganized; work in the community was too exhausting; learners were anxious because they could not answer the questions about disorders and treatment asked by community members.

The researcher conducted interviews with the five facilitators (100%: N=5) on the basis of a semi-structured questionnaire. Two (40%: N=5) indicated that the PBL guide-lines regarding the promotion of independent learning and critical thinking were not achieved because learners did not have all the responsibility for clinical demonstrations. All (100%: N=5) stated that learners were placed mainly in the community and therefore clinical skills necessary for functioning in hospital could not be practised. The facilitators agreed that

development while 17 (32.7%: N=53) did realize its usefulness. Eleven (21.2%: N=53) were of the opinion that meeting procedure definitely did not contribute to their professional development. One respondent felt that it appeared disorganized and the others thought it was unnecessary to include as they had learned it at school. Most respondents (55.8%: n=53) believed that faithful record keeping promoted professional development. Nineteen (36.5%: N=53) were uncertain while only four (7.7%: N=53) stated that it made no contribution. The fact that they had to learn how to refer patients for further care was a positive aspect of professional development in the view of 24 (46.2%: N=53) respondents, while 23 (44.2%: N=53) appeared to be uncertain. Client teaching was viewed as very important and a high percentage (74%: n=37) emphasized its importance.

professional skills were developed very well in the community and other clinical learning environments.

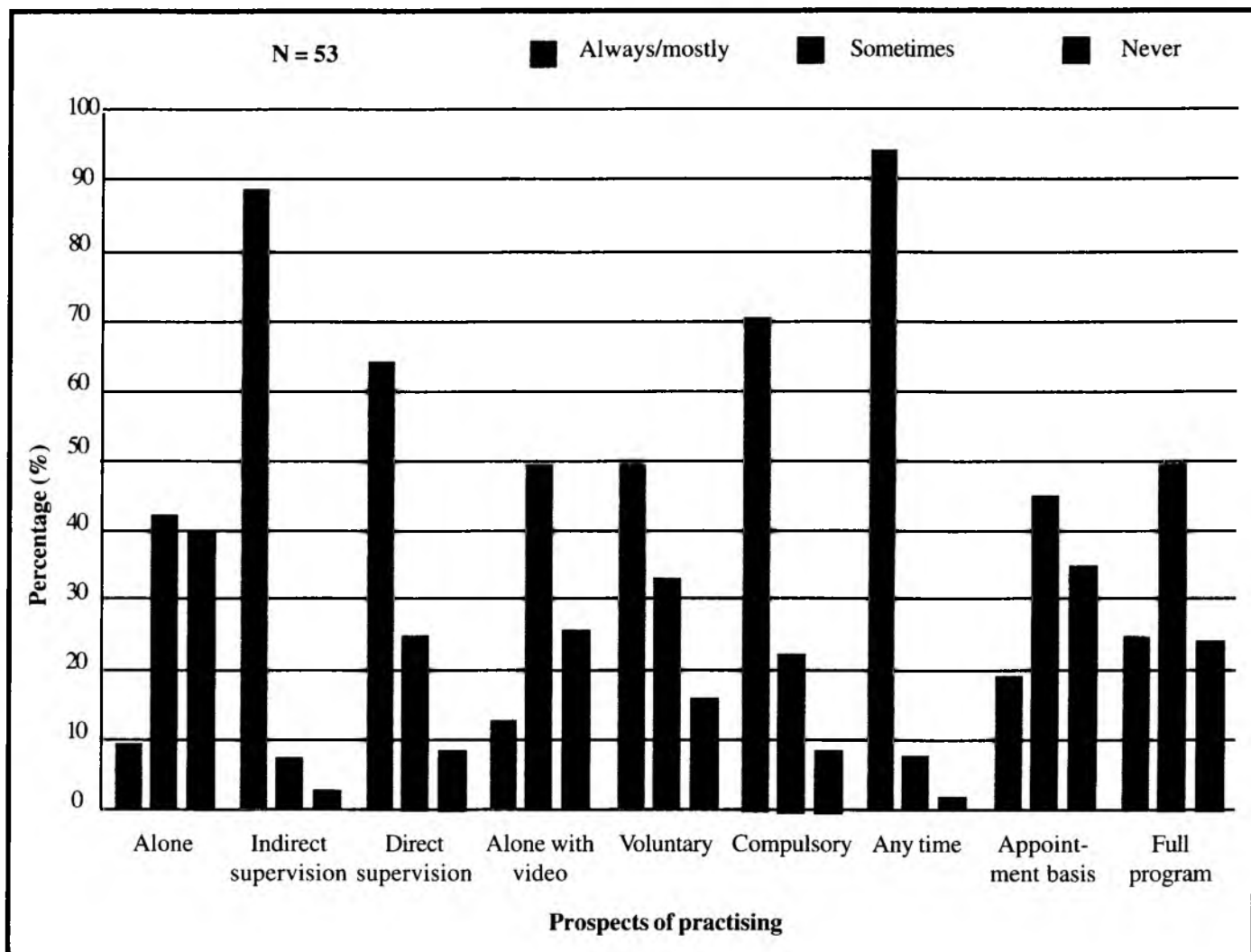
The facilitators (100%: N=5) were convinced that the learners were well equipped to function effectively in clinical practice, but one (20%:N=5) added that they were novices and had had only one year's exposure. Two (40%: N=5) attributed the success of the module to PBL that promotes logical thinking and problem-solving skills. One (20%: N=5) was concerned about the fact that the performance of procedures in the hospital did not always correspond with the correct method demonstrated in the laboratory. One (20%: N=5) facilitator believed that the learners could not yet adequately associate theory with clinical practice.

The following suggestions were made to promote mastery of professional development skills. Two (3.8%: N=53) respondents recommended that the selection of appropriate content by facilitators should be more effective. Other suggestions were that more practical than theory should be studied (1.9%: n=1); that facilitators should perform demonstrations first, followed by learners (1.9%:n=1), that facilitators should improve their English (1.9%:n=1), that facilitators should be more helpful in answering questions

Conclusions and recommendations

Comparisons between the results of the various strategies clearly show that respondents and facilitators regarded it as positive in both the PBL and CBE approaches. This finding concurs with research by Dana and Gwele (1998), Van Velden (1998) and Wilson (1994) that, generally speaking, learners experience PBL and CBE positively.

Figure 4: Prospects of practising during formal clinical teaching in simulation laboratories



The following are findings confirmed by the literature:

Group activities are preferred as a method of presenting clinical teaching. This finding is in accordance with that of Williams and Williams (in Chen, Cowdray, Kingsland & Ostwald, 1994:21) that group work plays an important role in a PBL approach. Most (53%) of the respondents described scenarios as interesting and effective, a finding confirmed by Barrows (1986). Theory and practice were integrated in the view of the majority of respondents (57%) and therefore reality shock was not a major factor. Respondents were convinced that they could make effective applications in the learning environments. Frost (1996) and Bechtel, Davidhizar and Bradshaw (1999) made a similar finding. A large percentage of respondents stated that practising skills in the real situation increased their self-confidence. A similar finding was made by Prince, Van De Wiel, Scher, Van Der Vleuten and Boshuizen (2000). It appears that learners were well equipped to function effectively in clinical practice situations.

Recommendations

Although only a small percentage (15%) of respondents was not satisfied with the climate and a few (20%) did not

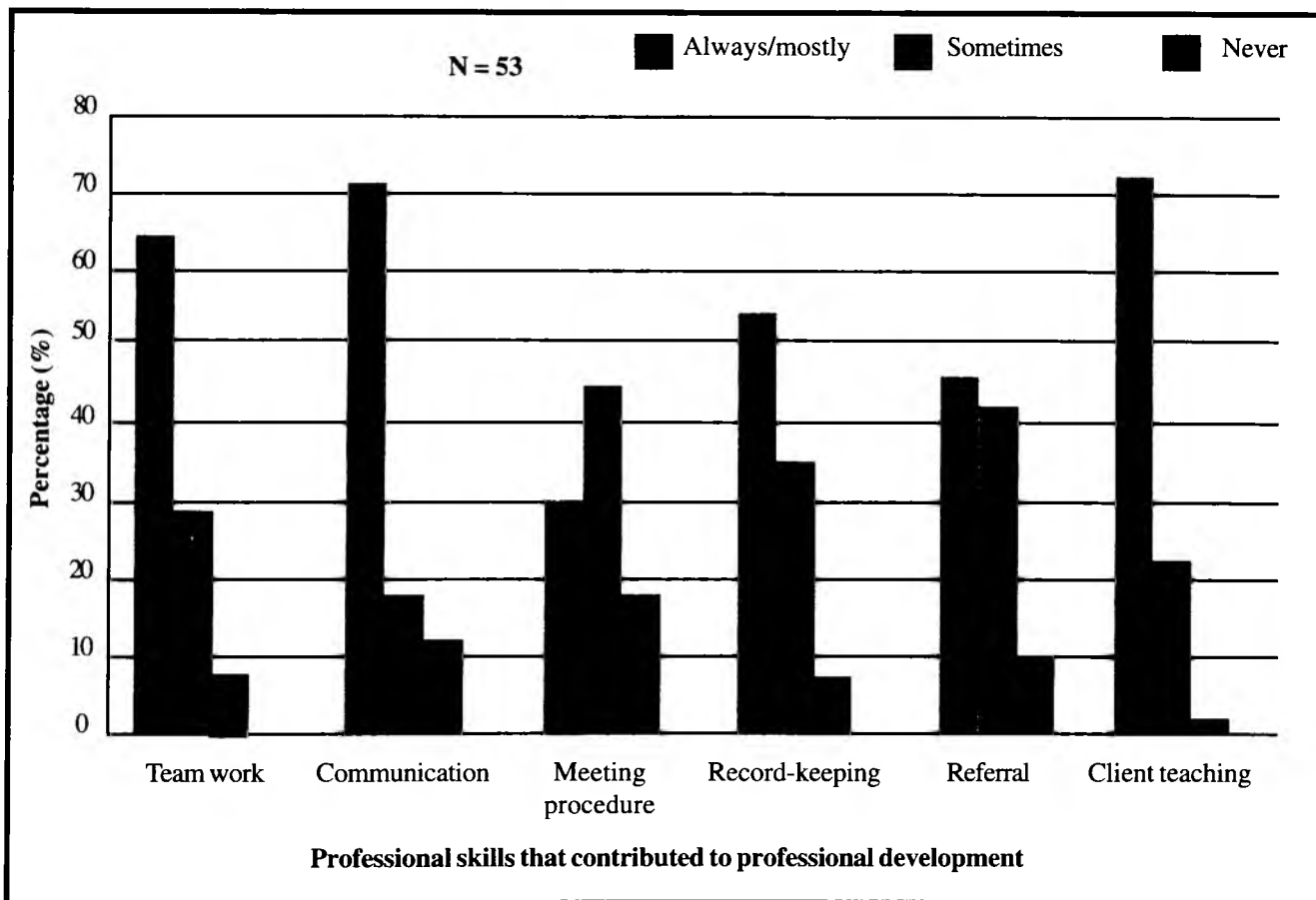
experience empathy, the importance of this aspect must be considered when appointing facilitators. The interpersonal relationships of facilitators must be taken into account. Mulholland (1994:39,42) confirms the fact that the support function of facilitators, such as availability in group sessions, is of the utmost importance.

Group activities must be maintained and expanded as the main method of presentation. However, facilitators must retain responsibility for performing demonstrations as correct performance implies safe patient/client care.

Scenario's/problems/triggers remain one of the most important aspects of PBL for promoting problem-solving, self-directed, independent and life-long learning. All these attributes are inherent in registered nurses and must therefore be used in the module. A number of authors such as Biley and Smith (1999:1206); Ryan (1993:53) and White & White (1991:190) emphasize the importance of this view in a rapidly changing world with a rapid increase in knowledge.

Despite the fact that the module has narrowed the theory-practice gap, the ideal has not yet been achieved and a variety of teaching strategies must be implemented to reduce the gap still further. Learners must continue to be

Figure 5: Opinion of respondents as to whether professional development skills contributed to professional development



exposed to a wide variety of clinical learning environments, chosen with discretion.

The researcher attempted to evaluate the professional development and clinical teaching module comprehensively and recommends that the existing module continue to be used for student nurses exposed to a PBL and CBE approach.

Research that addresses a combination of PBL and CBE is limited and the researcher recommends that a comparative study be undertaken by a number of nurse training schools. This could compare content, methods and strategies used to implement the principles of the two teaching approaches.

Closing remarks

The fact that the analysis and description of data creates a positive image throughout, may, according to the researcher, be attributed to the fact that a number of facilitators were appointed to guide the respondents within the PBL and CBE approaches and that respondents received individual attention and support during this period of their training. The facilitators were also thoroughly prepared for their task over a period of almost two years.

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