

Prof Portal Africa = Innovation and Collaboration

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In 2014 a collaboration was formed between Noordhoff Health, the market leader in health e-learning in The Netherlands, Professional Emergency Care, a company specialising in emergency care training and consulting, and Cape-Orange Intercultural Connections. This collaboration became the basis for a new entity called Prof Portal Africa. Our vision was to establish a Health Learning Network in South Africa using the technology developed by Noordhoff Health, and to populate it with learning opportunities that had been identified as learning gaps in the healthcare institutions and faculties by their own education management and clinical skills facilitators in South Africa. This would allow guided learning to take place at the learners' own pace and in their own time at the same time keeping nurses in their primary role of patient care.

This article is a follow-on from a previous article in 2015 where we detailed the project plans and so we will briefly recap. We were given an opportunity to apply for a partly funded project with the generous support of The Embassy of the Kingdom of the Netherlands. In 2014 with the use of the Dutch learning platform translated into English we began inviting both public and private institutions to roll out a pilot in their own institutions.

We presented the innovative concept of blended learning highlighting the benefits of this new way of refreshing and upskilling health personnel. We invited each facility to send two members of staff on a two day "Author" training course so that they could develop their own training materials into modules. Each facility then planned a roll-out in their facility. Selected staff were introduced to the platform and encouraged to complete modules. The clinical skills facilitators then offered the practical component for skills practice and, using the "work place assessor" tool, assessed

skills competency. The pre- and post-tests built into each module provided valuable data on whether the new learning system showed an improvement in the participant's knowledge and skills. This was at no cost to the facility or learner.

We had not anticipated the immediate and enthusiastic interest in blended learning in South Africa's health facilities. We met with many influential decision makers who enthusiastically embraced our vision of a health platform for South Africa. The project began in May 2014 and we very quickly had sufficient project partners.

Objectives

Our original project objectives were to have two public and three private institutions on board at the end of two years. However, the overwhelming response from the industry resulted in us including more partners than originally planned. Once the "Author" training was completed and some modules were available we assisted with presentations to senior and unit managers in these facilities. Their support would be needed to facilitate the staff being released from their duties for an hour to be introduced to the platform, to log in and to become familiar with the process as they worked through a module. After this introduction they would be able to go on line by themselves and complete a few modules with support from their ward management or clinical skills facilitators. After successfully completing the theory online, clinical skills facilitators would then offer skills practice either in a classroom or in the ward. Assessment of these skills would be done using the "Work Place Assessor" role online at the bedside or in class. Automatically scored skill sheets and updated records would be available for

management reports. These goals seemed reasonable and easily achievable.

Challenges facing South African Health

In meetings with the major role players in health care in South Africa, from National Health, the SA Nursing Council (SANC), the Democratic Nursing Organisation of SA (DENOSA), the Department of Health Western Cape and many associations for healthcare professionals, from nursing educators to emergency medical services (EMS), we heard similar concerns. These concerns included that the present training trends were not able to offer sufficient ongoing training to all healthcare professionals resulting in a marked skills fade, in part as a consequence of budget constraints. With continuing professional development (CPD) compliance for nurses imminent, the only way to offer all our staff learning opportunities would be via an e-learning platform such as Prof Portal Africa.

Some hospitals in South Africa only have sufficient budget to train 10–20% of its work force in a year. This would result in a 10-year cycle to update all their staff and protocols are changing faster than that! There simply is not enough time or budget to have sufficient staff trained in a year using traditional classroom methods.

Project challenges

Each facility had their own challenges and these varied according to their own structures, staff complement, available technology and commitment by senior and ward management. We found that without the support and involvement of senior management, ward managers and clinical skills facilitators the roll-out process would be slow and staff would not be given the chance to participate.

A pilot partner wrote:

Strategy for change

- *Meetings were held with Prof Portal Africa and the Quality Project Team regarding the process and progress.*
- *Laptops and IPADS were made available to us by Prof Portal Africa and therefore we were able to set up an area where staff could have access to the e-learning system via the internet.*
- *Nursing students introduced staff to the e-learning system.*
- *Selected senior staff assisted staff with the e-learning system.*
- *The E-Learning Project for the two identified units was conducted during March 2015 – 30 September 2015.*
- *Unit managers, clinical nurse specialists and clinical facilitators were enrolled on the e-learning programme for participating and monitoring of staff.*

Module development

We have learnt so many valuable lessons during these two years resulting in an even better product. We have streamlined our processes in managing the development and editing of modules.

- The process begins with the decision that a specific module is required and the category of staff that it will be aimed at is identified.
- Some facilities have the manpower available with the necessary clinical and educational background to develop the modules but were not allocated the time required to prepare the material and put it into the system.
- To ensure that we would have sufficient modules available we brought on board some very competent professionals who became extremely adept at building modules.
- The process had to be refined and documented as the group of module developers grew.
 - Some developers were able to develop the material online while others developed the content in Word documents.
 - Developers all sign a commitment that they understand the ethical issues regarding plagiarism.
 - The module is then checked by another expert for clinical accuracy and relevance.
 - The media requirements need to be planned, produced or sourced – photographs, video, animation, diagrams, etc.
 - Once the module is ready it is checked for language, punctuation, flow, and reliability. The modules contain a brief pre-test, practice tests and a final test. The system automatically randomly selects questions from a large data base of questions.
 - A pilot group completes the module and provides feedback. This feedback allows the author to adjust the material if necessary.

Finding a balance between developing modules that are extremely interactive, filled with videos and animation, proved to be problematic on what is often a very slow broadband. Part of the solution has been to keep video clips to a maximum length of two minutes and keep them separately in a file or chapter. A learner can choose to watch the videos when they are available on a faster broadband. All the essential learning content is also illustrated by diagrams and pictures so that the video content is not critical to the successful completion of the module.

While piloting a drug calculation module we discovered that the participants struggled to complete the module. So not only does the platform allow us to fill knowledge gaps but actually helps to identify them. The solution was to develop another more basic drug calculation module.

Roll-out challenges

The success or failure of the roll-out was massively affected by the involvement of management. It was often difficult to have a staff member released from their duties for an hour, to be introduced to the platform, without management's enthusiastic support of the idea and understanding of the benefits of blended learning.

As expected, some staff members were resistant until they had been online and found the learning fun and the content manageable. The educational process is gradual. As expected, some staff members were resistant until they had been online and found the learning fun and the content manageable. The learners became more confident of being able to complete a module successfully and enjoyed the process. They were then keen to do another. Computer literacy skills also improved during the process. Some motivated staff asked for access to more modules and took responsibility for their own professional development.

Pilot partner feedback

Intervention

- Staff members in the participating departments were selected to participate in the e-learning pilot study.
- The computer skills of enrolled nurses in the medical ward were determined by means of a computer literacy test.
- Pre- and post-tests on the knowledge of the enteral feeding protocol were conducted with selected intensive care unit (ICU) staff.
- Staff members in both the medical ward and ICU were enrolled on the e-learning programme for basic computer skills.
- The enteral feed module was completed by ICU staff, and the intravenous (IV) cannulation module by the medical ward staff.
- After introducing staff members to the pilot study, time frames for completion were set.
- Practical assessments of skills were done after completion of the e-learning modules.

Broadband

There were the inevitable challenges presented by very slow internet speed in some hospitals or no computers for those without the facility in their own homes. Many of the facilities that came on board during this phase are now adding a few computer stations to their budgets to offer access in the hospital for those who would like to learn during a lunch break or in their own time.

Achievements

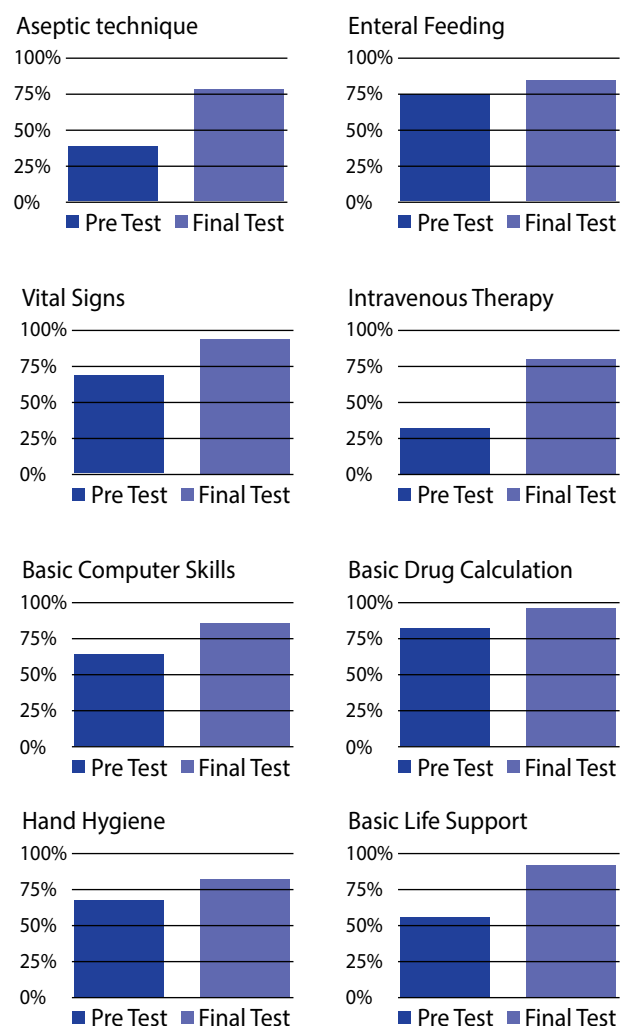
In the last two years we have exceeded expectations in many ways. Instead of five institutions as planned the number grew.

We have had two private hospitals, four public hospitals, a nursing agency, public training institutions, Ambulance College, Nursing College and a University involved.

We have developed 30 modules instead of the eight initially planned, trained extremely competent developers and now have an increased number of facilities piloting the platform with their staff. The graphs below clearly show the value of the process by the improvement between the participants pre- and post-tests and skills assessment.

Pre- and post test results per module

The graphs below show the overall result per module for the pre-test and final test.



The development of Prof Portal Africa with valuable relevant content is a major accomplishment. The results, easily seen in automated reports, show a measurable improvement in the participant's knowledge and skills across the various levels of nursing staff. Far more exciting is the feedback from management in the hospitals of the improvement in performance and patient management resulting in improved patient outcomes.

Below is a report from a clinical skills facilitator from a participating hospital involving over 170 staff members. Two clinical skills facilitators completed the author training and developed modules that are being used online by their staff members. After having their ICU staff complete the online enteral feeding module they reported a measurable improvement in the outcomes of patients.

Quotes from a quality review document

Impact of the Prof Portal Africa module on enteral feeding in ICU.

We encountered a number of factors which influenced the way patients were enterally fed.

These factors included:

- *Incorrect aspiration frequency*
- *No aspiration of feed*
- *Incorrect aspiration volumes returned to patient*
- *Incorrect feed rate adjustments*

The above factors resulted in patients not meeting their nutritional requirements within the prescribed period. Multiple studies have demonstrated that the above findings are directly related to poor outcomes in ICU.

The Prof Portal blended learning module on enteral feeding was implemented with the inclusion of a new enteral feeding protocol. Critical care nurses were required to complete the module and then be practically assessed on enteral feeding which included the use of the new protocol.

We then reviewed the effect of the module on enteral feeding by involving our dietician who reviews each patient that is enterally fed on a daily basis.

The results were as follows:

1. *Patients met their prescribed feeding rate within 24 Hours.*
2. *Incidents of incorrect feed rate adjustments were significantly reduced.*
3. *Aspiration volumes were according to the protocol which was evidence-based.*
4. *No incidence of staff not aspirating feed was found.*

The results of the module significantly improved the enteral feeding practice in the ICU. The overall results demonstrated that the module was effective in developing staff which in turn promoted international best practice. The overall effect is ultimately beneficial to patients.

Pilot partner's feedback

Effects of changes

- *Enrolled nurses in the medical ward are now competent in the insertion of peripheral lines. This results in timely administration of IV medication.*

- *Reduced workload on registered nurses regarding IV canulation.*
- *Knowledge of enteral feeding was increased in the ICU. In addition the current protocol was revised, improved and implemented, after approval by doctors during the ICU forum on 16 September 2015.*
- *The e-learning concept has been introduced throughout the hospital with further expansion, due to interest that was raised. More staff members have been enrolled on the system, and additional modules have been introduced.*

Modules

To ensure we have sufficient varied learning content online to cater for a hospital's immediate needs, we have developed 30 modules all based on the latest protocols and guidelines with South African healthcare staff and environment in mind. Some of the modules online are: Basic Life Support, Triage, Vital Signs, Intravenous Therapy for EN and ENA, Intravenous Therapy for RPN, Basic Computer Skills, Intermediate Computer Skills, Urine Testing and Analysis, Spinal Motion Restriction, Injection, Basic Drug Calculation, Advanced Drug Calculation, Catheter Care, Management of a patient on enteral feeding, Management of scheduled drugs, Hand Hygiene, Urinary Catheterisation, Aseptic Technique, Introduction to ECG, ECG interpretation: simple abnormalities and management.

We plan to continue increasing the library of learning modules in conjunction with our partners. We plan to have an Advisory Committee comprised of appointed representatives from the institutions using the platform so that module development is coordinated and methodical, ensuring quality control and updating of content on a regular basis.

Over the next five years the development of modules will cover a range of topics including basic subjects needed by all healthcare staff, a specific group of specialised topics, such as Trauma, ICU, Theatre, Paediatrics etc. and modules addressing unique problems. Partners are able to develop their own modules to address their own in-house issues such as documentation or policies and procedures for healthcare and administrative staff. The platform's success hinges on the facilities developing their own modules, some of which will be added to the library of modules for all the customers to access. Prof Portal Africa will commit to developing five new modules a year as well as the modules our partners develop.

South African teaching institutions are finding a growing demand for online learning enabling them to offer affordable courses to cater for the learner who may live far from the institution. We met with many private training institutions who are looking at putting their learning content online thus reducing face to face time with learners where possible.

Continuing Professional Development (CPD)

Application for CPD accreditation for the present modules is in process for the Health Professions Council of South Africa (HPCSA) points and we will apply for SANC CPD accreditation as soon as the process has been finalised by SANC. This would enable registered personnel with either body to use the platform, learning while earning points and keeping record of their CPD points automatically. The system allows the candidate to upload other CPD certificates from other courses or conferences thus enabling them to keep one complete record of their CPD compliance.

In the SANC final draft January 2015, Version 2, Continuing Professional Development Framework for Nurses and Midwives/Accouchers in South Africa, the CPD activities are divided into four areas, namely: ethical and legal domains; area of practice; leadership/management; and teaching/research. Each practitioner will be expected to accumulate a total of 15 CPD points per year. Once all CPD points have been accrued during the period above, a declaration of compliance form can be submitted at any point during the year, with the deadline being 30 June of each year.

Employers, professional associations, societies, unions and CPD providers have a responsibility to ensure that CPD is supported for all nurses and midwives, so that they are able to meet their CPD requirements.

The way forward

Change of any kind is normally met with varied responses, from enthusiasm to resistance. The health sector worldwide is facing the challenge of how to offer more learning opportunities to the varied levels of staff to keep them current with the latest evidence-based protocols and

procedures. Most healthcare institutions are being forced to look for new ways of managing the added challenges of decreasing staffing levels, CPD compliance on the horizon, and limited education and training budgets.

What is needed is a learner management system that provides a library of learning opportunities, setting national standards while management steers the process, per individual, per ward or category, with automatic record keeping, reporting and tracking of CPD compliance.

Prof Portal Africa is perfectly positioned to play a leading role in managing these challenges in the South African health sector. These challenges are not unique to us, they are replicated in most southern African countries where staff members are spread over massive rural areas where little or no training and upskilling is facilitated.

Feedback from another pilot partner

"Message for others. Blended learning is cost-effective and at the forefront of standardising skills and knowledge of healthcare providers, nationally. The answer may be to use technology to allow staff to spend less time in a classroom and more time caring for the patient, whilst utilising the most up to date skills which have been gained."

The potential power of a platform like Prof Portal Africa lies in the benefit if its being neutral. The collaboration of both state and private institutions, contributing to and benefiting from shared knowledge and skills, would result in the uplifting of the healthcare staff of our country which is, in essence, a shared resource. Ensuring quality care for every patient in any hospital.