



ASSESSMENT OF SKILLS AND COMPETENCIES OF NURSE STUDENTS

Irinka Hristova

Department of Health care, Faculty of public health and health care, Ruse University "Angel Kanchev", Ruse, Bulgaria.

ABSTRACT:

Purpose: The training process in the specialty of Nurse from the regulated occupations in the Republic of Bulgaria is in accordance with both national and European normative documents. The mission of the program Nurse for a bachelor degree is to provide highly-qualified professionals for giving effective health care in terms of a changing social, economic and health environment.

Material and methods: study and analysis of legal documents and modeling (model presentation).

Results: The philosophy of learning provides the opportunity to form personal qualities, communication skills, teamwork skills, competencies, as well as developing skills and adaptability and mobility in terms of free movement of professionals in the European Union. This paper presents an author's model of protocol for assessing practical skills and competencies as well as the benefits of applying it.

Conclusions: The evaluation of the results of the training process is emphasized as a particular element of the lecturer's work.

Keyword: Training Process, Educational Apps, Assessment Protocol, Nurse Education, Assessment Model, Nursing Skills,

INTRODUCTION

In the Republic of Bulgaria, the Educational qualification Bachelor degree of Nurse from the professional field of Health care is developed in relevance to the institutional strategy and the strategy of development of the professional field. The mission, tasks and goals of the Faculty of Public health and Health care to the Ruse University, and the training process in the specialty of Nurse from the regulated occupations in the Republic of Bulgaria, are relevance to both national and European normative documents. The perspectives in developing the specialty are directed to the preparation of medical specialists for obtaining a qualification adequate to the European requirements. The mission of the program Nurse for a bach The noun phrase preparation seems to be missing a determiner before it. Consider adding an article. elor degree is to provide highly-qualified professionals for giving effective health care in terms of changing social, economic and health environment. The goals of the program are: To prepare nurses with the knowledge, skills and competencies needed for

providing quality health care by applying the holistic approach to both ill and healthy people: to develop skills for independent professional work, communication and team interaction in planning, organizing and conducting preventive, treatment and health care for both the healthy, and ill man in any time of his life; mastering of theoretical knowledge, practical skills and competences, which are to be applied by the nurses independently, and by doctor's appointment; obtaining professional competences for assessment, planning and realization of preventive activities and health care in both the clinical, and outpatient aid, in social and medico-social facilities; development of possibilities for adaptation and mobility in terms of, and free movement of specialists in the EU; forming personal qualities, communication and teamwork skills needed for the nurses' occupation.

The duration of the training responds to Clause 42, paragraph 1, section b from the Higher Education Act and Clause 6 of the Regulation of USR. According to the Unified State requirements for the specialty of Nurse, the duration of the training lasts 4 years, with continuity of 15 weeks from the first to the sixth semester, and 20 weeks for the seventh and eighth semester, according to Clause 39 (2) Higher Education Act [1]. The educational documentation is developed in relevance to the European and national normative documents.

The compulsory educational documentation needed for conducting the training in the specialty of Nurse covers: qualification characteristics; curriculum for regular training; curriculum by disciplines; an annual timetable for the learning process; syllabus for each semester classes; a calendar plan for conducting classes for each discipline.

The qualification characteristic defines the Nurse as a person with higher education and a bachelor degree, who has graduated from an accredited university within the Republic of Bulgaria, or the EU. The main accents in both the theoretical and practical preparation in qualification characteristics correlate with the knowledge, skills and competencies that are envisaged in the compulsory disciplines by the Regulation for the unified state requirements.

The curriculum specifies the form and terms of training for the relevant degree, the subsequence of studying the disciplines, and the departments responsible for conducting the training process in each discipline. The workload of classes for lectures, seminars, laboratory and practical exercises is specified, the active forms of education,

the forms of knowledge check-up, and the organization of the concluding stage of training – state exam. The curriculum includes a logical subsequence of the disciplines, which make up the educational content.

The practical preparation (clinical practice and internship) is of a total workload of 3300 academic hours, which is 61, 79% of the whole training workload – 5340 hours. The practical preparation is achieved via clinical practice with a workload of 1140. The clinical practice is distributed from the I to VI semester. An internship with a total workload of 1600 astronomical hours or 2160 academic hours is included in VII and VIII semesters. The practical preparation that is included in the curriculum is in relevance to Clause 7a, paragraph 4 of ORDINANCE on the unified state requirements for acquiring higher education in the specialties “Nurse” and “Midwife” for the educational qualification degree “Bachelor” [2].

According to Standards and terms of reference for providing quality in the European space for higher education from 2015, Section: Training, teaching and marking, the terms are focused on the student, clarity and transparency of the criteria and methods for assessment [3].

The assessment of the results from the training process is a significant element of the lecturer’s work in preparing medical specialists. According to the European Qualification Frame, what the results from the training stands for, is indices of what the trainee knows, understands and could do when graduating from the learning process. Those indices are defined as knowledge, skills and competencies. The knowledge, skills and competencies are assessed [4].

The academic material provides a wide content of both theoretical and factual knowledge in the field of medical science and health care, which are marked via written exams, didactical tests and other forms of evaluation.

The academic content includes a wide range of basic and special disciplines with envisaged practical exercises. The great number of classes for practical preparation in both clinical and laboratory environments allow the formation of practical and professional skills in the different directions of health care. The methods of teaching stimulate the mastering of basic professional skills, special skills, as well as forming a clinical way of thinking and solving tasks and cases with various degrees of complexity. The assessment of skills and competencies needs to be done with clear criteria for evaluation, which are based on quality standards in both higher education and health care. The health care standards here in the Republic of Bulgaria aren’t officially recognized. Time-tested algorithms are recognized as standards for practical activities [5].

The training of nurses is engaged with obtaining and applying skills and competencies in all phases. A practical examination is applied in the assessment, which gives an opportunity to assess the learned knowledge, skills and competencies that are obtained during the practical exercises, clinical practice and internship. The students demonstrate their skills on models and dummies in the specialized laboratories for educational and practical lessons and apply the achieved practical skills in a real clinical environment, under the control of a lecturer or a clinical tutor

during the Clinical practice and internship. The characteristics of the environment and conditions in which the learning process is being organized and held impose some specific requirements to both the students and lecturers, as well as the didactical technology and the psychological side of the complex interaction lecturer – patient - student. The trainees participate in the activities of the respective clinical unit, as far as those activities correspond to their own training, and let them learn to be responsible for the medical nursing care, which guarantees them the acquisition of specific competencies in each stage of the training.

Apart from all the requirements which concern the students, the specificity of the nurses’ training demands the application of a fair system for assessing skills, which guarantees safety and elimination of errors in practice. These skills could be measured by applying knowledge from a third applicative level, in which the students apply what they have learned in a familiar or at least similar situation, and also apply a behavioral model in various real and simulated clinical situations, and in the fourth level – the creative one, the students apply their knowledge in the unknown for them, non-standard situation.

Normally, the skills and competencies for basic and specific nursing care are being assessed via a subjective judgement by the conducting current and final control. In order to develop and validate a system for assessing skills and competencies, it’s necessary to use standards, which are established in practice.

Assessment of practical skills. To guarantee the quality of the practical skills that include the use of models, materials, devices and instruments, an established algorithm of subsequent activities is used, which are formed in a document that is used in nursing practice as a Technical card. It comprises of a methodical and chronological description of subsequent activities for solving a particular task, clues, a description of a particular procedure or manipulation, a bibliographical reference, necessary materials, the patient’s preparation, nursing technical supplies, described as an algorithm/ step by step [5, 6].

The lecturers in health care strive to stimulate the motivation, as well as the self-analysis and engagement of the students in the process of training, via a mentoring program called student-student and a program for adaptation of beginner students [7, 8].

In connection with the constant ambition of improving the quality of training, an author’s methods for assessing skills and competencies of the students from the specialty of Nurse is developed too. The methods are based on [9].

MATERIALS AND METHODS:

The assessment of skills and competencies is accomplished thanks to a planned, purposeful pedagogical monitoring with a clear and exact sequence, as well as digital mark criteria. The subjectivity in evaluating the results can be reduced to a minimum because of the suggested Protocols of pedagogical monitoring in assessing skills and competencies. The clear methods guarantee a reasoned, unbiased assessment of the students’ skills and competencies

in each stage of the training, as well as a significant reduction of the chance to make mistakes. The methods give the possibility for a fair evaluation not only by a lecturer but also by an estimator – a clinical tutor.

The methods for assessing skills and competencies in a clinical environment include:

1. Development of protocols for either individual or group monitoring of each of the activities, connected with applying adroitness, and use of methods, materials, devices and instruments, or capability;

2. The basic (key) steps of the algorithm in a technical card, transform into either index of assessment or monitoring units;

3. The protocol of pedagogical monitoring contains the following components:

- The names of the student or group are pointed out;
- The kind of monitoring is defined – explicit, episodic or single, individual or group monitoring;
- The monitoring units (indices) are defined, according to the algorithm of activities the student performs;
- The system for assessment and criteria for digital mark is defined;
- Date and name of the lecturer who had done the monitoring.

RESULTS:

A sample protocol for group pedagogical monitoring of students' communication skills during the practical training is exhibited.

Sample of Model of a protocol (Fig. 1)

Fig. 1. Sample of Model of a protocol

MODEL OF A PROTOCOL FOR PEDAGOGICAL MONITORING OF PRESENCE OR LACK OF CLINICAL COMMUNICATION SKILLS

The monitoring is group and is accomplished many times during a Clinical practice in a Therapeutic ward. The sign “+” on the table marks the performing of the monitored skill, and “-” marks the lack of skill.

Monitoring units for assessment of clinical communication skills:

1. Formulates brief and clear messages.
2. Doesn't abuse the special terminology.
3. Speaks slowly, with clear pronunciation.
4. Properly selects the time for communication, and asks clear questions – when, what, where, how, why, etc.
5. Achieves the feedback – the understanding of the message.
6. Selects properly his style of speaking.

Table 1: Model of a card for assessment of clinical communication skills

Students	Monitoring units						Number of mistakes	Number of points	Date
	1.	2.	3.	4.	5.	6.			
1.									
2.									
3.									

Table 2: Criteria for assessment of point grades by the six-mark scale

Number of points	18	17	16	15	14
Quotient of a learned skill or competence	1	0.9	0.8	0.7	Below 0.6
Mark by the six-mark scale	Excellent (6)	Very good (5)	Good (4)	Fair (3)	Poor (2)

The mark is formed as a sum by the received points. 3 points correspond to each monitoring unit. The point grade transforms into a quotient, which shows the degree of learned skill or competence.

Maximal number of points $6 \times 3p. = 18p.$

$$K = a / p$$

K – quotient of learned skill or competence

a – points received from the tested person

p – total number of points, which could be achieved by possibly every predetermined monitoring unit

DISCUSSION:

In the Collection of protocols for pedagogical monitoring, 25 developed protocols for assessment of skills are stated, which are successfully applied in assessing skills of performing clinical communication, hygiene clothing, urethral catheterization, injection technique and other basic skills. By using the suggested methods, protocols for assessing specific skills and competencies in the field of interventional cardiologic procedures are being developed and used, as well as in the field of palliative care, obstetric care and other directions in the training process [10, 11].

Evaluation of competencies according to the National Qualification Frame of the Republic of Bulgaria. The competencies in level 6, which corresponds to the bachelor degree, include: independence and responsibility, competencies for learning; social and communicative competencies, and professional competencies.

In the process of training, the students form integrational skills in organizational structures and teams and also the independent accomplishment of activities controlled by either a lecturer or a clinical tutor. The contact with the future working environment in question serve as a judgement base, as well as comparison and forming conclusions and finding possibilities for expanding and developing knowledge. The students form communicative and social competencies via learning both the compulsory and selective disciplines that are included in the curricula and also their active participation in extracurricular activities. An important matter of forming communicative competencies, render both the clinical practice training and the internship. During their practical training, the students form competence for clinical communication and social competence in their explicit interaction with the patients and their relatives. Case studies are also used, as well as clinical tasks, estimation of typical symptoms, individual nursing files, etc. [12-20].

The nature of the clinical training also imposes mastering of the communicative skills with the labour teams in the training bases. Their preparation allows them to express comprehension and stance toward questions by using methods based on both qualitative and quantitative descriptions and assessments. Thanks to this, they show a wide personal view of life and co-ordination with the teams in which they train. By solving the individual and team tasks, the students are able to formulate and state clear and comprehensible clinical cases, offer solutions to problems in various audiences which involve different qualification

levels (specialists and non-specialists).

The professional competencies are connected with mastering the theoretical knowledge and practical skills in a clinical and laboratory environment, in both the basic and selective disciplines. It develops responsibility for accomplishing both independent and activities by doctor's appointment, as well as solving specific tasks in a real situation. The complex of underlying and special disciplines, the conducting of clinical practices and internship, the participation in joint research projects with employer representatives, as well as the annual sessions and conferences, are a good foundation and term for developing professional competencies. The learning material, forms of training and evaluation make them accessible to master and use new approaches in the field of health care. The training system motivates the building of professional competencies and expression of one's own opinion for solving both social and moral problems, having to do with teamwork activity, working with patients or the training itself.

CONCLUSIONS:

The great amount of practical training in a real clinical environment evokes multiple questions concerning the reduction of stress in students and the patients' safety. The mastering of skills and competencies is a complex, multilayered process. The organization of the learning process and constant improvement of the didactical forms and methods of training, and control by the lecturers, lead to real outcomes.

The suggested model for assessing practical skills and competencies is used to evaluate a great part of both the basic practical skills and specific nursing care.

The wider application of the active, planned individual or group monitoring of a specific skill or competence, in both simulated working environment and clinical conditions, would lead to reducing subjectivity in assessing, as well as motivation for achieving better results, and justification of the assessment. It would also lead to synchronization of the criteria for evaluation between the university lecturers and the clinical tutors, reducing anxiety and the students' feeling of insecurity and subjectivity in assessing by clear and pre-regulated methods and forms of evaluating. Applying the Methods of assessment encourages the rightness, improves the quality of the training process and the performed nursing care, and also reduces the chance of making mistakes in each stage of the health care professionals' training.

REFERENCES:

1. Higher Education Act of 2016, Pub. L. State Gazette No. 112, Stat. 1995 (Dec. 9, 2016). [in Bulgarian]
2. Ordinance on the unified state requirements for acquiring higher education in the specialties "Nurse" and "Midwife" for the educational qualification degree "Bachelor" 2016, Pub. L. State Gazette No. 95, Stat. 2005 (Apr. 22, 2016). [in Bulgarian]
3. Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). (2015). Brussels, Belgium. [Internet]
4. European Qualifications Framework for Lifelong Learning (EQF). EC. 2008. [Internet]
5. Stoykov D. [Health Care Guide – technical slips. Training manual for nurses, midwives and laboratory technicians.] [in Bulgarian] *MU-Pleven Publishing Center*. 2012. 248 p.
6. Grancharova G. [Health care management.] [in Bulgarian] *MU-Pleven Publishing Center*. 2005. 286 p.
7. Georgieva D. [Introduction to the specialty program for adaptation

of first year students majoring in “Nurse”.] [in Bulgarian] *Ruse: Primaks*, 2012. 78 p.

8. Georgieva D. [The clinical environment for study has been and will continue to be an important part of the education of nurses] [in Bulgarian] *Proceedings of the Union of Scientists – Rouse, Book 4, Medicine and ecology*. 2013; (3):40-6. [[Internet](#)]

9. Batoeva D, Popov T, Dragolova E. [Pedagogical and psychological diagnostics.] [in Bulgarian] *Sofia: Askoni*. 2007. 389 p.

10. Georgieva D. [Assessment of practical skills of students majoring in “nurse” Collection of protocols for pedagogical monitoring.] [in Bulgarian] *Pleven: Mediatech*. 2015. 57 p.

11. Hristova I. [Optimizing Health Care Activities in Coronary Vascular Procedures] [Dissertation] [in Bulgarian] *Medical University Varna*. 2018. 176 p.

12. Koleva G, Georgieva D,

Stefanov Y. A Conceptual Model of an Electronic Appendix Called “Nursing file for palliative care”, for Training Students from the Speciality of Nurse. *CompSysTech'17: Proceedings of the 18th International Conference on Computer Systems and Technologies June*. 23 June 2017; pp.296–301. [[Crossref](#)]

13. Miteva S, Koleva G. [Palliative care – duty in nursing practice.] [in Bulgarian]. *Proceedings of Health Promotion and Social Work, Health care*. 2018;57(8.4.):115-9.

14. Miteva S, Koleva G. [The most common symptoms in cancer.] [in Bulgarian]. *Proceedings of Health Promotion and Social Work, Health care*. 2018;57(8.4.):120-5.

14. Georgieva D, Koleva G. [Clinical monitoring and evaluation of the most common symptoms in patients in need of palliative care.] [in Bulgarian] *Health Care Magazine*. 2016; 13(3):5-10.

16. Koleva G, Georgieva D. [Competence of the Nurse in the application of analgesic therapy in the palliative treatment.] [in Bulgarian] *Proceedings of the Union of Scientists – Rouse. Book 4, Medicine and ecology*. 2016; (6):158-63. [[Internet](#)]

17. Koleva G, Georgieva D. [Assessment of the risk of pressure ulcers.] [in Bulgarian] *Health Care Magazine*. 2016; 13(3):26-31.

18. Koleva G, Georgieva D. [Use of verbal and nonverbal scales of pain of Nurse in patients palliative.] [in Bulgarian] *Proceedings of the Union of Scientists – Rouse. Book 4, Medicine and ecology*. 2016; 6:99-104. [[Internet](#)]

19. Georgieva D, Koleva G. [Palliative nursing care.] [in Bulgarian] *Pleven: Mediatech*. 2017. 147 p. ISBN: 978-619-207-100-4.

20. Georgieva D, Koleva G. Palliative nurse care-education and training. *Scripta Scientifica Salutis Publicae*. 2017; 2(2):34-38. [[Crossref](#)].

Please cite this article as: Hristova I. Assessment of skills and competencies of nurse students. *J of IMAB*. 2021 Jul-Sep;27(3):3968-3972. DOI: <https://doi.org/10.5272/jimab.2021273.3968>

Received: 19/01/2021; Published online: 24/09/2021



Address for correspondence:

Irinka Hristova,
Ruse University “Angel Kanchev“, Ruse, Bulgaria
Address: 8 Studentska str., POB 7017, Ruse, Bulgaria
E-mail: ihristova@uni-ruse.bg