

RESEARCH ON NURSES' TECHNICAL SKILLS DEVELOPEMENT

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Abstract:

Today, nurses required additional technical skills to use new technology and apparatus (e.g. imagistic apparatus, scanners or screenings, etc.) but also, abilities to perform specific duties to their profession (e.g. calculating drug dosages, medication administration, gastric tube insertion, urinary catheterization). Nursing training programs has to be adapted to the new discoveries, practice tendencies, and better support the learning process. In this context, the paper present a research developed with six sample groups: four groups of nurse students and two groups of specialized nurses. The research aims to identify the technical training competencies identification and the most successful training methods associated with them in the case of a nursing educational program (developed by a private post-graduate medical school, located in the West Region of Romania). The research method used was the focus group based on a structured interview protocol. Conclusions made refer to the technical skills profiles analysis.

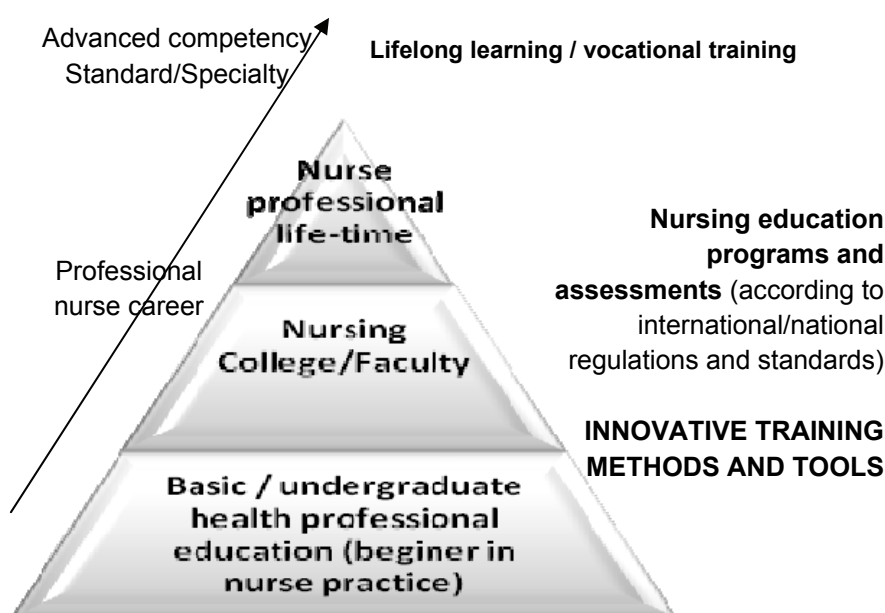
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1. INTRODUCTION

The history of nursing education began with Florence Nightingale initiatives, approaches, and programs ("Nightingale Training School for Nurses" established at St. Thomas' Hospital, London in 1860). Nursing as a profession has been in a continuous dynamics in the last period because of the new technologies (e. g. computer sciences and biotechnology, imagistic techniques development) impact in medical services. These have conduct to holistic nursing concept development with impact upon the formal nursing education (Neuman and Fawcett, 2010). The evolution and development of the nursing practices have conduct to a large specialties variety of this healthcare profession. Nurses practice in a wide range of settings but generally, nursing is divided depending on the needs of the person being nursed. The major populations are communities or public, family or individual across the lifespan, adult-gerontology, and paediatrics, neonatal, women's health/gender-related, psych/mental health. There are also specialties and areas of practice such as ambulatory care, cardiac, orthopedic, palliative care, obstetrical, oncology etc.

Today's nurses are responsible for diverse and complex duties that range from basic patient care to highly specialized treatments that were once the exclusive domain of physicians, and nursing education has kept pace with the increasingly challenging demands of the profession. Many new competencies have been included in the complex education programs in the field. However, today there are many ways to study and learn more about nursing education in public and private schools. Education of nurses and patient education are two main issues considered when nursing education is analyzed. Education of nurses (of all specialties) includes "generic" education, (1) the initial preparation for becoming a nurse, and (2) graduate programs and lifelong learning via formal continuing education and staff development roles. As a synthesis of the nursing education process, Picture 1 shows the perspective of nurse education during a professional lifetime. New psycho-pedagogical teaching aspects are considered with significant role for all nurses, along with management and clinical practice (Allen, 2006), (Jeffries, 2005). In addition, a large variety of innovative teaching methods and tools has been developed to support the rapid knowledge transfer into the practice. Most relevant are new clinical simulations cases and programs, online exercises and patient simulation cases (Childs and Sepples, 2006), (Guhde, 2010), (Reese, 2010), (Bricker and Pardee, 2011).

Picture 1: A General Perspective of the Nursing Education Process



In the last years, lifelong learning programs in the field have opened new education opportunities for all nurse specialties by encouraging: continuing education, inter-professional education, simulations of processes/relationships, work place learning, team based continuing education, establishment of point of care education. In addition, conferences, seminars, webinars are a large pool of debate and presentation of new nursing practices. Important e-learning platforms are available in the field (Andrew et. al., 2009; Begg et. al., 2005; Begg, et. al., 2007; Boulos, 2006; Carter et. al., 2006; Crook and Light, 2002).

Considering these preliminary and synthetic perspectives of the nurse education there can be conclude that the system`s continuous improvement strategy can be implemented by a better understanding of the demand and expectation of the medical practices (the real healthcare systems needs) (Feng & Chang, 2006). These have to be harmonized with the competencies and skills development in the existing clinical nursing curriculum programs (taking into consideration qualitative aspects of the qualification and certification processes). In this context, the present article will debate the research results of a study developed to identify the training needs (particular of new technical competencies) for better design the education methods and tools.

2. RESEARCH SCENARIO (METHODS, AND TOOLS)

This study was conducted in survey design with main objective of the technical competencies training needs identification in the case of nurse education program/curricula developed by a private post-graduate medical school (located in the West Region of Romania). In addition, during the research development there have to be better understand the demands and expectations in the clinical nursing curriculum (expressed and collected with the support of two groups of specialists involved in the research). Other objective of the study was to identify the most successful (efficient and effective) training methods, considering the learning capacity of the students. This research has been initiated and developed during the 2013 year.

Picture 2 shows the research hypothesis and the structured interview protocol design. Table 2 shows the structure of the groups involved in the study. Six sample groups (four groups of students from the second year of study in the specialist of General Nursing studies and two groups of specialized nurses and medical staff). Focus group method has been used in order to attend the proposed research objective. Focus group interview (discussions) is a qualitative research technique applied to small groups of students and specialists (Table 2) in the nursing field. The authors of the present article were the moderators that lead each group of participants through a set of questions, corresponding to the designed structured interview (Picture 2).

References have underline that the success of a focus group is heavily dependent on the skill of the moderator. In the case of the presented research, the moderators have generated interest in the topics, and they involve all the participants (students and specialists) and keep the discussion on track (allow for unexpected observations, affirmations that have been record). During the six focus group sessions there have been recorded: reactions to concepts, proposals of new competencies and education methods; there have been gathered insights, opinions, attitudes, and preferences from all the participants.

Picture 2: Research hypothesis and the structures interview protocol

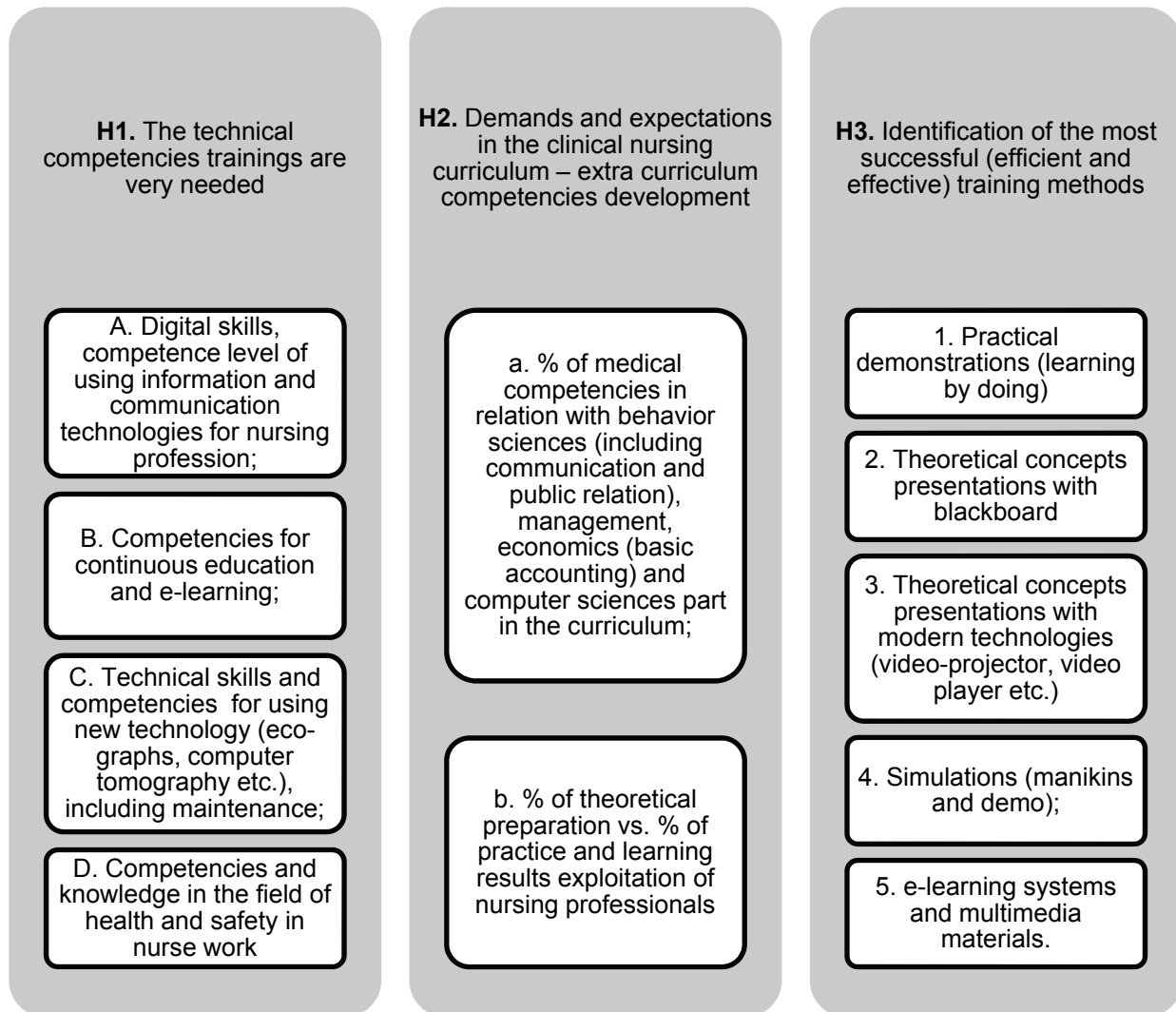


Table 2: The structure of the sample groups

No.	Group Type	Description
1	Students	11 persons (4 male; 7 female)
2	Students	11 persons (2 male; 9 female)
3	Students	11 persons (3 male; 8 female)
4	Students	11 persons (3 male; 8 female)
5	Specialists	6 persons (nurses and medical staff)
6	Specialists	8 persons (nurses and medical staff)

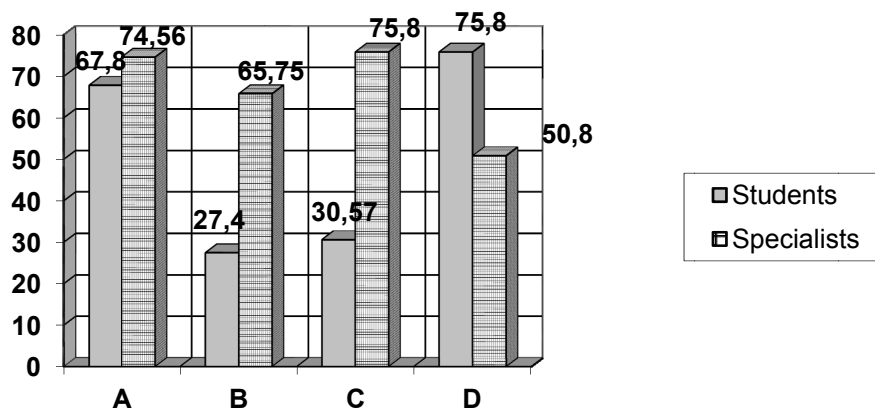
Qualitative and quantitative information were collected in the list of outcomes and deliverables: (1) notes and transcripts (sessions minutes) of each sessions; (2) video record of the sessions and (3) the final conclusions/findings report that will be briefly presented in section three. Each focus group session has a duration of 60 minutes; the first 10 minutes are for the group "warm-up" in which there were explained the research context and objectives; then 40 minutes were dedicated to the interview and discussions in accordance with the sample, groups structure proposed in Picture 2; last 10 minutes were dedicated to the conclusions.

Focus group method has been used because of its adequacy in terms of advantages. (easy feedback; it produce insights and questions from the interaction among different users or stakeholders (students, young nurses, medical staff etc. in our case); it is relatively inexpensive (the sample groups were all located in the same building and this fact allow the quickly arrange of the discussions sections).

3. THE TECHNICAL COMPETENCIES TRAINING NEEDS IDENTIFICATION. RESEARCH RESULTS

Pictures 2 and 3 show the research results by considering the two categories of the sample group: the students and the specialists.

Picture 3: Technical competencies training needs identification - research results



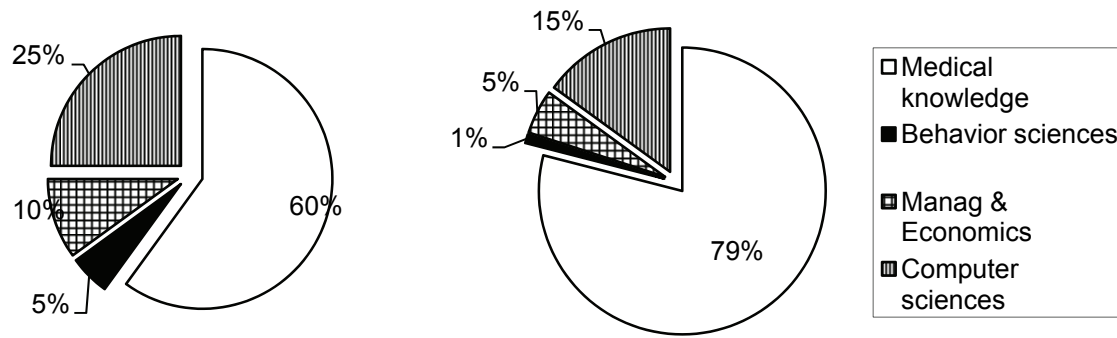
Both sample groups have confirmed the first hypothesis. Student and specialists has similar training needs regarding the computer skills development. Students do not feel yet the training needs for continuous education and e-learning (situation B) and for using new technology (eco-graphs, computer tomography etc.) in terms of maintenance (situation B). Related the competencies and knowledge in the field of health and safety in nurse work, students are more attached to them because they express their fear for professional risks exposure.

Table 3. Degree of acceptance in the nursing education process of the following methods and tools

No.*	Students	Specialists
1	45%	50%
2	5%	10%
3	20%	20%
4	25%	10%
5	5%	10%
	100%	100%

*) notations similar with those used in Table 1, H3

Picture 4: Demands and expectations in the clinical nursing curriculum



a. Students opinions

b. Specialists opinions

Table 2: The technical skills profiles analysis (Picture 2)

Research hypothesis	Students	Specialists	Total	Research hypothesis	Students	Specialists	Total
H1A	0.60	0.75	1.35	H3.1	0.45	0.50	0.95
H1B	0.27	0.66	0.93	H3.2	0.05	0.10	0.15
H1C	0.30	0.76	1.06	H3.3	0.20	0.20	0.40
H1D	0.76	0.51	1.27	H3.4	0.25	0.10	0.35
H2a	0.60	0.80	1.40	H3.5	0.05	0.10	0.15
H2b	0.40	0.20	0.60				

Regarding the second hypothesis, students expressed their demands and expectations in the clinical nursing curriculum of some extra curriculum competencies development as those from the fields of behaviour sciences (5%), management and economics (10%) and computer sciences (25%). Specialists were much more categorical with the dominant of the medical sciences training need satisfaction (for the future specialists) and less tolerance with extra curriculum competencies development.

The third hypothesis has been confirmed and both sample categories has identified interesting ways to promote the most successful (efficient and effective) training methods (Table 3). There have been observe a high degree of acceptance of students for simulations and video demonstrations (25%); they do not believe that e-learning facilities can contribute to their professional development (5%), but they believe in upgrade their knowledge using this way of learning.

4. CONCLUSIONS

The research results have allowed the technical skills profiles analysis that balances the two sample categories opinions (Table 4). As was expected, during the focus group sections, participants usually bring up issues and concerns outside the prepared question path. For that reason, future researches will be developed with the graduates for nursing schools (surveys in 2014), from public and private institutions because there have to be evaluate whether the learning outcomes outlined in the medical licensure act. Therefore, we plan to use the Freiburg Questionnaire to Assess Competencies in Medicine (Freiburger Fragebogen zur Erfassung von Kompetenzen in der Medizin) as a screening tool for some existing nursing education programs/curriculum. This questionnaire includes 45 items that are assigned to nine domains: medical expertise, communication, teamwork, health and prevention, management, professionalism, learning, scholarship, and personal competencies. Future research

objectives are related to identify: (1) significant differences in means between selected groups of students; (2) weaknesses in the nursing medical education curriculum.

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