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Innovative Methods and Learning Techniques Used to Improve the Quality of Education in Slovakia in Nursing

Gabriela Kuriplachová[1]
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ABSTRACT

The university education system in nursing is currently strengthened by the European directives, enhanced by the adoption of the Bologna Declaration and implemented into the curriculum of university institutions in Slovakia. In the process of learning in nursing, various methods and techniques are used to improve the quality of the education. The aim of the paper is to present the structure of selected innovative learning methods and techniques used at the Faculty of Health Care University of Presov in Presov. According to new accreditation of the nursing study programme, the followings are used in the 1st and 2nd degree of learning: Workshop, Educational plan, Nursing process, Managerial diary, Ishikawa diagram and SWOT analysis. In the 1st degree of learning, the Nursing Process and Educational Plan are often used, and in the 2nd degree of learning, the Managerial Diary is often used. Each method or technique represents a different workload for the student. This workload and the amount of work spent on the student is taken into account in the credit education system. In general, these methods improve the learning process in nursing in both degrees of education institution.

Keywords: Nursing, Innovative Methods, Learning Techniques, Student's Workload.

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INTRODUCTION

The current education in Slovakia in nursing is influenced by the criteria of European Directives and reinforced by the Bologna Declaration. The profile of the study is implemented in the curriculum of the university institutions.

An important document in the development of the curriculum has been Directive 2005/36/EC and the current European Parliament Directive 2013/55/EU, which is binding on all Member States of the European Union. The Directive defines minimum requirements for the start of nursing training, a standard length of study at a university which lasts for at least 3 years and contains at least 4 600 hours of theoretical and clinical training. The Directive also contains information on the system for the recognition of professional qualifications in the EU.

Its aim is to create a single European platform for nursing education as well as to integrate nursing education into higher education systems, provide more flexibility in the labor market, liberalize services, promote automatic recognition of qualifications in a given profession, labor mobility and facilitate administrative procedures (Directive 2005/36/EC of the European Parliament; Öhlén et al., 2010).

Aim of the Paper

In order to improve the quality of education in the nursing, various methods and techniques of learning are used. The aim of paper is to present the structure of selected innovative learning methods and techniques used at the Faculty of Health Care University of Presov in Presov, which are used in the 1st and 2nd degree of nursing education.

METHODOLOGY

When selecting learning methods and techniques, it is necessary to know and consider the student's workload required to achieve specific learning outcomes. The credit system reflects the total amount of work required to successfully finish the entire year of study.

Nursing Study Programme of the University Education in Slovakia

In the historical context, nursing education in Europe has been influenced by the Bologna Declaration, the Munich Declaration, the World Health Organization (WHO), the International Council of Nurses (ICN), the European Guidelines and many others that currently emphasize the benefits of nursing and nursing education (Hanzlíková, 2011).

Nursing is a study programme, administered by the Ministry of Education, Science, Research and Sports of the Slovak Republic through which the graduate of the study programme gains the professional ability/qualification to practice the profession or is prepared to continue in following university studies (Hudáková et al., 2016).

The nursing study programme is compiled according to competencies of the Government Regulation No. 296/2010 Coll., Decree of the Ministry of Health of the Slovak Republic No. 364/2005 Coll. (now Decree No. 95/2018 Coll.) is amended.

Persuant to Act No. 131/2002 Coll. on Higher Education the professionally oriented bachelor study programmes of the 1st degree of university study are focused on the acquirement of theoretical and practical knowledge in case of an occupation performance based on a current state of science and art with the possibility to continue in university study of the 2nd degree (Act No. 131/2002 Coll.; Hudáková et al., 2016). The standard length of the 1st degree (bachelor study) of nursing study is 3-4 academic years in full-time and 4 academic years in part-time. In relation to European Directive, the study programme consists of minimum 4 600 hours, half of which is practical education and minimum of one third is theoretical education.

Clause 1 §53 of the Act No. 131/2002 Coll. quotes that the study programme of the 2nd degree is focused on the acquirement of theoretical and practical knowledge based on the current state of science, technology or art, management and on development of skills of their creative application in the exercise of the profession. The standard length of the 2nd degree (master study) of nursing study is 2-3 academic years in full time and 3-4 academic years in part-time.

A graduate of the 2nd degree of higher education can continue their studies

at university according to doctoral nursing study programme of the 3rd degree (Act No. 131/2002 Coll.; Hudáková et al., 2016).

According to European Directives 2005/36/EC, 2013/55/EU and Decree of the Government of the Slovak Republic No. 614/2002 Coll. on the Credit System, the minimum requirements for the content of nursing education in Slovakia are divided into 2 sections: theoretical disciplines (nursing disciplines, basic medicine disciplines and social science disciplines) and practical disciplines. Subjects of the nursing study programme are divided into: compulsory (comprise 75-80% of study programme), compulsory optional (comprise 15-20% of study programme), and optional (comprise 5% of study programme). Prerequisite subjects are very important subjects due to their content and their connection to other subjects which allow students to continue in their studies (Kuriplachová et al., 2014; Decree of the Government No. 614/2002 Coll.).

Methodology for theoretical and practical education in nursing study programme (of the 1st and 2nd degree) includes: Workshop, Educational plan, Nursing process, Case studies, Seminars, Reviews, Quizzes, Online assessment, Managerial diary, Research papers focusing on student comprehension, Projects focusing on the development of student knowledge and skills, Ishikawa diagram, SWOT analysis and other (Hudáková et al., 2016). Some of them are being used at the Faculty of Health Care University of Presov in Presov in order to improve the educational process at the institution.

The Credit System and Student's Workload in Nursing Study Programme at the Faculty of Health Care University of Presov in Presov

Completing the course, seminar, module, etc. the student gets a set number of ECTS credits. Each ECTS credit represents the amount of student's workload accomplished in that period of time. The Credit Hour System proposes that 1 credit corresponds to 25–30 hours of total student working. It has been used for measuring the student workload, faculty workload, tuition, costs of the programme and funding. It was originally developed by the Carnegie Institute in America. This formula states that one hour of teaching in a classroom per week, for a total of 15 weeks, is equal to one credit hour. It is a standard metric in academic institutions all over the world. All that the credit hour sys-

tem describes is the "time" spent by a teacher teaching in a "class room" or with the student during the learning activities. Although the American Credit Hour System includes student activities to some extent, it is not a measure of the actual effort exerted by learners during learning (ECTS, 2009; Nosair, Hamdy, 2017; Weingarten, 2018).

In Slovakia, alternative educational credit frameworks have been evolving as a replacement for the traditional model. Among these innovative credit hour systems is the European Credit Transfer System (ECTS), which is a numerical descriptive value of qualification expressed in terms of student workload (ECTS, 2009). ECTS is an important element of the Bologna process, meant to help international students make the most of their study abroad experience (Weingarten, 2018). It is defined as "the number of working hours typically required to complete the learning activities of course units in order to achieve their expected learning outcomes" (ECTS, 2009). In this system, the total student's workload comprises „contact hours" with teacher and „non-contact hours" spent by students in their own self-study, completing course assignments and preparing for all types of exams, etc.

The standard student's workload for one academic year is total 60 ECTS credits in full-time study. For three years of standard study in Slovakia, it equals to 180 ECTS credits. Some examples of ECTS credits assigned per a degree type are: 1 academic year is 60 ECTS credits in total, 3 academic years of bachelor's programme is 180 ECTS credits in total, 2 academic years of master's programme is 120 ECTS credits in total. Not all ECTS credits are created equally. This means that usually a module or course with 10 ECTS credits has approximately twice the workload of a course with 5 ECTS. Study hours (also known as work hours) are estimated because the student can spend much more time on courses that are not so familiar and perhaps less on another course, which is precisely in his field of interest and expertise. This means that one of the 5 student courses may involve more work than 10 courses, even if it is on the same programme, and in the same university (Weingarten, 2018).

Practical courses require a higher workload than a theoretical courses. The higher number of ECTS credits means higher student workload. Therefore, according to the European Directives, the Faculty of Health Care University of Presov in Presov established the following number of ECTS credits in the

nursing study programme: 1 ECTS represents 25 hours of the student's workload for theoretical learning in total, 1 ECTS credit represents 30 hours of the student's workload for practical learning in total.

Every study subject of the nursing study programme is defined by a code and a name. All important information of the subject, goals and content of education, recommended literature, number of ECTS credits and student's workload which is calculated according to contact and non-contact hours are stated into Information sheet of subject. The Information sheet is published on the public portal of the educational institution. The Bloom's Taxonomy was used to set goals and results of education.

RESULTS

Innovative Methods and Techniques of Learning in Nursing

In table 1, the authors describe innovative learning methods and techniques for improving the quality of education related to the student's workload.

Table 1: Examples of student's workload in nursing study programme

Methodology	Definition and description of structure of methodology	Student's workload	Degree of study in nursing
Workshop	A workshop is a form of educational activity, whereby instructor / assistant prepares a topic, objective and programme. The student, through various techniques (brainstorming, feedback) and by using their own knowledge and experience, acquires skills that will be used in practice. Workshop contents this structure: introduction, the main topic of workshop and conclusion. During the workshop the instructor / assistant organizes, supervises and helps students with the course. The workshop is meant to deepen already acquired knowledge and skills. The output of the workshop is to fulfil the conditions of the specified topic and objective. The workshop does not have a theoretical component, it is assumed that the student has a theoretical basis and is able to transfer theoretical knowledge into practical skills and it therefore calls for active cooperation among the participants of the workshop. A workshop can be prepared on the basis of various scientific or professional topics. It is recommended to be prepared for approximately 60 minutes (one topic) with an optimal number of 25 participants.	Preparation and realization of a workshop on a professional topic (15 hours of student´s workload). Preparation and realization of a workshop on a scientific topic (30 hours of student´s workload).	1st, 2nd

Educational plan	The educational plan is part of complex nursing care. Educational plan is planned by at least 2 participants - the student and patient. The goal of education is to set up an educational plan that will lead participants to acquire new information and skills related to treatment and nursing care. The structure of the educational plan consists: introduction - short description of the patient's health problems, main part - educational process (1. assessment: finding the patient's field of learning, assessment of the patient's ability to learn, 2. diagnostics: determination of educational-knowledge diagnoses, 3. planning of the educational process: educational meetings (educational topic, goal and final criteria of educational meetings, curriculum, form and methods of education etc.), 4. realization of the educational process, 5. assessment of the knowledge of patient as the effectiveness of the educational plan), final - overall evaluation of individual meetings (evaluated by student and patient), list of used references (recommended to use the Harvard system), annex - contain the material used in the education process (Meško et al., 2005; Magurová, Majerníková, 2016).	Elaboration of the educational material (5 hours of student´s workload). Elaboration of the educational plan (10 hours of student´s workload. Visual presentation of the educational plan in Microsoft PowerPoint 12-14 slides (5 hours of student´s workload).	1st, 2nd
Nursing process	The nursing process is a systematic and rational method of planning and providing nursing care. Its goal is to evaluate patients' health status, actual or potential health care issues, set out plans for needs assessment and provide specific nursing interventions to meet these needs. The nursing process consists of a series of five steps - phases. The five-step process consists of: 1. assessment, 2. nursing diagnosis, 3. planning, 4. realization of process, 5. evaluation. 1st phase – Assessment - it includes data collection and validation and is necessary for the nursing diagnosis. 2nd phase – Nursing diagnostics – the diagnostic process is a process of analyzing and synthesizing the acquired knowledge, using a variety of thought processes, such as objectivity, critical thinking, decision making, inductive and deductive judgment. 3rd phase – Planning – the nursing planning is a process of setting out nursing strategies or interventions to prevent, reduce or eliminate patient health problems that have been identified and evaluated during the diagnostic phase. 4th phase – Implementation - implementation is focused on implementing or intervening and implementing nursing strategies recorded in nursing care plans. 5th phase – Evaluation - Evaluating nursing means finding out if the goals have been achieved and to what extent. Evaluation is a very important aspect of the nursing process because its conclusions determine whether nursing interventions should be terminated, resumed, revised or changed (Kozierová et al., 2004; (Derňárová, Rybárová, 2008).	Elaboration of the 1st phase of the individual nursing care plan in the patient (10 hours of student´s workload). Elaboration of the 1st-3nd phase of the individual nursing care in the patient (15 hours student´s workload). Elaboration of the 1st-5th phase of the individual nursing care in the patient (20 hours of student´s workload).	1st, 2nd

Managerial diary	The aim of the managerial diary is to demonstrate the students' knowledge in managing nursing teams at the individual levels of the manager. The requirements and level of the managerial log are determined and directed by the teacher. The structure of the management diary consists: introduction – characteristics of management, functions and roles of manager, managerial skills, manager personality, main part – plan of the managerial diary: organization and work system of the department/ hospital, competencies of nurses by job classification, health documentation analysis, audit, standards, SWOT analysis of selected department, topics of nurses seminars, diagnosis of causes and consequences using the Ishikawa diagram and other, suggestions for improvement of work, conclusion - a brief assessment of clinical practice (benefit for the student, healthcare facility, etc., list of references and annex (Meško et al., 2005).	Development of a managerial diary using at least 2 references - domestic or foreign (10 hours of student´s workload). Development of a managerial diary including the Ishikawa diagram, using at least 2 references - domestic or foreign (15 hours of student´s workload). Development of the managerial diary including the Ishikawa diagram and SWOT analysis using at least 2 references - domestic and foreign (20 hours of student´s workload). Visual presentation of the Microsoft PowerPoint 12-14 slides (5 hours of student´s workload). Verbal presentation of the managerial diary by student (5 hours of student´s workload).	2nd

Ishikawa diagram	The Ishikawa diagram is a technique for identifying causes or to solve problems. It was made by Kaoru Ishikawa (in Japan). The purpose of this technique / tool is to enable graphically to visualize the connection between the problem and its causes or solutions. When defining the problem ("fishing head") it is possible to find its components, i.e., to identify the causes of the existing problem and to create the framework for further problem analysis (Vančíková, 2001; Turek, 2009).	Graphic processing of the Ishikawa diagram on a selected topic (5 hours of student´s workload).	2nd
SWOT analysis	SWOT analysis is a comprehensive method of qualitative evaluation of the functioning of the organization (Turek, 2009; Zaujec, 2010). The aim of this method is to achieve the classification and evaluation of factors affecting quality, divided into four basic groups: strengths (S) and weaknesses (W) aspects of the organization, opportunities (O) and threats (T) of the organization (Miláček, 2002; Turek, 2010).	Development of SWOT analysis based on selected topic (5 hours of student´s workload).	2nd

DISCUSSIONS AND CONCLUSIONS

Nursing includes the promotion of health, prevention of illness, care of ill, disabled and dying people. Nursing provides nursing care to individuals of all ages, families, and communities. It requires professional access and professional education from nurses. The current system of nursing education is guided by European Union Directives and its valid legislation in Slovakia requires the use of innovative methods in education. In general, these training methods streamline and improve the education process at educational institutions.

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- The RGB and resolution requirements are essential for producing high-quality graphics within the published manuscript.

- Most graphic programs provide an option for changing the resolution when you are saving the image. Best practice is to save the graphic file at the final resolution and size using the program used to create the graphic.

4. Graphics should be sized at the final production size when possible. Single column graphics are preferred and can be sized up to 240 points wide (8.38 cm.). Double column graphics must be sized between 300 and 504 points (10.584 and 17.78 cm's). All graphics have a maximum depth of 660 points (23.28 cm.) including the caption (please allow 12 points for each line of caption text).

Consistently sizing letters and labels in graphics throughout your manuscript will help ensure consistent graphic presentation for publication.

Image Manipulation. Images should be free from misleading manipulation. Images included in an account of research performed or in the data collection as part of the research require an accurate description of how the images were generated and produced. Apply digital processing uniformly to images, with both samples and controls. Cropping must be reported in the figure legend. For gels and blots, use of positive and negative controls is highly recommended. Avoid high contrast settings to avoid overexposure of gels and blots. For microscopy, apply color adjustment to the entire image and note in the legend. When necessary, authors should include a section on equipment and settings to describe all image acquisition tools, techniques, and settings, and software used. All final images must have resolutions of 300 dpi or higher. Authors should retain unprocessed data in the event that the Editors request them.

Specialized Data

Biological Data. Quantitative biological data are required for all tested compounds. Biological test methods must be referenced or described in sufficient detail to permit the experiments to be repeated by others. Detailed descriptions of biological methods should be placed in the experimental section. Standard compounds or established drugs should be tested in the same system for comparison. Data may be presented as numerical expressions or in graphical form; biological data for extensive series of compounds should be presented in tabular form.

Active compounds obtained from combinatorial syntheses should be resynthesized and retested to verify that the biology conforms to the initial observation. Statistical limits (statistical significance) for the biological data are usually required. If statistical limits cannot be provided, the number of determinations and some indication of the variability and reliability of the results should be given. References to statistical methods of calculation should be included.

Doses and concentrations should be expressed as molar quantities (e.g., mol/kg, μmol/kg, M, mM). The routes of administration of test compounds and vehicles used should be indicated, and any salt forms used (hydrochlorides, sulfates, etc.) should be noted. The physical state of the compound dosed (crystalline, amorphous; solution, suspension) and the formulation for dosing (micronized, jet-milled, nanoparticles) should be indicated. For those compounds found to be inactive, the highest concentration (in vitro) or dose level (in vivo) tested should be indicated.

If human cell lines are used, authors are strongly encouraged to include the following information in their manuscript:

- the cell line source, including when and from where it was obtained;

- whether the cell line has recently been authenticated and by what method;

- whether the cell line has recently been tested for mycoplasma contamination.

Confirmation of Structure. Adequate evidence to establish structural identity must accompany all new compounds that appear in the experimental section. Sufficient spectral data should be presented in the experimental section to allow for the identification of the same compound by comparison.

List only infrared absorptions that are diagnostic for key functional groups. If a series contains very closely related compounds, it may be appropriate merely to list the spectral data for a single representative member when they share a common major structural component that has identical or very similar spectral features.

Submitting the Manuscript

Communication and log in to Author's Module All submissions to JHESP should be made by using Online Article Acceptance and Evaluation system on the journal web page.

Registration to System It is required to register into the Online Article Acceptance and Evaluation system (Journal Park) for the first time while entering by clicking "Create Account" button on the registration screen and the fill the opening form with real information. Some of the information required in form is absolutely necessary and the registration will not work if these fields are not completely filled.

Authors are expected to return to the entry screen and log on with their username and password for the submission. Please use only English characters while determining your username and password.

If you already registered into the journal park system and forget your password, you should click on "Forgot My Password" button and your username and password will be mailed to your e-mail in a short while.

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