# Measuring nursing competence with special regard to practical placement

*(Doctoral theses)*

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## Introduction

The strategic aim of the European Union is to develop into the most dynamic, competitive, knowledge-based area in the world by 2010. One of the keys to these initiatives is education, training together with the deve-lopment of competences and strengthening the connec-tion between economy and training. The competence-based approach puts greater emphasis on the effectiveness of nursing education, during which both the educational institution and the healthcare institution where the practical placement is performed have a decisive role.

Part of the studies suggest that the newly-graduates have adequate competences while others support that they lack clinical practical skills. Several governmental and professional organizations have called upon healthcare institutions to cooperate in order to improve practical training. In Hungary the concept of competence is not accurately defined in nursing, so there is no consent on what competency consists of. Literature in Hungary on nursing competence and its measurement is very poor, there are no comprehensive research results in this field.

There seem to be gaps between the preparation for competences offered by the educational institutions and the expectations of education by the healthcare institutions. 50-70% of the total number of lessons in the 4-year BSc education is practical training, a part of which takes place in healthcare institutions where real experience can be gained. The European practice shows that the higher educational institutions have only limited control over learning in clinical setting. It is a root of further problems that Hungarian nursing practice is fighting against a lot of problems, which endangers the quality of practical training due to the close relationship between education and practical training. The Hungarian research in healthcare still cannot cope with the challenge arising in the daily practice.

## Objectives

Working as a nursing educator in higher education, my experiences regarding the effeciency of practical placements, my colleagues' and the students' feedback, as well as the surveyed literature urged me to study what competences can be practised in Hungarian nursing and what problems are reported by the students concerning the effeciency of practical training and the cooperation of educational and healthcare institutions.

The **aims** of my study which is – as far as I know – unprecedented in Hungary are the following:

- to prove that Hungarian nursing practice offers similar possibilities to practice nursing competences as in Europe
- to support with objective data what competence domains should be developed and strengthened during training
- to prove that the international questionnaire is applicable to measure last-year undergarduate nursing students' competences as well
- to support the fact with data that the educational and healthcare institutions need to cooperate and I suggested some possible ways
- to reveal the factors that influence the efficiency of practical placements and the assessment of a student's practical skills.
- to contribute with data to the development of theoretical and practical education of the training institutions.

**Subject of study and methods**

The sample group consisted of students of 3 training institutions at 6 training sites. Selection of samples was carried out by random sampling, using a multi-step method. At first stage the training institutions, at second stage students graduated in 2007, and under-graduate students graduating in 2008 were selected. By involving the students graduated in 2007, my aim was to get to know the opinion of the participants on the labour market while by involving the students graduating in 2008 I wanted to reveal the experiences of those taking part in the training, concerning the types of competences that can be practiced in nursing.

- On the basis of the sources in the scientific literature **two questionnaires were elaborated** and used (Questionnaire I and II).
- **Questionnaire I consisted of 3 parts**. **Its first part** (later I/1.) was the official translation of EHTAN NCQ, which reflects the competences required in the European nursing practice at present, hence it can serve as a base of international comparison for the assessment of the competence of nurses graduated from Hungarian higher educational institutions taking part in nursing training. The EHTAN NCQ (European Healthcare Training and Accreditation Network Nurse Competence Questionnaire) focuses on 8 competence-domains (care delivery, professional and ethical practice, communi-cation, teamworking, health promotion, personal and pro-fessional development, assessment, research and deve-lopment). The frequency of performing each of the listed competences had to be rated on a four point scale (where never = 1, occassionally = 2, usually = 3, always = 4). The **second part** of the first questionnaire (later I/2.) included mostly demographic questions, as well as 11 close questions, which assessed previous work experience. The 34 statements in the **third part** of the questionnaire aimed to reveal the role of nurse training in higher education during the preparation for competences, especially to reveal the students' experiences regarding practical nurse training. Each statement was ranked on a 5-point Lykert scale (0= do not agree at all; 1= do not agree; 2= uncertain; 3= agree; 4= totally agree). The total sample of study involved N= 458 students (N = 123 students graduated in 2007 and N = 335 undergraduate students graduating in 2008; 17,2% regular, 82,7% correspondent students).
- **Questionnaire II consisted of three parts**; its aim was to reveal the practical skills and the factors influencing their assessment among undergraduate students graduating in 2008 from ETSZK SZTE (N= 94 students; 29 regular, 65 correspondent students). The questionnaires were completed during the 7th and 8th terms of the 2007/2008 academic year after each (8 diffe-rent) practical placement.The reason why Questionnaire II was completed only by undergraduate students gradu-ating in 2008 from Szeged University is that there are differences between the training institutions concerning the site, period and documents used for assessment so comparison of the training sites was not possible.
- **The first part of questionnaire II** (later II/1.) aimed to reveal the assessment of the complex competence-items, the **second part** (later II/2.) focused on the skill level of the activities the students had to aquire during the practical placement. The items of II/1. and II/2. were based on the practical reports developed by the staff of the Department of Nursing at ETSZK SZTE. The **third part** (later II/3.) consisted of 21 close questions, which were partly of demographic nature, partly they aimed to reveal the factors connected with the practical skill level.

I studied the so called problematic tasks which cannot be performed by the students after completing the placements, I specified the average practical skill level concerning the particular tasks, and I studied what factors influence the assessment of practical skill level.

Recording and analysis of data in both cases were performed by SPSS for Windows 15.0, statistical program package using describing statistical methods. Kruskal-Wallis test, Friedman-probe and ANOVA-test were used to measure the relationship between variables.

**Results**

**Questionnaire I.: Assessment of competence domains and practical placement**

***I/1. Assessment of competence domains***

*1. Comparison of self-assessment of competence-domains by training site*

I used the Friedman probe to compare the averages relating to competence-domains. Between the self-assessment of the studied competence-domains a significant difference was indicated. (p=,000) Care delivery was rated the highest among the competence-domains. Assessment and research and development recieved the lowest means. Kruskal-Wallis test was applied to prove that the estimation of competence

self-assessment do not differ significantly between the training sites – due to the level of measurement of the variables and adjustment to the international methodology. As for the 2007 students there was no significant difference between the training sites, while for the 2008 students the assessment of research and deve-lopment domain was significantly different.(p=,013)

*2. Comparison of self-assessment of competence-domains by types of training*

If we compare the competence self-assessment of all the regular students graduated in 2007 and 2008 with that of all the correspondent students, the Kruskal-Wallis test can prove that the regular students ranked the assessment domain significantly higher. (p=,036)

*3. Relation of self-assessment of competence-domains with the working period*

In accordance with the international literature, no significant correlation can be shown between working period in healthcare and/or social working area and the means of competence self-assessment.

*4. Self-assessment of competence - domains depending on the study achievement*

With the help of Kruskal-Wallis test a significant correlation could be indicated between the competence self-assessment and the estimation of study achievement. The poorer the students estimated their study achievement, the lower they ranked the personal and professional development (p=,003), professional and ethical practice (p=,001), research and development (p=,002) and teamworking (p=,021) domains. It needs further study to reveal why the assessment of the the above mentioned competence-domains are concerned.

*5. Self-assessment of competence-domains by students employed as nurses*

In order to be able to compare my study results with those of the international EHTAN project (nurses participating in the project were employed in surgical and general medical units), I paid special attention to the competence self-assessment of students working as nurses (nurses, middle-manager nurses together). The Kruskal-Wallis test did not prove significant difference in any aspects for the students employed as nurses (training sites, 2007 and 2008 regular and correspondent students), i.e. the conclusions valid for the total sample were valid for the sample of students employed as nurses.

*6. Self-assessment of competence - domains by posi-tions and units*

My aim by comparing the students employed as nurses with those not employed as nurses (do not work; do not work as nurses) was to support that the EHTAN NCQ is applicable to measure undergraduate nursing students' competences as well. On the one hand, I compared students employed as nurses to those who are not employed as nurses. On the other hand, students employed as nurses were compared to those working in other positions. Thirdly, competence self-assessment of nurses working at general medical and surgical units were compared to that of students employed as nurses as well as to the total sample. The Kruskal-Wallis test was performed for each analysing aspect and it could indicate significant difference only in the care delivery domain (p=,000).

*7. Comparison of study results in Hungary with international results*

The results of the Hungarian study and the international results have in common, that competence-domains of teamworking, professional and ethical practice, communication and care delivery are ranked among the first, the research and development competence-domain is the last in the rank. The communication, professional and ethical practice and teamworking competence-domains – although in the Hungarian rank professional and ethical practice is the second, communication is the third and teamworking is the fourth in the rank – fall behind the means of competence of the countries participating in the EHTAN project.

***I/3. Students' experiences regarding practical training***

The Friedman-probe performed to compare the participants' averages regarding the 34 statements showed a significant difference (p=,000) between the answers given to the particular statements. At the top and at the bottom of the rank both the 2007 and the 2008 students put the same statements. This fact calls our attention to the lack of balance between theoretical and practical training, the careful selection of training sites that meet the requirements of training objectives, the insufficient period and assessment of practical placements. The participants consider important the responsible mentor's control, their involvement in the process of planning the educational program and the assessment of practical placement.

**Questionnaire II** aimed to reveal the students' practical skill following 8 practical placements, and to recognize factors influencing the assessment of their practical skills. The results show that following each practical placement – depending on the practical setting – the students had so called problematic tasks that they could not perfom by themselves after completing the placement (depending on the practical tasks between 4%-56,52%). The ANOVA-test proved the significant role of 4 factors among the factors influencing the assessment of practical skill level:

- practical requirements considered to be reasonable,
- supervision of students during practical placement,
- the supporting atmosphere at the unit where the placement takes place, resulted a significantly better assessment of the practical skill.
- General assessment of practical placement had a reverse influence on the self-assessment of practical skill.

The answers given to the **open questions** to **Questionnaire I and II** support these data, and indicate the problems relating to the structural background, process and efficiency of practical placements. **Conclusions** In my study I surveyed the majority of the literature on Hungarian nurse competence and I found there is no integrated competence definition in nursing, which needs urgent discussion. The EHTAN Nurse Competence Questionnaire proved to be suitable to verify – according to last-year undergraduate nursing students and graduates working on the labour market – that the nursing process is not expected to be used as a working method and the practice of research and development competences is not required either. Strengthening these competence-domains by using student-centered educational methods is inevitable. I proved that the development of communication, professional and ethical practice as well as teamworking competence-domains is urgent in order to keep up with the international practice. I supported with data that the EHTAN Nurse Competence Questionnaire is applicable to measure last-year undergraduate nursing students' competences as well. I demonstrated with data that shortening the distance between theoretical and practical training is a need for both the students still taking part in the training and those who have already left training. In order to make practical placement efficient, it is necessary to have a supporting atmosphere during the practical placement and the constant supervision of mentors who emphasize the independence of students, as well as their involvement in the planning of the educational process and in the assessment of students. In order to measure the competences accurately, it is necessary to develop the documents used to assess practical placements to set real standards. To clarify the cause of opposing tendencies between the general view on practical placement and the self-assessment of practical skills needs further research.

**New findings of the study**

The literature survey on nursing competence and practical placement is gapfilling.

By the Hungarian and international comparison of the results of measuring nurse competences, the educational process and the professional requirements can be coordinated, and the nursing practice in Hungary can be compared to the international practice.

The EHTAN NCQ is applicable to measure last-year nursing students' competences right before graduation as well.

By revealing the experiences of the students taking part in the training and those working on the labour market concerning practical training I can provide data for the efficient improvement of professional training.

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**Összefoglalás**

Az ápolók képzését jelentősen befolyásolják az Európai Unió stratégiai döntései, a munkaerőpiac, valamint a hallgatók igényei. Az elvárásoknak jobban megfelelő képzések megvalósításának egyik lehetséges útja a kompetencia szemléletű oktatás, mely nagyobb hangsúlyt fektet a felkészítés hatékonyságára, a képzőintézmény és a területi gyakorlatot biztosító egészségügyi intézmény együttműködésére. A kompetencia fogalma tisztázatlan a hazai ápolási gyakorlatban, így nincs konszenzus abban sem, hogy a különböző szintű végzettséggel rendelkező ápolói munkakörökben mi az elvárt kompetencia. Bár az akadémiai fokozattal rendelkező ápolókra vonatkozó képzési és kimeneti követelmények tartalma megfelel a nemzetközi ajánlásoknak, hiányoznak a nemzetközi összevetésre alkalmas adatok a területi gyakorlatok hatékonyságára vonatkozóan. Kutatásomban az EHTAN NCQ alkalmazásával azonosítani kívántam a vizsgálatban résztvevők, – ezen keresztül az ápolói gyakorlat – fontosnak, ill. kevésbé fontosnak értékelt kompetencia területeit, valamint a felsőoktatásban folyó ápolóképzés területi gyakorlati oktatásra vonatkozó problémáit. A vizsgált 8 kompetencia-terület önértékelésére vonatkozó nemzetközi eredményekben az első négy helyen szerepel a team-munka, a szakmai és etikai gyakorlat, a kommunikáció és az ápolási ellátás nyújtása kompetencia terület, míg utolsó helyre került a kutatás és fejlesztés. A hazai vizsgálat eredményei hasonlóak az első négy kompetencia terület vonatkozásában, de a sorrend eltérő. Az ápolási ellátás nyújtása itt az első helyen áll, a kutatás és fejlesztés kompetencia-terület pedig az utolsó. A kompetencia-területek hazai rangsorában, a szakmai és etikai gyakorlat a második, a kommunikáció a harmadik, a team-munka a negyedik helyre került, nemzetközi viszonyításban azonban ezek értékelése a leggyengébb az országok között. Azaz a hazai ápolási gyakorlat kevesebb lehetőséget kínál e kompetencia-területek gyakorlására. A képzőintézmények között a kutatás és fejlesztés, a tagozatokat tekintve pedig az ápolási folyamat első szakaszának, a felmérés kompetencia-terület megítélésében volt megállapítható szignifikáns különbség. Problémát jeleztek az eredmények a képző- és egészségügyi intézmény együttműködésének szervezeti feltételeire, a területi gyakorlatok hatékonyságára vonatkozóan is. A gyakorlati készség-szintre ható tényezők között 4 faktor volt definiálható, melyek felhívják a figyelmet az oktatási intézmények területi gyakorlatot előkészítő munkájának, a gyakorlatot irányító mentorok tevékenységének fontosságára, együttműködésük lehetséges formáira. Szükség van továbbá a nemzetközi modellekhez jobban közelítő fejlesztésekre, valamint a hazai intézményeknél azonos szempontok szerinti gyakorlatszervezési megoldásokra.