1 Title:
A plan of action for the education of Occupational Health Nurses in Africa through the online education facilities at Durban University of Technology.

2 Context:
Nursing is both a science and an art situated within the spectrum of health sciences. Health science is a fast moving discipline with new and emerging knowledge continually being fed into the milieu. To this end nurses have to shift their mind set from one of being a competent health professional to one who engages in lifelong learning in order that they may continuously, throughout their career, engage in professional learning (Gopee, 2005).

Evidence based practice is growing in importance and nurses need to be taught the skills and assisted to make current and available evidence, essential to their practice. In order to use evidence to inform their practice nurses need to become lifelong learners with the skills to search for, understand and evaluate new information about patient care – as well as the capacity to be flexible and to adapt to change (Polit & Beck, 2008).

The theory practice debate in nursing, being a clinical science, poses a challenge to the education of nurses and many educational theories have been proposed to address this. The theory of problem based learning (PBL) with case study methodology has proven useful in bridging the gap between theory and practice - in developing critical thinking, problem solving practitioners. Nurses need to be able to “think on their feet.” However they also need to be able to reflect on or in their practice in order to continually develop and improve their skills.

The World Health Organization Global Plan of Workers’ Health specifically addresses, amongst a number of other priorities, capacity building in Occupational Health – priority 3.2 to adapt and disseminate curricula, training materials and training for international capacity building in Occupational Health (Nickels, 2009).

3 Challenges:
The challenges in my classroom are many and multi dimensional. The students in my classroom are accessing post graduate or post diplomat education and specialising in Occupational Health Nursing as a clinical nursing speciality. The qualification is two fold, in that it gives the students a Bachelor of Technology degree on an academic level but also the additional professional qualification of occupational health nursing – for registration with the South African Nursing Council – the professional regulatory body for nursing.

The students are mature students and can range in age from 25 years to 65 years. They have varying academic backgrounds from a 3 or 4 year diploma in nursing to a 4 year Bachelor’s degree in nursing. The academic preparation of these students is hugely challenging. Some are computer literate but many are not, some can write academically but many cannot and some are not really capable of doing a degree but as this is the only course, in KwaZulu Natal, offering a specialisation in Occupational Health Nursing they are forced to do it if they want or need the specialisation! These students have not been prepared at the Durban University of Technology through the national diploma programmes, they come to us from a multitude of learning institutions.
Being mature students they have jobs and families which they are responsible for over and above their studying. In many respects they are leaders in their communities and have enormous responsibilities within these communities which adds another layer to their available study time. Studying is not top of the list!

The majority of the students are not English speaking and are generally poorly prepared for a discourse in English. However, they are going to be working, on the whole, in the business environment, and so English is important as a language of instruction.

Students come from all over KwaZulu Natal and the Eastern Cape with many of them travelling great distances at enormous cost to Durban to attend the structured classroom sessions.

The class size is also a challenge with an average of 20 students per class. The course is offered part time over 2 years so we have approximately 70 students registered for this course and a shortage of academic staff with the clinical specialisation.

4 Theory

In the context of nursing education and the challenges posed to the Bachelor of Technology Nursing (Occupational Health) course at Durban University of Technology blended learning would be a useful theory to engage the complexity of the context as well as the challenges.

The importance of a blended approach to learning is that it ensures the widest possible impact of a learning experience and thus ensures... that the organization optimises productivity and delivers value to its customers

(Julian and Boone 2001 as cited by Carman, 2005:1).

5 Methodology:

Action research emphasizes the involvement of teachers in problems in their own classrooms and has its primary goal the in-service training and development of the teacher rather than the acquisition of general knowledge in the field of education.

(Borg, as cited by Ferrance, 2000:8)

Action research is a method of enquiry which emerged out of the need to bridge the gap between research and practice (Holter & Schwartz-Barcott, 1993). This research methodology was employed in this on-line education project. It was an appropriate methodology as it is a research paradigm which focuses on practical problems and how to address the problem through research which enables a change in practice (Holter & Schwartz-Barcott, 1993).

The action research paradigm enabled me as a teacher to examine my own practice systematically and carefully and to find solutions to the problems that I was able to identify in my own classroom (Ferrance, 2000).

In action research there are 4 basic themes: empowerment of participants, collaboration through participation, acquisition of knowledge and social change (Ferrance, 2000:9). There are 5 phases of enquiry:
1. Identification of the problem area
2. Collection and organization of data
3. Interpretation of data
4. Action based on data
5. Reflection

Figure 1. Action research cycle (Ferrance, 2000:9)

6 Design:

6.1 The vision
My vision for my online classroom is to develop it into a fully fledged occupational health course which students can access from wherever they are in Africa.

6.2 Active learning
The online classroom will enable a community of practice in occupational health nursing to be developed through chat rooms, blogs and wikis.

Exercises and tasks which will guide the students through the acquisition of the necessary knowledge and skills to move them from novice to expert Occupational Health Nurse Practitioner will be structured in such a way as to encourage interaction and collaboration. Case based education will be employed

I envisage collaboration with the Nelson Mandela School of Medicine, Tele-Medicine/Tele-Health department on aspects of occupational disease and ethics. Through this we will be able to engage experts in the field, at relatively little cost, to share their knowledge and expertise with students, throughout Africa.

6.3 Working smart
The use of multiple teaching modalities will be used to make my life easier through:
1. Asynchronous learning where I will have more time to work on individual students` work. At the moment the students come into class once a week and so they demand my time all at once – they all need to see me today over and above the teaching! I see asynchronous learning as affording me the opportunity of spreading the load over the week. Students will be submitting work at different times, will be wanting to engage at varying times which will be helpful. It will also mean that the 08:00 to 16:00 mindset will be irrelevant – I would be able to engage the students` work at any time and day and anywhere in the world!

2. Students work for assessment could be posted on line and corrected and commented on directly (using comments and track changes) and a record would be kept, minimising the loss of records and would also enable an audit trail which would be useful for continuous assessment – showing the progressive improvement in students work.

3. Records of communication would be available to all who have access and the features of the chat facility, discussion tool, e-mail and so on would enhance the collaboration.

4. A body of work would be developed to which all the players contribute and not just the facilitator – students, experts and collaborators.

6.4 Blended learning

Blended learning draws on different learning designs and philosophies and the goal is to have the right “mix” for the situation in which the the learning takes place (Carman, 2005). Zemke 2002 as cited by Carman (2005), suggests that the the situation is dependent upon “the people you serve, the nature of the skills they must master and the context in which they are to perform (p 1). Carmen (2005) suggests the need for five critical ingredients for blended learning.

He identifies the following as important elements of a blended learning process:

1. Live events: synchronous, instructor led learning events in which all learners participate at the same time, such as in a live “virtual classroom.”

2. Online content: learner completes individually in his own time at his own speed.

3. Collaboration: learners communicate with others, for example, e-mail, chat rooms, threaded discussion...

4. Assessment: a measure of learners` knowledge – can be both pre test and post test.

5. Reference materials: on-the-job reference materials that enhance learning retention and transfer (Carman, 2005). 

My plan for blended learning is to offer the course online together with classroom teaching which will take the form of reflective tutorials, and experiential training sessions in the occupational health setting. Reflection in and on practice is an important teaching strategy in nursing education where we endeavour to develop reflective practitioners.

The online ingredient of the blend will be self-paced and generally asynchronous. However there are opportunities (which I would like to explore) for video conferencing, tele-conferencing and other digital methods such as Skype to be employed for individual communication. Depending on the location and numbers of the students the classroom teaching might only be 2 x 1 week sessions` a year or 2 days a month in the “field.”

Collaboration with the tele-health unit at Nelson Mandela School of Medicine will be incorporated into the blend – in terms of both collaboration and the use of technology to link students in areas away from the main centre with subject and/or clinical experts in Durban.
7 Implementation

7.1 Pilot activity
I have not tested my activity!

7.2 Relevance
The activity I created was an exercise in evidence based practice. The relevance of the activity is that nurses need to learn the skills of appraising evidence in order to develop life long learning skills and this activity was aimed at developing the skills of critical appraisal.

A lot of the students in my classroom are not computer literate so this activity was also aimed at encouraging computer operating skills.

7.3 Feedback
None as I have not tested my activity!

8 Reflection

8.1 Assumptions

8.2 Future adjustments
I would like to build on my classroom activity and redo the activity. I used the opportunity just to learn the various techniques but did not put enough time and thought into what I did so am not sure if the activity would even mean anything to someone!

I would like to build a case study which would have a common thread which could pull through the entire course.

I am busy conceptualizing a proposal to develop the course online and pilot it with a cohort of 10 students in Zululand!

8.3 Impact
If I can get the opportunity to develop this programme as I envisage I think the impact for Durban University of Technology (DUT ) will be enormous both within South Africa and throughout Africa. I believe it will afford us the opportunity of being leaders in the development of innovative teaching in Occupational Health and contribute to the World Health Organisation goal of increasing human resource capacity in Occupational Health. The opportunities for penetration into Africa are untapped. Few traditional universities in South Africa (which have penetration into Africa) offer the Occupational Health Nursing specialisation and we therefore have a niche area which affords huge potential for DUT.

Students interested in accessing our programme will be better able to do the course as the limitations placed on them in terms of distance, career and finance will be reduced through offering a blended learning programme. The onerous programme of weekly classroom attendance in Durban could be minimised through online offerings.
8.4 Lessons learnt

During, the year that I have been learning to be an online facilitator I have grown from being not particularly passionate about the online environment to being an absolute convert!

I have seen the enormous possibilities that are afforded through this medium of teaching and I am excited to develop my ideas further –they are huge!

As a progressive educator, I was particularly energized when I came to know that the constructivist philosophy underpins the blended learning process (de Beer & Mason, 2009).

9 Bibliography


