

ORIGINAL RESEARCH

Perspectives on transfer of learning by nursing students in primary healthcare facilities

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ABSTRACT

Supportive work environments promote professional socialisation and integration of theory in practice. Qualitative data generated through four nominal groups were deductively analysed using the components of the systemic model of training transfer. This article reports on the perspectives of nurse clinicians, clinical facilitators, and students from the training institution regarding aspects of student characteristics, educational design, transfer climate and work environment that influence nursing students' transfer of learning in primary healthcare (PHC) facilities. A perception exists that students lack the desire to use knowledge and skills mastered in the training programme in clinical practice. Although the educational design strives to promote transfer of classroom learning, students may not be motivated to transfer classroom learning. The learning climate hampers transfer of learning because the students' perceptions are that they are unwelcome, not taken into consideration and not respected. The lack of essential equipment demotivates students. This study confirms the interrelatedness of the systemic transfer of training model and emphasises the importance of considering all elements that influence learning transfer when planning clinical placements of students.

Key Words: Learning environment, Primary healthcare, Transfer of learning, Theory-practice gap, Theory-practice integration

1. INTRODUCTION

The noble aim of the Primary Healthcare (PHC) approach is to achieve "Health for All"^[1] In order to achieve this aim, nurses in training should become familiar with the type of healthcare offered at PHC clinics. Students' learning experiences should be such that they would want to return to PHC clinics on exiting their training programme. Primary healthcare is viewed as the foundation of public healthcare; is delivered primarily by nurses; and is the first point of contact with a health service provider for the majority of people in developing countries. Due to the high patient burden in PHC facilities, the public health service provider expects all nursing students exiting training programmes to be competent and to function autonomously. Nursing students should work

while they learn because they are expected on registration to be competent to work immediately as registered nurses.^[2]

Competence is demonstrated in the performance of the person that illustrates incorporation of foundational and procedural knowledge in a specific context when rendering healthcare to the advantage of the healthcare consumer.^[3] A competent practitioner furthermore has the ability to reflect on the thinking processes and develop meta-cognitive knowledge in this manner.^[4]

To afford students the opportunity to become competent, work-integrated learning of students has to occur within PHC facilities. Work-integrated learning offers students opportunities to learn through work and work-like experiences for

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mutual benefit of the student and the workplace.^[5] The regulatory body, in the context of this study, requires that each student has approximately 700 to 1,000 hours of WIL per year in specified accredited clinical facilities. Students are not only socialised into professional behaviour and competencies but also have the opportunity to apply theoretical knowledge in practice.^[6] Part of the supervisory role of nurse clinicians' is to support students in the process of linking theory with practice and to create a conducive learning environment. In this way, actions of supportive people can enhance the development of clinical reasoning and autonomy

and encourage transfer of learning.^[7]

The learning climate and work environment may either promote or impede transfer of learning in healthcare facilities.^[8] Transfer of learning equates to the application of classroom knowledge in practice. The degree of transfer is dependent on student characteristics, the educational design, learning culture of the workplace, and the workplace environment^[6] which is an interdependent systemic process. The authors built on the systemic model of training (educational) transfer by Donovan and Darcy^[9] (see Figure 1).

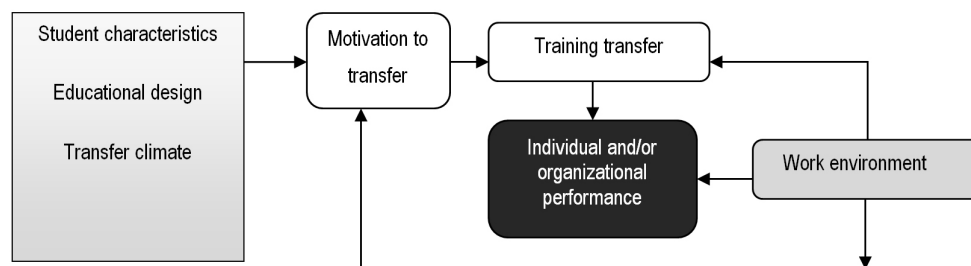


Figure 1. Systemic model of transfer of learning, adopted and adapted from Donovan and Darcy

Student characteristics that influence transfer of learning and therefore student performance are motivation to learn and apply, ability, personality, prior experience, efficacy beliefs, conscientiousness and extraversion.^[8] Gegenfurtner, Festner, Gallenberger, Lehtinen, and Gruber^[10] added attitude towards training content and instructional satisfaction to the list of characteristics that influence intention to transfer learning.

Education design factors that influence transfer of learning are the level of student centeredness, active engagement with learning material that is applicable to practice and job requirements, as well as the atmosphere in which learning occurs.^[8,10]

Ruona *et al.*^[11] state that it is increasingly clear, that although learning may have occurred in class, the workplace may either inhibit or support application of learning. Transfer climate is described as a “mediating variable in the relationship between the organisational context and an individual’s job attitude and work behaviour.”^[11] A favourable transfer climate is characterised by a supervisor who supports learning and application of theory, offers support, creates times and places to learn, involves and empowers staff.^[8,12] In addition to emotional support, system, tangible and facilitative support should be offered in the workplace.^[13] Supporting students in the workplace is not the responsibility of a single person because peers, learning facilitators, supervisors and clinical practitioners all contribute to the support of stu-

dents.^[8] A supportive learning climate is characterised by competent nurse clinicians with advanced clinical skills^[14,15] who have open communication channels, a willingness to assist and teach students^[15,16] and who genuinely respects students as novice colleagues.^[17]

The systemic model of transfer of learning developed because researchers realised that multiple factors, for example student characteristics, educational design, learning climate and work environment, influence transfer of learning. Limited literature could be found on the factors influencing transfer of learning in primary healthcare facilities.

This article reports on the perspectives of nurse clinicians, clinical facilitators, and students from the training institution regarding aspects of student characteristics, educational design, transfer climate and work environment that influence nursing students’ transfer of learning in PHC facilities. Although each factor by itself is important, it is the dynamic and inter-relatedness that is of paramount significance when considering clinical facilities for student placements. Through understanding these factors the nurse educators may better meet the learning needs of students.

2. METHODS

Qualitative data were gathered by means of four nominal group technique (NGT) interviews in order to describe the influences on transfer of learning in primary healthcare facilities. Various documents were used for source triangulation.

2.1 Unit of analysis

Data were gathered from PHC nurse clinicians, clinical facilitators from the higher education institution and second-year baccalaureate nursing students. Twelve PHC clinicians were purposively sampled because they worked in the 12 clinics where the students were placed for work integrated learning. All seven facilitators took part. From thirty-six students, two groups, ten and eight volunteers respectively, constituted the students' sample.

The unit of analysis for documents comprised written evaluation reports by students on theoretical course and placement in PHC facilities, reports by facilitators on students they accompanied in clinical practice, and minutes of facilitators' meetings.

2.2 Data collection and analysis

Ethics approval was obtained from the Health Sciences Research Ethics Committee and permission to conduct the research was obtained from the vice rector academia (students and staff) and provincial department of health (clinicians). Potential participants were informed about the purpose of the study beforehand and were invited to participate in the nominal groups. Written consent was obtained from all participants before commencement of interviews.

The NGT is a well-structured consensus seeking process,^[18,19] which was consistently implemented in all four groups by the same facilitator. The facilitator commenced the first step by requesting participants to silently "write down what you perceive to hinder the students/your efforts to apply in PHC practice what they/you have learned in theory."

During the second step, all generated responses were listed verbatim on a flip chart. Participants were not allowed to comment during listing and discouraged to duplicate responses.

Clarification of responses occurred during the third step. When it was established that all responses were understood by each participant, the group was asked to group responses similar in content together.^[20] A manifest content analysis was done on the combined data as the authors searched for specific words used or ideas expressed^[21] that could be linked to the four components of transfer of learning namely student characteristics, educational design, transfer climate and work environment.

2.3 Trustworthiness

The skilled facilitator, who followed the structured process consistently during each interview, contributed to the trustworthiness of results. Group members participated in clarification and validation of responses. Two co-coders inde-

pendently verified the content analysis.^[22] Trustworthiness was enhanced through source triangulation of the themes via document analysis.^[23] The dense description of the process and responses contribute to the transferability of the findings.

3. FINDINGS AND DISCUSSION

Selected examples of responses per theme are given in the Tables 1-4. Responses used in the discussion of the data are not included in the table.

Table 1. Student characteristics

Response	Source
Focus of students on completion of workbook not on hearing information or explanations.	NC
Students disrespectful toward staff and patients.	NC
Some students do not want to rotate between nurse clinicians.	NC
Students' attitude – creates the impression that we are wasting their time. Not interested/bored.	CF
See facilitators too little.	St

Note. NC = Nurse Clinician; CF = Clinical Facilitator; St = Student; D = Documents

3.1 Student characteristics

PHC clinicians and clinical preceptors perceived students as uninterested, disrespectful, and with preferences with whom they want to work. The nurse practitioners ascribed the students' preferences to communication and language barriers. Brooks and Niederhauser^[24] found that students prefer to have a choice in who they work with, but due to fragmented care in PHC facilities students have to rotate through the different categories of services offered, e.g. childhood illnesses, mother and child wellness, HIV/AIDS care, etc.

Nurse clinicians stated that students "disappear into a room or dodge nurse clinicians who ask many questions". It seems as if the student's motivation to transfer learning or desire to use knowledge and skills mastered in the training programme on the job is lacking.^[8,10]

3.2 Educational design

A feature of the educational design that might have influenced transfer of learning is that nurse clinicians were unfamiliar with the learning outcomes although they are annually given to the managers at all student workplaces. It is essential that the nurse clinicians be aware of the learning outcomes because they should plan to enable students to meet learning outcomes.^[25] Furthermore, the clinicians felt that the students' placement in PHC facilities should occur later in the training programme, even though the learning content of the training programme addresses PHC, thereby endeavouring to match identical elements to practice and job requirements.^[10] Omansky^[16] confirms that work-integrated learning aims to

support the integration of theory and practice or learning transfer. Therefore students are involved in everyday tasks and render comprehensive care to clients under the supervision of a nurse clinician during their placements in primary healthcare facilities (see Table 2). Furthermore, in addition to attending the theoretical contact session in various disciplines at the university the students have to meet the compulsory clinical placement of 12 hours per week. The theoretical content is directly linked to the clinical practice through paper case studies and simulation with standardised patients. Relevant task training of skills are done in simulation laboratories. During classroom teaching the educators should strive to link theory to practice.^[26–28]

Table 2. Educational design

Response	Source
PHC staff does not display knowledge of student outcomes in spite of receiving a copy ...	CF
Too many students per clinic at a time.	NC
2 nd year is too early for practicum.	NC
Students are allocated alone without supervision.	CF
Found students working on their own in cubicles without any supervision.	D
Professional role models lacking in the clinics.	CF
On first day, procedures are not done according to specifications for students.	NC
Students learn incorrect procedures from staff in PHC.	CF
Some sisters do not perform procedures as we have been taught ...	St
Nurse clinicians sit and have a conversation while the patient is waiting uncovered on the examination couch.	St
Do not spend time on patients ... do not render service of quality.	St
Time spent on patients in PHC → fast and superficial → loads of patients.	CF

Note. NC = Nurse Clinician; CF = Clinical Facilitator; St = Student; D = Documents

Hutchins, Burke and Berthelsen^[26] are of the opinion that students need direct guidance from experts in order to transfer learning. Furthermore students indirectly learn through observation and trial and error. However, their observations lead to learning confusion. Instead of clarifying ambiguities it seems as if the nurse clinicians contribute to creating anxiety and fear which may be obstacles to effective learning. This finding is congruent with those of Dube and Jooste^[29] and Kalén *et al.*^[30]

Maben *et al.*^[31] state that time pressures, staff shortages, work overload, task orientation, and high patient turnover hamper transfer of learning. The participants in this study concur with Maben through the following statements:

“facilitators don’t have enough time to follow up as they would wish to due to workload.”(CF)

“there is in almost all clinics a shortage of nurse cli-

icians.”(D)

“nurse clinicians make us do things like observations only.”(St)

3.3 Transfer climate

Ruona *et al.*^[11] describe transfer climate as an intercessor that influences the relationship between the students’ attitude and work behaviour and the workplace environment. Responses in Table 3 confirm that a high case load, 40–56 patients per day per nurse clinician, and patients’ uncooperativeness contributed to the less than optimal performance.^[32] Consequently, the negative attitude towards students and lack of role models contributed to the poor learning climate.^[33] Allan *et al.*,^[34] offers a possible explanation for the less than optimal learning climate by stating that healthcare professionals often suppress their emotions but the feelings are unconsciously expressed through behaviour. Students perceived the unsupportive behaviour of nurse clinicians by stating the following:

“The sisters sometimes give us an attitude... scold you audibly in front of patients & staff → make you feel stupid (D)”.

“... some sisters say openly that students are a schlep and they do not want to work with them (St)”.

“Some nurse clinicians are very rude especially when there are cultural differences (D).”

“Some nurse clinicians say that they are not lecturers, when asking about epilepsy for example (St).”

Table 3. Transfer climate

Response	Source
Some patients are uncooperative toward students and bring their morale down.	NC
Attitude of some of the clinic staff has been reported as negative → linked to shortage of staff & overcrowded facilities.	CF
Language inconsistency – leads to waste of time to translate.	NC
Sisters do not translate dialogue for students – attitude of not wanting to accommodate students.	D
Students get little/no experience where there are language problems.	D
Sometimes the sisters don’t take the Afrikaans-speaking students into consideration. They explain and talk in Sesotho.	St

Note. NC = Nurse Clinician; CF = Clinical Facilitator; St = Student; D = Documents

Responses in Table 3 indicate that language barriers and cultural diversity may hinder students in integrating theory in practice. One can comprehend that nurse clinicians will converse in the patients preferred language due to a number of reasons. However, the students expect a translation or summary of the discussion in order to learn from the situ-

ation, but due to time constraints and high patient burden it is not done. Therefore, the students' perceptions are that they are unwelcome, not taken into consideration and not respected.

3.4 Work environment

The physical workplace was not always conducive to transfer learning because the service provider's approach of service delivery was fragmented and some services were not provided daily. Crowding of the limited physical space encroaches on privacy and confidentiality of patient care and obstructs use of learning opportunities. Furthermore, a lack of essential equipment and poor hygiene thwart students' efforts to transfer learning.

The data support the opinion of Uppal, Oades, Crowe, and Deane,^[32] that institutional constraints may limit transfer of learning. The researchers are concerned that these institutional constraints may have a negative impact on professional nursing practice and patient outcomes. According to Davies, Wong, and Laschinger^[35] structural factors within the work environment has a greater influence on employee work attitude and behavior than personal dispositions or social interactions. The inability to access supplies, resources and materials incapacitate students and nurse clinicians in reaching the organisational goals of rendering optimal healthcare (see Table 4).

Table 4. Work environment

Response	Source
No proper venue for facilitators to see students.	CF
Hygiene in general is ridiculous ...	St
Hygiene was not always on standard.	D
No equipment/supplies for emergency trolley – as well as no procedures.	St
Medication shortage and no 2 ml syringes available.	D
No time for translation for student's sake → learning opportunity lost.	St
Time spent on patients in PHC → fast and superficial → loads of patients.	CF

Note. NC = Nurse Clinician; CF = Clinical Facilitator; St = Student; D = Documents

4. CONCLUSION

Work-integrated learning is part of the learning cycle, which implies that students should be eager and capable of applying theory in practice under supportive supervision. Generally, students want to transfer learning and become competent, which often is in conflict with the nurse clinician's priority of rendering healthcare. Factors such as a high patient burden, staff shortages, and large student numbers influence the nurse clinicians' ability to support students' endeavours to become competent nurses. Considering these conflicting priorities, the researchers as nurse educators, wanted to know whether

PHC facilities are suitable placements for work-integrated learning.

Nominal group interviews were conducted with nurse clinicians, clinical facilitators and nursing students to determine how they perceived the PHC facilities as learning environments for nursing students. The authors executed a manifest analysis of the combined data content. The findings confirmed that student characteristics, educational design, transfer climate and workplace environment influence transfer of learning. These factors are dynamic and inter-reliant.^[11] Therefore, nurse educators should assess the system that influences transfer of learning and not focus on a single component to enhance students' learning.

Healthcare service providers expect newly qualified nurse clinicians to "hit the ground running" but little support is given to enable novice student nurses in their endeavours to become competent. Although factors associated with student characteristics and educational design were mentioned, the major issues affecting transfer of learning were the transfer climate and physical environment of the facilities where students were placed for their WIL. workplace. Limited physical space with crowding, absence of essential equipment, and unhygienic environments thwarted students' efforts to transfer learning. In addition, the lack of strong and supportive leadership in the workplace influenced the transfer climate negatively. Negativity towards students and unprofessional role modelling further relegated the transfer climate. Multiculturalism contributed to communication barriers and could have influenced the students' attitudes. Due to multiple factors, nurse clinicians were not always willing or able to translate the discourse for the students who did not understand the language that was used. Although there is always room for improving the education design, the criticism was mostly due to poor communication or misunderstanding of the training programme by nurse clinicians.

Transfer of learning can be enhanced through clinical preceptors affiliated with the training institution and whose primary responsibility will be to support students during work-integrated learning. The clinical preceptor should promote communication between the clinical and teaching staff, supervise and support students, model professional behaviour and act as agent of socialisation.^[31,36] Learning confusion may be prevented through close collaboration between the education institution and the service provider. In addition, adequate classroom teaching, where students are able to equate the theory and research to expected outcomes and understand the science and art behind a certain procedure, will prevent students from becoming confused during work-integrated learning. Strategies such as debriefing or reflecting could

turn negative work experiences into positive learning experiences. Debriefing and reflective practice, both alone or in a group, are viewed by students as emotional support and also serve as a learning technique.^[37]

The contextual nature of the study limits transferability. Dense description of the responses and methodological rigour will allow readers to determine whether the findings and recommendations are applicable to their situations. Comparative studies could be conducted in other provinces or countries that have similar health service structures. The data reported on in this article may be used to compile a questionnaire for a survey on the PHC facilities as learning environment in a bigger population.

In the absence of transfer of learning, Donovan and Darcy^[9] state that healthcare institutions stand to lose quality of care and will be unable to improve their workforce skills. Organisational structures that encourage professional development and the integration of shared knowledge in organisations have been cited as instrumental to knowledge transfer and personal knowledge use.^[37] Therefore educational programmes should be designed in close collaboration with stakeholders in the clinical practice. Only healthcare facilities that provide sufficient support and resources should be selected for work integrated learning. Health system support structures should be established in order to prevent situations where essential

stock is depleted.

The findings in this article emphasise the importance of considering all relevant aspects that influence learning during the educational design phase. It is paramount that educators understand that facilitation of learning does not start or end in the classroom. It starts when a prospective student is selected and enters the training programme, continues in the classroom and laboratories, and progresses during work-integrated learning. The theory–practice gap will diminish when we, as nurse educators, create systems that support and encourage transfer of learning by selecting students with appropriate character traits, design educational programmes that support transfer of learning, support the clinical nurse leaders in creating a transfer climate, and collaborate with the health service provider to establish a work environment that is conducive to learning.

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CONFLICTS OF INTEREST DISCLOSURE

The authors declare that they have no conflicts of interest.

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