

Experiential Learning Experience of Pharmacy Students on the Phelophepa Health Care Train

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ABSTRACT

Phelophepa is a primary health care train visiting different rural areas of South Africa to deliver health care services to patients without access to health care. This paper reports on the experiential learning experience of pharmacy students at Nelson Mandela Metropolitan University who worked on Phelophepa during 2008. A qualitative, chronological overview of the Phelophepa learning experience is given. The expectations of students are compared to their reflections afterwards. Outcomes are compared to the objectives set by performing a document analysis of the students' scientific reports. The main theme that emerged was that Phelophepa was a "life-changing experience". Students realized the role of the pharmacist in the health care team. Negative experiences included that students were taken out of their comfort zones and worked long hours. Phelophepa provides a necessary primary health care service to patients and an important educational role in preparing students for the pharmacy needs of rural South Africa.

Keywords: Phelophepa, South Africa, primary health care, pharmacy, experiential learning, practical training.

INTRODUCTION

*"A nation without health is a nation without hope. Inspired by this philosophy, and the belief that health care should be accessible to all, a team of committed individuals set out on a journey of healing ..."*¹

Primary health care was put forward more than 30 years ago by the World Health Organization (WHO) as a set of values, principles and approaches aimed at raising the level of health in deprived populations.² In all countries, it offered a way to improve fairness in access to health care and efficiency in the way resources were used. Primary health care embraced a holistic view of health that went beyond a narrow medical model, recognising that many root causes of ill health and

disease lie beyond the control of the health sector and thus must be tackled through a broad societal approach. Doing so would meet several objectives, namely better health, less disease, greater equity, and vast improvements in the performance of health systems.²

However, even in the most developed countries, health systems are falling short of these objectives. South Africa is no exception. The South African health care sector consists of a public and a private sector. South Africa had an estimated population of 48.7 million people by mid-2008³ and 50.6 million by mid-2011.⁴ The government or state contributes about 40% of all expenditure on health (public health care) and is under pressure to deliver services to approximately 80% of the South African population.⁵ The remaining 20% of the population (primarily employed people and generally more affluent) are served by the private health care sector which consists of private medical aid (insurance) schemes. The public health care sector is under severe

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pressure and often fails to provide the most basic of care to poorer people living in the remote or rural areas of South Africa. One of the strategic objectives published by the National Department of Health in South Africa (2004-2009) was to strengthen primary health care.⁶ In addition, the National Department of Health's Strategic Plan 2010/2011– 2012/2013 identified 20 deliverables to be produced over the next five years - one of these being the revitalisation of primary health care.⁷

South Africa is regarded as a developing country, with many rural areas without adequate health care services. Pharmacy is one of the worst affected because there are almost no pharmacies in rural areas, resulting in a shortage or total lack of supply of essential medicines to the sick and most needy people. There were only approximately 12,000 pharmacists registered with the South African Pharmacy Council in 2008⁸ serving the population of nearly 50 million.

The Phelophepa primary health care train is one innovative initiative that is making a positive difference to primary health care in rural South Africa. The Phelophepa Health Care Train annually brings health and hope to rural South Africans in need of access to health care facilities. This 16-coach "miracle train" carries modern medical equipment on board. It started in 1994 as the first and only primary health care train in the world – operating as a health and education facilitator reaching thousands of people in rural communities. "Phelophepa" is a combination of the Tswana and Sotho words meaning "good clean health". Phelophepa has been described as a journey of hope that continues to make a history of caring.⁹ This initiative has been so successful that a second Phelophepa train started to operate in South Africa in 2012. The Phelophepa concept is unique in that it:

- Uses a train to provide health care to rural communities usually denied health facilities and services.
- Uses students in health disciplines to administer the services, whilst overseen by qualified practitioners, thereby providing students with an invaluable learning experience.

Phelophepa visits most stations for a period of only a week. Communities are prepared for the visit of the train

in advance. Community members receive training to assist with the security on-site, help with the patients' administration, and aid health care workers with the provision of services. Communities are also left with newly acquired skills and knowledge after the train has left (as a result of the different educational programmes during the visit) in an attempt to empower communities in rural areas.

An estimated 45,000 individuals are treated at its onboard clinics (Psychology Clinic, Health Clinic, Eye Clinic, Dental Clinic and Edu-Clinic (educational clinic)) during its operational period and together with its outreach programmes, more than one million individuals are reached every year.¹⁰ Approximately 900 local volunteers complete a five-day basic Health Education Programme annually, and an average of 895 final-year students complete voluntary work on the train.¹⁰ A total of 26,970 medicine prescriptions were issued by the Pharmacy in 2008.¹¹

Pharmacy students from five universities in South Africa volunteer to work in groups of two on Phelophepa for a one-week period. They practice interdisciplinary patient care, requiring common values, a common vision (as laid down by Phelophepa), and an understanding of teamwork. Other medical professions on the train are nursing, psychology, optometry, and dentistry. These professionals come with diverse medical expertise, which facilitates interdisciplinary practice. There are also catering and hospitality management departments on Phelophepa, which give students studying in these fields practical experience.

Apart from its primary health care role, Phelophepa also serves an important educational role in the form of community engagement and experiential (in-service or practical) learning. These concepts are embedded in various South African policy documents such as the Green Paper on Higher Education Transformation (1996), the White Paper on Higher Education (1997), the National Plan for Higher Education (2001), the Founding Document (2001) of the Higher Education Quality Committee (HEQC) of the Council on Higher Education (CHE), the HEQC Criteria for Institutional Audits

(2004), and the HEQC Criteria for Programme Accreditation (2004).¹²The Founding Document (2001) of the HEQC identified “knowledge based community service” as one of the three areas – along with teaching and learning, and research – for the accreditation and quality assurance of higher education. Subsequently, the HEQC incorporated community engagement and its service-learning component into its national quality assurance systems.¹²

The practice of pharmacy is both theoretical and practical. Therefore, it is important that the pharmacy graduate is competent in both the theoretical aspects and also the relevant practical and clinical skills to perform comprehensive pharmaceutical care to patients. This outcome is dependent on both the academic and practical clinical training (experiential learning) during the undergraduate programme which tends to be patient-focused to a large extent at the Nelson Mandela Metropolitan University (NMMU). The Pharmacy Practice externship (in-service learning) programme for final-year BPharm students at NMMU consists of *inter alia* one-week compulsory practical training in a primary health care setting. Students have the choice to work in a municipal primary health care clinic or to volunteer to work on Phelophepa. If they volunteer to work on Phelophepa, they need to write a motivation why they prefer the experience in the rural areas. The purpose of the clinic externship is to expose students to the spectrum of primary health care activities in South Africa. The Phelophepa experience is unique in the world, since there is no other train providing such services.¹³

Five of the eight pharmacy schools in South Africa are involved with Phelophepa (NMMU, the University of KwaZulu-Natal, Rhodes University, the University of the Witwatersrand, and the University of Limpopo). Phelophepa is operational for 36 weeks per year, giving each of the five universities seven weeks to place students on Phelophepa (students work in groups of two, so a total of 14 students can be placed by each university annually). At NMMU, the number of students in the final-year Pharmacy class varies from 40-60 students, so only selected students get the opportunity to work on

Phelophepa.

The aim of this paper is to report on the experiential learning experience of pharmacy students at NMMU who volunteered to work on Phelophepa during 2008 as part of their clinic externship programme.

METHODS

A chronological and qualitative overview of the Phelophepa experience is provided in narrative form. The expectations of students before their externship during 2008 were compared to their reflections afterwards (a total of 14 NMMU students work on Phelophepa every year). Furthermore, the outcomes as reported by students were compared to the objectives that were set for this type of externship.

Document analysis (content analysis of written data) was performed on their scientific reports that were handed in after working on Phelophepa, with the focus on their personal reflections. Document analysis is an acceptable research method in the social sciences and is qualitative in nature. The *reliability* of a content analysis study refers to the tendency for the coder to consistently re-code the same data in the same way over a period of time. **Reproducibility** refers to the tendency for coders to classify categories in the same way. **Accuracy** refers to the extent to which the classification of a text corresponds to a standard or norm statistically. The documents that were analysed in this study were the scientific reports submitted by students and consisted of the following sections:

- Introduction
- Overview (including number of patients seen by the pharmacists each day, number of prescriptions per day, most common conditions treated, type of treatment/medication dispensed, and recommendations to optimise and/or ensure rational drug therapy)
- Daily activity report
- Personal experience/reflection
- Conclusion and recommendations

The following steps were used in the analysis:

- Decide on the level of analysis (concepts rather than single words were coded).
- Decide how many concepts to code for (only main

concepts were coded).

- Decide whether to code for the existence or frequency of a concept (a qualitative and descriptive approach was followed, so no frequencies were recorded).
- Decide on how concepts will be distinguished or the level of generalisation (concepts were recorded as the same even when they appeared in different forms).
- Develop rules for coding texts (translation rules ensured that coding was consistent).
- Decide on what to do with "irrelevant" information (irrelevant information was excluded).
- Code the texts (colour coding/highlighting was used).
- Analyse the results.

A weakness of this study is that no independent coder was used and that the scientific reports were written for the main purpose of assessing students' insights into their experiential learning experiences and not for a content analysis study *per se*. Themes (focusing on concepts rather than simply words) were manually highlighted (using colour-coding) on the reports and recorded on sheets of paper. Recurrent themes that emerged were identified and this was supported by verbatim quotes from the reports (triangulation). The students gave permission for their scientific reports to be used to give feedback to Transnet Foundation and the university, and their experiential learning experience to be documented. Since no patient was identified, ethical approval for this manuscript was not necessary.

A limitation of the study was possible bias in the pharmacy students' feedback and/or experiences since they may have been affected by other students' opinions and recommendations who previously worked on Phelophepa.

RESULTS AND DISCUSSION

Student Placement on Phelophepa

There is a Phelophepa liaison lecturer at each of the five pharmacy schools. Each year a meeting is held during October with Transnet Foundation, the staff involved with the students on Phelophepa, and the liaison lecturers to plan for the next year. A formal placement procedure for students to do their externship on

Phelophepa at NMMU is developed. Towards the end of their third-year a presentation is given about Phelophepa and students are invited to write their motivation for possible selection to work on Phelophepa the next year.

The students are selected based on their motivation and academic performance. They must also resemble the demographics of the final year class as closely as possible, based on their gender and race, and whether they are South African citizens or "international students" (NMMU attracts many students from countries outside South Africa, especially countries in sub-Saharan Africa). The students are on average between 22 and 28 years of age.

Once the 14 students have been selected, the students provide their personal details, information about their next-of-kin, and dietary requirements, which are forwarded to Phelophepa. They also receive copies of all relevant documents that they need before they can start to work on the train. The liaison lecturer is responsible for assisting with the transport arrangements of students from the training institution to and from the train and for debriefing sessions with students where necessary.

Areas Visited by Phelophepa

The areas visited by Phelophepa are chosen by Transnet Foundation based on the convenience of the location for the train, availability of a railway line in the area, the need for primary health care services, cooperation of municipalities and local coordinators, as well as the proximity of the train station to the village (or rural area) targeted. The train visits 36 stations annually, covering four of the nine provinces in South Africa.

Expectations before Working on Phelophepa

The following objectives were set by the Department of Pharmacy for pharmacy students working on Phelophepa:

- Work as part of the health care team with other health disciplines.
- Learn how to perform pharmaceutical interventions.
- Provide prescribing support to other health care professionals.
- Promote health awareness to community members who attend health education sessions.

- Be exposed to the Essential Medicines List (EML) and Standard Treatment Guidelines¹⁴, in accordance with WHO recommendations.

- Become familiar with different dispensing programmes.

Most students who worked on Phelophepa during 2008 indicated that they wanted to work on Phelophepa based on recommendations from students who previously worked on Phelophepa. The themes of “caring for the community” and “making a difference” emerged strongly in their motivations.

The Phelophepa Pharmacy (Dispensary)

The Phelophepa Pharmacy is registered with the South African Pharmacy Council and operates as a fully functional community pharmacy without a front-shop. Two pharmacists, two final-year pharmacy students, and a translator constitute the staff of the Phelophepa Pharmacy. A translator is important in that he or she helps to interpret the instructions to the patients in a language they understand (South Africa has 11 official languages). Due to the diversity of the ethnic groups in one locality, the translator sometimes has to speak three to four languages, as well as English.

Phelophepa staff focuses their efforts mainly on the diagnosis, treatment, and prevention through education of the common *minor* conditions in rural areas. When a patient is diagnosed with a *chronic* disease (such as diabetes or hypertension), protocols are in place for referral to hospitals or local clinics. Usually, a number of pharmaceutical interventions are made. The pharmacy staff are also often asked for advice on what to prescribe or asked for a second opinion on patients' diseases and their treatments. There is no medical practitioner on the train, and diagnoses and prescriptions are done by the nursing staff, dentist, and optometrist (this is typical in primary health care clinics in South Africa) which bring an understanding to students that pharmacists and other health care practitioners are recognised as an integral part of the health care team. Diagnoses are confirmed as far as possible by blood tests and urinalyses, and if there is any uncertainty, the patient is referred to the closest medical facility for follow-up services such as X-rays or

more in-depth examinations or tests. An ambulance is also available to transport patients with serious conditions immediately to the closest medical facility.

A Typical Week on Phelophepa

Students from the various disciplines arrive on Sunday from their respective training institutions at Phelophepa. The week starts with an orientation session about the 16-coach train on Sunday afternoon. On Sunday evening, there is a general orientation by the Phelophepa Manager during which the permanent staff members are introduced to the new group of students.

On weekdays, patients arrive early from as far as 40 km to 100 km from the station where the train is standing, while others arrive later to sleep next to the train, waiting for a consultation the following day. After a nurse, dentist, or optometrist has seen patients, their treatment is recorded on a prescription chart and profile form. Thereafter, they go to the pharmacy where their medicines are dispensed. Patients pay a minimal fee for their medicine (regardless of the retail value of the individual items on the prescription).

Staff work long hours – the pharmacy often remains open until 19:00 or until the last patient has been helped. Students work until Friday lunchtime after which they depart back to their respective training institutions.

The most common conditions treated during 2008 were: skin infections (for example, scabies, athlete's foot, and impetigo), urinary tract infections, sexually transmitted diseases, diarrhoea, dental caries, periodontitis, and minor eye diseases (including glaucoma). The conditions closely resemble the conditions prevalent in the areas visited during the specific season. On average, between 100 and 250 prescriptions were dispensed per day while NMMU students worked on the train in 2008, with an average of four items per prescription. Patients usually respond well to treatment and this is cited as a common reason for the train continuing to attract so many patients.

Feedback after Working on Phelophepa

After their week on Phelophepa, students hand in a scientific report on their Phelophepa experience. As Phelophepa offers a platform for an interdisciplinary team

approach for primary health care delivery, pharmacy students usually comment that they witnessed a truly meaningful contribution of pharmacists in the health care team. Some of the pharmacy students' comments in 2008 were:

- *“The Phelophepa experience cannot be conveyed on a piece of paper. Thinking of my week on the train – the skills learned, the people I helped, the friends I made, the challenges I faced – makes my chest feel as if it would burst with happiness and collapse with sadness all at once. My [part-time] job in a retail pharmacy ... seemed like a mole hill compared to the mountain of challenges I overcame in that week. The satisfaction I got from improving the lives of just a few poor, suffering South Africans far surpasses a distinction in any subject or a tangible reward. I learned how to be grateful for the things I am blessed with and for the knowledge I possess.”*

- *“Besides from being an extra-ordinary learning experience, I got the opportunity to discover myself to a greater depth, bringing to my consciousness emotions such as empathy, compassion, patience, and above all, love for those that I have had the privilege to serve.”*

- *“Phelophepa for me was more than attending to patients. It was a big eye opener and also a privilege to work with such dedicated professionals who sacrifice so much in their lives just to be able to extend a helping hand to the needy population. It was also my very first time to sleep on a train though I have never travelled in any before. I had actually expected less than what I experienced and I learnt not to take some things in life for granted like access to primary health care services and having good health. It was my first time to see some of the skin conditions we learnt in class like scabies and shingles. By the end of the week, I had learned how important it is to acknowledge and respect another person's culture since it made the patient feel appreciated and resulted in them being receptive and involved in the counselling session.”*

The Essence of the “Phelophepa Experience”

The main theme that emerged from the students' reports in 2008 was that they regarded Phelophepa as a

“life-changing experience”. Students were of the opinion that after working on Phelophepa they realised the importance of:

- their compulsory community service year (this is a compulsory year after their internship year where they have to work for the government in an attempt to alleviate the shortage of pharmacists in rural and/or under-serviced areas), and

- the pharmacist as part of the health care team.

The sub-themes “personal/professional fulfilment”, “humbling experience”, learning more about themselves, and their newly acquired communication and counselling skills (especially the experience of working with a translator) emerged in most reports.

Negative experiences included that the students were taken out of their comfort zones, worked long hours and became tired, and did not always agree with the nurses' prescribing. There were also isolated incidents where there were problems with the water supply on the train or the ablution facilities, but these experiences were always qualified by a statement that these were minor compared to what they have personally gained from working on Phelophepa.

CONCLUSION AND RECOMMENDATIONS

Phelophepa not only provides a necessary service to patients, but also serves an important educational role in preparing students to become familiar with the needs of rural South Africa and the role that the pharmacist can play. Phelophepa, therefore, fulfils an important primary health care function, acts as a facilitator for in-service learning in accordance with what the Council on Higher Education in South Africa requires from tertiary education institutions, and also assists in the clinical training of pharmacy students.

Relatively few studies^{15,16,17} have been published about the trends in treatment and experiences of students working on Phelophepa. It has been stated, for example, that the exposure of dental, dental therapy, and oral hygiene students to rural areas of South Africa serves the important purpose of sensitising students to the realities of oral disease in these communities.¹⁵ The same comment can be made for pharmacy students with respect to the realities of the lack of

essential primary health care services and the unavailability of essential medicines in rural South Africa. Similarly, a study¹⁶ published on dental students' experiences reported that almost all students (96%) reported that the experience had helped them define their personal strengths and weaknesses. Complaints they mentioned also included long working hours (60%),¹⁶ similar to the findings for the pharmacy students.

The objectives that were set for the 2008 pharmacy students at NMMU who worked on Phelophepa were met and the Phelophepa experience remains an important part of the primary health care externship for pharmacy students at NMMU. Phelophepa is generally perceived as an excellent and useful external in-service training site because it provides more than just clinical knowledge and skills.

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