NURSE EDUCATORS' UTILISATION OF DIFFERENT TEACHING STRATEGIES IN A COMPETENCY-BASED APPROACH IN RWANDA

A. Harerimana, RN
University of KwaZulu-Natal, Durban
School of Nursing

J. de Beer, PhD
University of KwaZulu-Natal, Durban
School of Nursing
Corresponding author: Debeerj@ukzn.ac.za

ABSTRACT

Competency-based education is outcomes-based instruction and is adaptive to the changing needs of students, teachers, and communities. It describes the students' ability to apply knowledge, skills and behaviours in situations encountered in everyday life.

The competency-based approach was introduced in five Rwandan schools of nursing and midwifery during 2007. This was vital to the Rwandan government's plans to phase out lower-level A2 programmes and transition to a workforce of A1 or higher-level professionals. The new approach required nurse educators to use a variety of teaching strategies instead of the lecture method which had been used mostly up to that stage.

The purpose of the study was to explore nurse educators' perceptions and knowledge concerning the competency-based approach used in nursing and midwifery education in Rwanda, in order to facilitate the implementation of different teaching strategies.

Forty nurse educators from four Rwandan nursing schools completed questionnaires between March and April 2011. The nurse educators reportedly planned teaching strategies complying with the competency-based approach. Of the nurse educators, 90% (n=36) planned group discussions, 90% (n=36) used situations to integrate theory and practice and 82.5% (n=33) employed case studies. Challenges included increased workloads and greater time investments by the educators.

KEYWORDS: competency-based education, competency-based approach to nursing education, nursing education in Rwanda, teaching strategies

BACKGROUND INFORMATION

Competency-based initiatives have been utilised in various work settings, including business and industry. In the 1980s and 1990s, nurse educators increasingly used competency-based initiatives within their educational programmes. Nurse educators introduced these initiatives to better assist nurses in evaluating their ability to meet national nursing practice standards (Gregg, 2001:120).

The WHO (2003:30) recommends that the education of nurses and midwives should be competency-based. There is a growing and worldwide emphasis on the use of this approach to educate healthcare professionals. Healthcare systems are facing a rapid expansion of knowledge and an increasing demand for improved quality of healthcare provision. With a concomitant requirement for cost containment, it is essential to assess and regularly re-assess the relevance of the education and training of all healthcare professionals, in order to ensure that graduates are competent to meet current and future changing healthcare needs.

Gregg (2001:121) argues that every nurse has a unique composite of competencies that can be performed at different levels of proficiency, as required by an identified role. Identifying these competencies and accommodating each individual nurse's learning needs can reduce the time spent in orientation, encourage the nurse to assume accountability for meeting nursing standards of care and improving the quality of patient care.

The competency-based approach was introduced in schools of nursing and midwifery in Rwanda in 2007 and five nursing schools in Rwanda welcomed the first students to the new three-year, competency-based Registered Nursing and Midwifery A1 Programme. This change was vital to the Rwandan government's plans to phase out lower-level A2 programmes and establish a workforce of A1 or higher-level professionals (Capacity project, 2007: 1; MINISANTE, 2007:16). Implementation of the competency-based approach in Rwanda was steered by Rwanda's Ministry of Health in collaboration with other stakeholders such as Association pour la Promotion de l'Éducation et de la Formation à l'Étranger (APEFE) and Belgium Technical Co-operation (BTC). As the acquisition of competency requires the use of teaching methods that go beyond the traditional lecture method of transmission and recall of knowledge, the competency-based approach focuses on teaching methods that are active (MINISANTE, 2007:16) and interactive. The competency-based approach identifies key competencies that are considered to be a driving force in the design and implementation of the curriculum.

The main reason for making this change in Rwanda was that the previous education and training programmes in nursing schools were mainly content-based. The Rwandan government identified that there was a shortage of skilled workers and that the traditional teaching methods were not preparing the learners to attain skills which would enable

them to become responsible nurses who would provide optimum nursing care in all health sectors of the country (MINISANTE, 2007:17). According to the competency-based curriculum designed by the Ministry of Health, all learners must attain these skills and competencies by the end of their programme. The rationale is that if learners are exposed to the active teaching strategies of the competency-based approach, the required competencies will be developed progressively throughout their period of training (MINISANTE, 2007:17). These teaching methods differ vastly from the traditional teaching strategies, therefore it is important that the new teaching strategies of the competency-based curriculum should be implemented and utilised by nurse educators.

PROBLEM STATEMENT

According to Roegiers (2007: 156), from one individual to another, competency in education and, hence, the competency-based approach, has different meanings for different people. The competency-based approach was introduced into Rwanda's nursing schools during 2007 (MINISANTE, 2007:17). Nurse educators and clinical instructors experienced challenges to implement this approach. The use of theoretical and clinical teaching strategies, requiring competency-based and problem-based approaches to facilitate learning, posed problems to some nurse educators. Some preferred to continue using the traditional (mostly lecture) teaching methods, considered easier to use. They lacked knowledge as to how to use integrative pedagogy, and active teaching and learning strategies. This study was conducted to assess the perceptions and knowledge of the nurse educators concerning the competency-based approach, and to assess whether they were utilising the teaching strategies complying with the competency-based approach in Rwanda's colleges of nursing and midwifery.

PURPOSE OF THE STUDY

The purpose of the study was to explore the perceptions and knowledge of the nurse educators concerning the competency-based approach in nursing and midwifery education in Rwanda in order to enhance the implementation of that approach.

RESEARCH DESIGN AND METHOD

A quantitative, non-experimental descriptive study was used to explore nurse educators' perceptions and knowledge about competency-based teaching strategies. Polit and Beck (2004:50) stated that the purpose of descriptive studies is to document aspects of a situation as they occur naturally.

Research setting

The data were collected from four schools of nursing and midwifery in the Republic of Rwanda. The respondents completed questionnaires at the participating nursing and midwifery schools. The first nursing school had 117 students; the second one had 122 students; the third one had 120 students; and the fourth one had 126 students. Each school had an average of 10 nurse educators and clinical instructors, amounting to a total of 40. All these schools had implemented the competency-based curriculum during 2007 for training nurses and midwives in the advanced diploma (A1). All students in these schools were full time students.

Population

A population is the entire aggregation of cases in which the researcher is interested (Polit & Beck, 2004: 289). The population of this study consisted of the nurse educators who were implementing the competency-based education approach at four participating schools of nursing and midwifery in Rwanda. The total population of the study consisted of 40 nurse educators. No sampling took place as the population of 40 nurse educators were invited to participate and all agreed to complete questionnaires.

Research instrument

The nurse educators' perceptions and knowledge about the competency-based teaching approach were explored through structured questionnaires containing both open and closed ended questions. All nurse educators received the same questionnaires which contained questions on demographic data and questions to assess their perceptions of and knowledge about competency-based education. Some questions addressed possible challenges encountered by the nurse educators while implementing this competency based teaching approach.

The researcher developed the questions and sent them to his supervisor, as well as to a statistician and expert nurse educators for validation. Expert educators from the Rwandan Nursing Council were asked to validate the instrument as recommended by Polit and Beck (2004: 422; 416). They tested it for reliability by assessing the homogeneity of the variables.

Data collection

The researcher arranged a meeting with the respondents and explained the purpose of the study to them and a suitable date was arranged for completing the questionnaires. On the agreed-upon date, the questionnaires were handed to the respondents and they

returned the completed questionnaires. Complying with the request implied consent. No consent forms were signed to guarantee anonymity.

Data analysis

The data were analysed using SPSS version 16. Descriptive statistics were used to describe the research phenomena. Tables, frequency distributions, bar diagrams, and percentages were compiled from the data (Polit & Beck, 2004: 716).

ETHICAL CONSIDERATIONS

The Research Ethics Committee of the University of KwaZulu-Natal approved the research proposal. The participating schools of nursing and midwifery in Rwanda also granted written permission for data collection.

FINDINGS

Table 1: Socio demographic data (n=40)

	Frequency	Percentage
Age :		
20 – 25 years	2	5%
26 – 30 years	9	22.5%
31 – 35 years	12	30%
Over 35 years	17	42.5%
Gender		
Female	21	53%
Male	19	47%
Qualifications		
Master's degree	3	7.5%
Honours degree	4	10%
Bachelor's degree	20	50%
Advanced diploma	13	32.5%
Years of experience in teaching and clinical supervision		
Less than one year	10	25%
1- 2 Year	7	17%
3 to 4 years	7	17%
5 to 6 years	3	8%
More than 6 years	13	33%
Type of teaching that the respondents are assigned to		
Theoretical teaching	5	12.8%
Practical teaching	6	15%
Both Practical and theoretical Teaching	28	71.8%

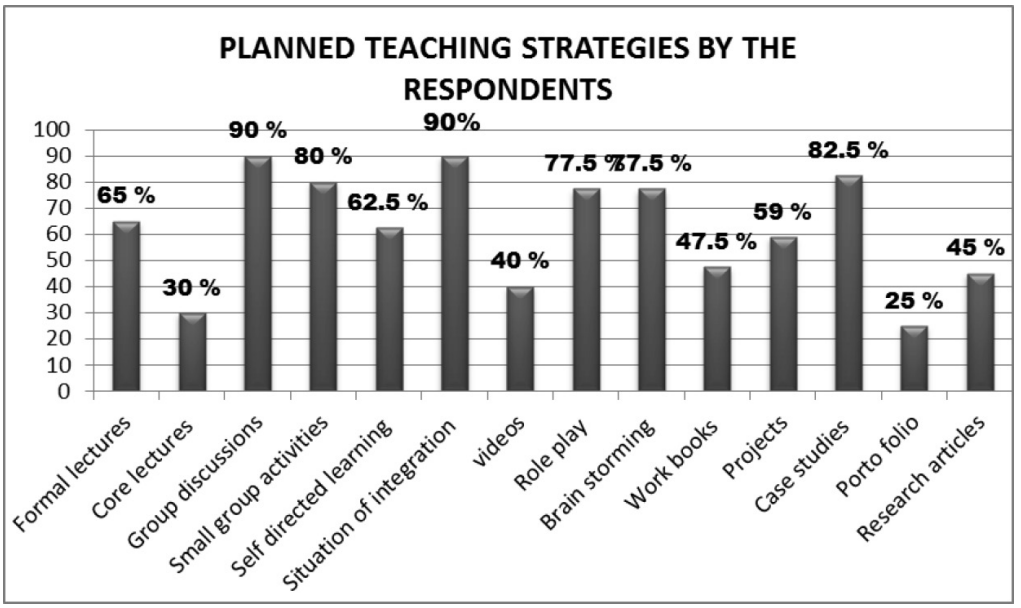

Figure 1: Classroom teaching strategies used by the nurse educators

Table 2: Nurse educators' competency-based education perceptions

	1		**2**		**3**		**4**		**5**	
	Strongly disagree		**Disagree**		**Neutral**		**Agree**		**Strongly Agree**	
	f	%	f	%	f	%	F	%	f	%
A major CBE objective is to enable student to acquire knowledge, skills, attitudes	1	2.5	0	0	0	0	11	27.5	28	70.0
Integrating situations are used prior to clinical experience in various clinical settings	2	5.0	1	2.5	2	5.0	13	32.5	22	55.0
Students are autonomous in the classroom and in clinical practice	3	7.5	4	10.0	4	10.0	20	50.0	9	22.5
Students' life experiences are considered	1	2.5	1	2.5	7	17.5	19	47.5	12	30.0
CBE students are goal oriented	2	5.0	1	2.5	6	15.0	20	50.0	11	27.5
CBE learning should be applicable to real life situations	1	2.5	0	0	5	12.5	14	35.0	20	50.0
Nurse educators should tell the students how useful the knowledge, skills and the attitudes will be in real situations	0	0	0	0	2	5.0	16	40.0	22	55.0
Learners should be regarded as being adults	2	5.0	1	2.5	2	5.0	14	35.0	21	52.5
CBE students can redo theoretical and practical things until they are confident	0	0	1	2.5	8	20.0	13	32.5	18	45.0
There should be a link between theory and practice	0	0	0	0	2	5.0	14	35.0	24	60.0
Self-directed learning is encouraged and promoted in CBE	0	0	1	2.5	4	10.0	14	35.0	21	52.5
The role of an educator is to facilitate the learning, to guide and support both individuals and groups	1	2.5	0	0	1	2.5	10	25.0	28	70.0

Competencies are demonstrated through mobilising knowledge, skills, and attitudes in real situations	1	2.5	0	0	0	0	21	52.5	18	45.0
Students may make mistakes, as no one will get hurt through integrations in the skills laboratories	4	10.0	5	12.5	4	10.0	17	42.5	10	25.0
CBE helps students to develop a sense of responsibility and improve their performance	0	0	0	0	3	7.5	21	52.5	16	40.0
In CBE, students help each other to improve their knowledge and skills	0	0	0	0	3	7.5	22	55.0	15	37.5
In CBE, I use active teaching methods to put the student at the centre of his/her learning	0	0	0	0	3	7.5	17	42.5	20	50.0
Using active teaching methods promotes students' understanding better than simple lecturing	0	0	0	0	1	2.5	15	37.5	24	60.0
Active teaching methods help the students to stay awake during their classes	0	0	1	2.5	1	2.5	16	40.0	22	55.0
CBE makes the students more confident when they work with the patients	0	0	0	0	4	10.0	21	52.5	15	37.5
Realistic teaching tools such as mannequins help the students to develop skills	0	0	3	7.5	3	7.5	20	50.0	14	35.0
I try to create opportunities for students to learn from each other when teaching in classrooms, skills laboratories and in clinical settings	0	0	0	0	1	2.5	23	57.5	16	40.0
In the classroom and skills laboratories, I focus on situations that the students will meet in clinical settings	0	0	1	2.5	1	2.5	25	62.5	13	32.5

DISCUSSION OF THE RESULTS

The nurse educators were knowledgeable about the competency-based approach and planned appropriate teaching strategies in line with this approach. Many of these 40 nurse educators utilised different teaching strategies: group discussions (90%; n=36), situations of integration (90%; n=36), case studies (82.5%; n=33), small group activities (80.0%; n=32), role play 77.5% (n=31), self-directed learning (62.5%; n=25) and projects 59% (n=23) although 25.0% (n=10) still used lectures.

The nurse educators also used other teaching strategies to promote competency-based education such as small group activities (85.0%; n=34), case studies (80%; n=32), group discussions (80.0%; n=32), situations of integrating theory and practice (75.0%; n=30), brain storming (72.5%; n=29) and role play (72.5%; n=29).

These findings demonstrate that active teaching methods were implemented, helping students to construct and integrate knowledge. According to the IBE-UNESCO (2008:5), the pedagogy of integration is a way of implementing a competency-based approach, first by mobilising learning resources and then by applying them in integrative learning situations. Peyser, Gerard and Roegiers (2006:1) emphasise that the pedagogy of integration helps teachers to reflect in-depth (in theoretical and methodological terms) on the learning difficulties of their students. It also enhances teachers' understanding and helps them to develop approaches tailored to their students' needs. Of the respondents

- 45% (n=18) strongly agreed and (25.0%, n=10) agreed that competencies are demonstrated through the mobilisation of knowledge, skills and attitudes in real situations
- 50% (n=20) strongly agreed and 42.5% (n= 17) agreed that CBE used active teaching methods that put the student at the centre of learning
- 60% (n=24) strongly agreed and 37.5% (n=15) agreed that using active teaching methods enhance students' understanding more effectively than lecturing.

All respondents (100%, n=39) confirmed that they frequently used problems or case studies in their teaching. According to Uys and Gwele (2005:127), problem-based learning can be defined as an approach to learning and instruction in which the learners can tackle problems in small groups, under the supervision of an educator. Any problem-based learning programme should produce autonomous graduates who are able to identify what they don't know and, while planning how to rectify the situation, become actively involved in decision making and in the production of creative solutions in any given situation.

Of the respondents, 60% (n=24) strongly agreed and 35% (n=14) agreed that there should be a link between theory and practice, and 55% (n= 22) strongly agreed and 32% (n= 13) agreed that integrating situations are used prior to clinical experiences.

According to Peyser et al. (2006:1), teachers should use integrating learning situations in classrooms, to implement competency-based programmes. This change requires moving from mobilising and applying learning resources to real life situations, and applying the effective articulation of learning situations for mobilising, integrating and applying resources. Some nurse educators agreed (55.0%; n=22) and strongly agreed (30.0%; n=12) that properly handled and integrated activities in the skills laboratory, would be transferred to properly handled and integrated activities elsewhere.

According to Kolb and Kolb (2005: 194), learning is "the process whereby knowledge is created through the transformation of experience. Knowledge is generated from grasping and transforming experience". Therefore, educators should help students to use their relevant experiences and knowledge during teaching and learning activities. Reportedly this happened because 47.5% (n=19) of the participants agreed and 30.0% (n=12) strongly agreed that the life experiences of the students are considered when planning and implementing teaching sessions. Out of 40 nurse educators, 52.5% (n=21) strongly agreed and 35% (n=14) agreed that learners should be considered as adults, while 50% (n=20) agreed and 22.5% (n=9) strongly agreed that students are autonomous in the classroom and in clinical practice. Teachers, therefore, should serve as facilitators and actively involve their adult students in the learning process, and allow them to work on projects that reflect their interests.

Out of 40 nurse educators, 70% (n=28) strongly agreed that a major objective in CBE is to allow students to develop knowledge, skills and attitudes, 50% (n=20) strongly agreed and 35% (n=14) agreed that learning should be applicable to real situations and 27.5% (n=11) strongly agreed while 50% (n=20) agreed that CBE students should be goal oriented. The US Department of Education and the National Center for Education Statistics (2002:5) indicate that skills, abilities and knowledge are developed through learning experiences, broadly defined to include school, work and participation in community affairs. Competencies are the result of integrative learning experiences in which skills, abilities and knowledge interact in relation to the task at hand. The levels of competency can be assessed when certain tasks are performed. The findings showed that of the nurse educators, 70% (n=28) strongly agreed and 25% (n=10) agreed that the role of an educator is to facilitate learning by providing guidance and support to both individuals and groups, 45% (n=18) strongly agreed and 42.5% (n=17) agreed that they encouraged their students to assess their own competency during teaching sessions in classrooms, skills laboratories or clinical settings, and 52.5 % (n=21) agreed and 40% (n=16) strongly agreed that CBE helps students to develop a sense of responsibility. According to Uys and Gwele (2005:127), the role of the teacher is to raise the consciousness of students and to be a critical mediator of knowledge through creating space for critical reflection and action. The teacher should be a facilitator, a guide, who mediates knowledge through questioning and creating experiences deemed to facilitate the students' understanding of their professional role and functions as nurses. Out of the

40 nurse educators, 45% (n= 18) strongly agreed and 52.5% (n=22) agreed and that they always provided feedback to their students in the classrooms, skills laboratories and clinical settings, and 40% (n=16) strongly agreed while 57% (n=23) agreed that they tried to create opportunities for students to learn from each other.

Of the respondents, 60% (n=24) strongly agreed and 35% (n=14) agreed that critical thinking is promoted in CBE with 80% (n=32) mentioning integrating knowledge around theoretical and practical issues and 60% (n=24) mentioning self-directed learning skills. According to Distler (2007:54), critical thinking in nursing is an essential component of professional accountability and quality nursing care. Critical thinkers display confidence, contextual perspective, creativity, flexibility, inquisitiveness, intellectual integrity, intuition, open mindedness, perseverance and reflection. Critical thinkers can engage in sound reasoning. Out of the nurse educators, 52%, (n=21) strongly agreed and 35% (n=14) agreed that self-directed learning is encouraged and promoted in CBE. Levett-Jones (2005:364) argues that self-directed learning increases students' confidence in, and capacity for, independent learning within a dynamic and challenging educational and work environment. The ability to learn on one's own has become a prerequisite for living in a dynamic world of rapid change. Learning is a life-long process and self-directed learning is considered to facilitate life-long learning. This is confirmed by the findings of this study where 52.5% (n= 21) of the participants agreed and 37.5% (n=15) strongly agreed that CBE makes the students more confident in interacting with patients. However, only 52.5% (n=21) of the nurse educators were involved in the development of the curriculum, implying that almost half of the respondents were not involved in curriculum development to enhance the implementation of CBE in the participating colleges of nursing and midwifery in Rwanda.

As many as 45.7% (n=16) of the respondents taught more than 45 students and 28.6 % (n=10) taught 36-45 students. Naidoo and Mtshali (2007:99) reported that South African nurse educators complained about large student numbers, insufficient time, busy work schedules and the demand of the curricula, making it difficult to use teaching strategies to promote effective thinking.

CONCLUSION

Nurse educators used different teaching strategies in a CBE approach in Rwanda, were knowledgeable about the CBE approach and had positive perceptions about its effective implementation. The nurse educators used active teaching strategies enhancing the development of learners' competencies. However, nurse educators faced challenges such as coping with an increased workload incurred by using active teaching strategies, and a lack of continuous training in using different teaching strategies. A multi-disciplinary approach might be necessary to address these challenges.

RECOMMENDATIONS

Implementation of the CBE approach changes the role of the nurse educator, requiring him/her to use teaching strategies that promote the development of learners' competencies. Nurse educators need to adopt the role of facilitator and guide and use active teaching methods which put the students at the centre of their learning encounters. To ensure adequate implementation of the CBE approach in nursing schools in Rwanda, nurse educators need the support of management, and in-service education, workshops and seminars, which will empower them to carry out their duties effectively and competently.

The nursing profession in Rwanda is changing the nursing education system to improve the quality of education. The main challenge is to utilise teaching strategies that promote competencies within the learners. There is, therefore, a need to assess the effectiveness of the implementation of the CBE curriculum on a continuous basis and to publish regular annual reports about the situation's successes and challenges.

Almost half of the nurse educators were not involved in the development of the current curriculum and did not receive training about its implementation. As many nurse educators as possible should be engaged in curriculum design to adapt the CBE principles and strategies to the real situation in Rwanda.

LIMITATIONS OF THE STUDY

The sample size of 40 nurse educators was adequate for statistical procedures, but it does not allow for generalisation of the findings to other nursing and midwifery schools in Rwanda. Due to nurse educators' workloads, some might have completed the questionnaires in a great hurry, without due consideration of each item. Due to time and cost considerations, this study included only nurse educators. Students' perceptions might have added different perspectives for enhancing CBE in Rwanda's schools of nursing and midwifery.

REFERENCES

Capacity project. 2007. Developing the health workforce: training future nurses and midwives in Rwanda. Available at: http://www.capacityproject.org/index.php?option=com_content&task=view&id=200&Itemid=108 (accessed on 10 June 2010).

Distler, J. W. 2007. Critical thinking and clinical competence. Results of the implementation of the student centered teaching strategies in an advanced practice nurse curriculum. *Nursing Education in Practice,* 7(1):53-59.

Gregg, J. 2001. Competence based education. Effective approach to nursing orientation Available at: http://www.collectionscanada.gc.ca/obj/s4/f2/dsk3/ftp04/MQ57436.pdf (Accessed on 05 October 2010).

IBE-UNESCO. 2008. Competency-based curriculum development: some lessons from other regions. Available at: http://www.adeanet.org/adeaPortal/adea/Biennale%202008/Documentation/Papers%20for%20presentation/06.%20Session%206/Parallel%20session%206A/Final%20PDF%20documents/Session%206A%20Doc%201%20UNESCO%20IBE%20ENG.pdf. (accessed on 05 October 2010).

Kolb, A. Kolb, D.A. 2005. Learning styles and learning spaces: enhancing experiential learning in higher education. *Academy of Management Learning and Education*, 4(2): 193-212.

Levett-Jones, T.L. 2005. Self-directed learning: implications and limitations for undergraduate nursing education. *Nurse Education today,* 25(5):363- 368.

MINISANTE. 2007. Référentiel de compétences des infirmiers et des sages femmes au Rwanda. Available at : http://www.areasante-site.org/Files/11-Referentiels/5RC/RC_livret_ReferentielCompetencysSageFemmeA1_Rwanda_2006_016.pdf (accessed on 11 July 2010).

Naidoo, M. & Mtshali, NG. 2007. *How nurse educators promote reflective thinking in a college of nursing in KwaZulu-Natal*. Master's disertation. Durban: University of KwaZulu-Natal.

Peyser, A., Gerard, F.M. & Roegiers, X. 2006. Implementing pedagogy of integration: some thoughts based on a textbook elaboration experience in Vietnam. Available at: http://www.bief.be/docs/divers/pedagogy_of_integration_061229.pdf (accessed on 05 October 2010).

Polit, D. & Beck, C.T. 2004. *Nursing research: principles and methods.* 7th Edition. Philadelphia: Lippincott Williams & Wilkins.

Roegiers, X. 2007. Curricular reforms guide schools: but, to where? *Prospects*, 37(2):155-186.

US Department of Education, & National Center for Education Statistics. 2002. Defining and assessing learning: exploring competency-based initiatives. Available at:

http://nces.ed.gov/pubs2002/2002159.pdf (accessed on 05 October 2010).

Uys, L.R. & Gwele, N.S. 2005. *Curriculum development in nursing: process and innovation.* London: Routledge.

WHO – see World Health Organization

World Health Organization. 2003. Nursing and midwifery workforce management: conceptual framework Available at: http://www.searo.who.int/LinkFiles/Publications_Analysis_Cntry_Asses_11Sep.pdf (accessed on 18 October 2010).