Tutschner, Roland [Hrsg.]; Wittig, Wolfgang [Hrsg.]

Level Assessments of Learning Outcomes in Health Care and Nursing

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Am Fallturm 1, 28359 Bremen
Tel. +49 (0)421 218-66250, Fax +49 (0)421 218-66299
pkaune@ uni-bremen.de

www.itb.uni-bremen.de

Verantwortlich für die Reihe: Peter Kaune

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Zusammenfassung:

Das Leonardo da Vinci-Innovationstransferprojekt CrediCare verfolgte das Ziel der grenzüberschreitenden Übertragung und Erprobung eines Verfahrens zur Beschreibung und vergleichenden Niveaubestimmung von Lernergebnissen des Pflegesektors. Das Verfahren ist so konzipiert, dass seine Anwendung in Ländern mit unterschiedlichen Berufsbildungssystemen möglich ist und vergleichbare Ergebnisse erzielt werden können. Im Projekt CrediCare erfolgte die Umsetzung in fünf Ländern, die unterschiedliche Traditionen der Berufsbildung repräsentieren: Deutschland, Estland, Finnland, Frankreich und Irland. Die Projektaktivitäten basierten auf dem Instrumentarium des so genannten Äquivalenzvergleichs, dessen Methode darauf abzielt, berufliche Lernergebnisse inhaltlich zu erfassen und ihr Niveau anhand der Stufen des Europäischen Qualifkationsrahmens (EQR) zu bestimmen. Das hierfür verwendete Instrument, der Module Level Indicator (MLI), ermittelt das Niveau der Lernergebnisse durch 51 Items, die aus den EQR-Deskriptoren abgeleitet sind.

In der ersten Projektphase wurden berufliche Ausbildungsgänge im Bereich der Pflege in jedem der fünf Länder mit Hilfe des MLI begutachtet. Der vorliegende Bericht enthält die Ergebnisse dieser Arbeitsphase. Im Anschluss an ein einführendes Kapitel zur Methodologie des MLI werden die untersuchten Qualifikationen beschrieben und die Niveaueinstufungen der Lernergebnisse vorgestellt. Ein abschließendes Kapitel diskutiert die Ergebnisse in einer vergleichenden Perspektive.

Abstract:

The overall objective of the Leonardo da Vinci Transfer of Innovation project CrediCare was the transnational transfer, implementation and testing of a procedure for the description and comparative level assessment of units of learning outcomes in health care and nursing. The procedure in question is designed in a way that makes it possible to apply the tool in different VET systems and to achieve comparable results. The implementation in the course of the CrediCare project covered five European countries representing different VET traditions, namely Estonia, Finland, France, Germany and Ireland. The project activities were based on the methodology of the so-called equivalence check, whose purpose is to analyse vocational learning outcomes in terms of content and to situate them within the reference levels of the European Qualifications Framework (EQF). The instrument used for the analysis, the Module Level Indicator (MLI), estimates the level of learning outcomes by means of 51 items that are derived from the EQF descriptors.

In the first phase of the project qualifications and training programmes in health care and nursing were reviewed with the help of the MLI in each of the countries. The present report includes the outcomes of this phase. Following an introductory chapter on the methodology of the MLI, the qualifications from the different partner countries are described and the results of the level assessments of learning outcomes are presented. The concluding chapter discusses the findings in a comparative perspective.

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Introduction

Roland Tutschner, Wolfgang Wittig

Improving the mobility of workers and learners in Europe is one of the top priorities of European political initiatives, e.g. the Bologna Process (1999), the Copenhagen Declaration (2002) and the Maastricht Communiqué (2004). Whereas the Bologna Process is concerned with the establishment of a European Area of Higher Education (EHEA) and thus with improving the mobility of students and the transnational comparability of university degrees, the Copenhagen Declaration and the Maastricht Communiqué address the area of vocational education and training. The Copenhagen Declaration formulated general objectives such as support of mobility, transparency, recognition of qualifications and competences as well as establishment of common principles and criteria for quality assurance in vocational education. The Maastricht Communiqué envisaged the development of instruments to support the establishment of a European Area for VET, namely the European Qualifications Framework (EQF) and the European Credit System for Vocational Education and Training (ECVET).

The EQF was adopted in 2008 by the European Parliament and the Council as an instrument to promote national as well as transnational mobility and permeability. The EQF is an eight-level reference framework on the basis of learning outcomes. Its aim is to enable the description of qualifications in vocational and higher education on the basis of learning outcomes and to improve the lateral and vertical permeability between different educational programmes, levels and systems.

The description and transnational recognition of vocational learning outcomes is highly important especially in the sector of health care and nursing as the demand for qualified staff, particularly in geriatric and health care, can be expected to increase further due to the demographic change. Therefore concepts are needed to make nursing qualifications transparent and comparable at the national and international scale in order to lay the foundations for transnational mobility in this occupational sector. The CrediCare project aims to contribute to improving the transnational transparency and comparability of nursing qualifications and thus to promoting the mobility in the European health care and nursing sector. A key element is the Module Level Indicator (MLI), which was developed at the University of Oldenburg on the basis of the EQF during the ANKOM pilot initiative (2005-2007) and tested in a series of equivalence checks and accreditation procedures with VET and higher education programmes.

The MLI operationalises the EQF descriptors in 51 questions or items (see Müskens and Eilers-Schoof, in this volume). It allows to assign the learning outcomes associated with modules, learning fields and qualifications to the reference levels of the EQF. The present volume describes the results of applying this instrument to learning outcomes in health care and nursing. Nursing qualifications from five European countries (Estonia, Finland, France, Germany and Ireland) were comparatively assessed with the help of the MLI, and the level of learning outcomes in terms of EQF reference levels was identified. The level assessments of the modules or learning fields served as the basis of bilateral equivalence checks of national nursing qualifications carried out in the second phase of the project.

Before the MLI assessments could start, the qualifications or training programmes to be analysed had to be selected in the first project phase. The project partners decided to include VET programmes as well as programmes of higher education (see Table 1).

Country	Programme	Qualification	Duration (years)	Curriculum Input-/ Outcome-based	No. of Modules/ Units	Workload (hours)	Credits
Finland	Upper secondary VET (EQF Level 4)	Practical Nurse	3	Outcome	6 (15) modules	4,800	120
France	HE study programme (EQF level 6)	State Diploma in Nursing (Bachelor)	3	Outcome	35 units	5,100	180
Germany	Upper secondary VET (EQF level 4)	Geriatric Nursing	3	Input	14 learning fields	4,900 (instruction: 2,400; workplace training: 2,500)	(170)
Ireland	HE study programme (EQF level 6)	BSc Hons General Nursing	4	Outcome	31 modules	4,472	240
Estonia	Professional HE study programme (EQF level 6)	Basic Nursing	3.5	Outcome	11 modules	5,460	210

Tab. 1: Overview of the selected training and study programmes

In the second step the modules or learning fields of the selected qualifications were described with the help of comparative matrices. These matrices included information about contents, workload, learning methods, assessment methods as well as the relevant learning outcomes. The MLI questionnaire was translated into English, and the 51 items were discussed by the partners and national sector experts. Questions concerning the items were addressed by the partners from the University of Oldenburg in a detailed FAQ document. These annotations can be found in the annex to the MLI User Guide (see Müskens et al., 2013).

In the following step the project partners and the national experts carried out the assessment of the modules, learning fields or subjects by means of the MLI questionnaire. The completed MLI questionnaires were analysed at the University of Oldenburg, and the results were visualised by bar charts. The charts present the results of the MLI assessment according to the nine MLI scales (see Müskens and Eilers-Schoof, in this volume).

The opening chapter of the present research report describes the methodology of the Module Level Indicator. The subsequent chapters present the selected national qualifications from the health care and nursing sector in detailed national reports. More specifically, the chapters, which were prepared by the project partners from Estonia, Finland, France, Germany and Ireland, discuss the structure of the qualifications, their organisation, volume, the degree or qualification awarded, the access requirements and

the career opportunities associated with the different qualifications. The final part of each chapter presents the results of the national MLI assessments.

A summative discussion of the national reports and especially of the results of the MLI assessment takes place in the concluding chapter of this volume. This chapter addresses the results of the MLI reviews as well as the differences, particularities and levels of the qualifications.

References

Müskens, W.; Wittig, W.; Tutschner, R.; Eilers-Schoof, A. (eds) (2013): *MLI User Guide: Assessment of the Level of Competence Orientation.* Bremen: Institut Technik und Bildung (ITB), Universität Bremen.

Application of the Module Level Indicator (MLI) in the context of transnational comparisons of qualifications

Wolfgang Müskens, Anja Eilers-Schoof

1 The instrument

The Module Level Indicator (MLI) is intended to be an instrument for determining the level of learning units from different educational sectors.

It is a strictly structured assessment tool which comprises 51 items (criteria). These criteria that are due to be assessed by the assessor refer primarily to the knowledge and skills being taught as well as the method used for the assessment of the learning success of a particular learning unit.

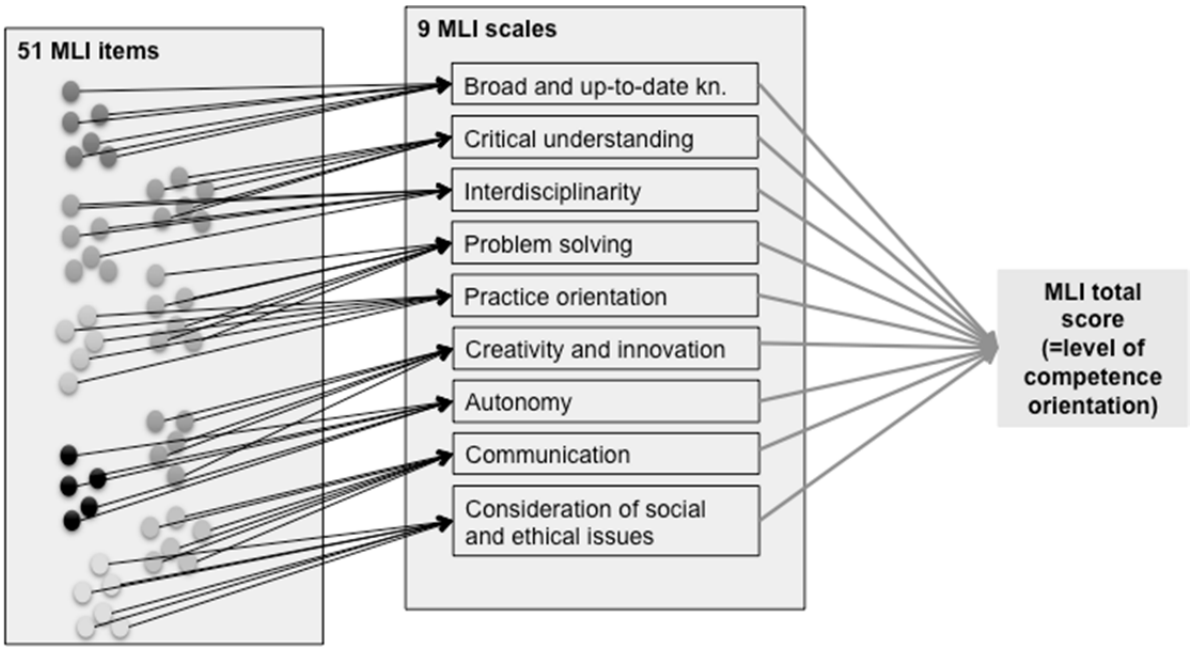


Fig. 1: Structure of the MLI

The 51 items for one particular learning unit are being merged into 9 measurement-theoretically developed and reliable outcome scales:

- The scale "broad and up-to-date knowledge" describes the scope, profoundness and up-to-dateness of the knowledge and skills imparted in the learning unit.
- The scale "critical understanding" describes in how far the theories, models and methods imparted in the learning units are being reflected upon critically.
- The scale "problem solving" describes if, and in how far, the students are confronted with complex problems in the learning units that are due to be solved by them independently through the application of cognitive and/or practical skills
- The scale "practical relevance" describes if, and to what extent, the study materials and assessments of learning success are related to the real demands of practice and practical problems.

- The scale "ability to work independently" describes the scope of independence and assumption of responsibility that is expected from the students in the learning units
- The scale "consideration of social and ethical issues" describes if, and in how far, social and ethical issues are being picked out as a central theme in the learning units.
- The scale "interdisciplinarity" describes to what extent a particular learning unit is related to other professions or disciplines, and to what extent it is able to teach students how to handle challenges in interdisciplinary contexts.
- The scale "Innovation" describes if, and in how far, the methods for the assessment of learning success of a learning unit confront students with novel and original problems that require creative approaches for finding a solution.
- The scale "Communication" describes to what extent students are being taught how to communicate information, ideas, problems and approaches for their resolution to fellow students, experts of the field and laypeople.

Knowledge	
Broad and up-to-date knowledge	The module comprises at least some profound inventory of knowledge that is state of the art within the field of expertise
Critical understanding	The module imparts an awareness of the limitations of the acquired skills and knowledge
Interdisciplinarity	The module comprises interdisciplinary problem statements whose resolution is based on the application of knowledge from various disciplines
Skills (1)	
Problem solving	The learning requirements and accordingly the examination assignments require a comprehensive application of cognitive and practical skills.
Practical relevance	The module imparts knowledge and skills that can be directly applied in practice
Innovation	The learning requirements comprise the development of new strategic approaches
Skills (2)	
Ability to work independently	The learning requirements call for independent action and a being proactive
Communication	The students have proven that they are capable of communicating their comprehension of their field of expertise to other individuals
Consideration of ethical and social topics	When resolving a problem, the students demonstrate consideration of others and solidarity with people who might be affected by their actions

Tab. 1: Scales of the MLI version 2.1 with sample items

2 Development of the MLI

From 2005 to 2007 the German Federal Ministry of Education and Research (BMBF) supported the pilot programme ANKOM, which aimed to improve permeability and progression between vocational and higher education (cf. Hartmann & Stamm-Riemer, 2006). In the course of this programme instruments and procedures were to be developed whose purpose was to support the accreditation of vocational learning outcomes in higher education.

One of the projects supported by the ANKOM initiative was the pilot project "Qualifikationsverbund Nord-West", in which the University of Oldenburg and the University of Bremen took part among others. One of the key activities of the project was the development of procedures for a blanket accreditation of vocational learning outcomes in university studies.

In the case of a blanket accreditation the extent of accreditation is determined once on the basis of a systematic comparison between the accrediting course of study and the vocational qualification to be accredited. This comparison is labelled "equivalence check". It examines as to whether learning units of the receiving programme and the qualification to be accredited correspond to each other in terms of content and level. If such a correspondence can be identified, the learning unit in question is recommended for accreditation.

Accordingly, the accreditation process involves the identification of levels of learning units in vocational and higher education. In the course of the ANKOM project "Qualifikationsverbund Nord-West" an instrument for the level assessment of learning units from different areas of education was developed. This instrument was termed Module Level Indicator (MLI) (cf. Gierke & Müskens, 2009).

Although the MLI was developed with a view to comparing learning outcomes from different educational sectors, it also allows for the comparative assessment of learning outcomes within one sector, e.g. in higher education.

The focus of the ANKOM project "Qualifikationsverbund Nord-West" (2005-2007) was on qualifications in business occupations and business studies. The Module Level Indicator was developed initially with a view to this vocational discipline (Müskens, 2007).

The subsequent project CREDIVOC (Transfer and Mobility through Accreditation of Vocational Learning Outcomes), which was supported from 2007 to 2009 within the Lifelong Learning Programme of the European Union, piloted a transfer of the instrument into the domain of engineering (Müskens, Tutschner & Wittig, 2009).

The extension of the instrument to other domains and vocational disciplines (e.g. Finance & Banking, Educational Sciences, Business Informatics) was supported from 2009 to 2012 in the context of the Open University programme of the German province of Lower Saxony (Müskens & Eilers-Schoof, 2013).

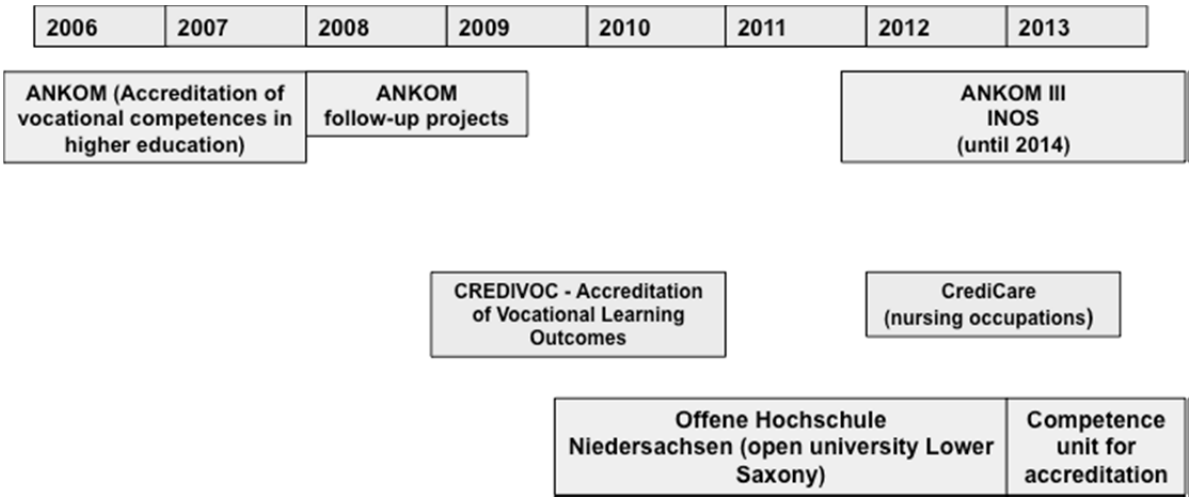


Fig. 2: Projects regarding accreditation of prior learning at the University of Oldenburg

The MLI was tested by the Carl von Ossietzky University of Oldenburg in cooperation with other German universities and universities of applied sciences (e.g. Braunschweig University of Technology, Jade Hochschule, University of Applied Sciences Bielefeld, University of Bremen).

The original version of the MLI was in German. The English version was developed in the course of the CrediCare project, which has been supported since 2011 within the Lifelong Learning Programme.

The development of the MLI addressed several objectives:

The MLI was meant to be applicable for learning units related to vocational qualifications, further education certificates, and academic degrees.

- Unlike qualifications frameworks, the MLI was to refer not to entire qualifications, but to components of qualifications (i.e. modules).
- The instrument was to be applicable in as many diverse disciplines and occupations as possible.
- The MLI was to be capable of analysing and evaluating learning units connected with any type of learning and assessment.
- The MLI was to enable a reliable identification of the level of learning units.
- The level identified by the MLI should correlate as highly as possible with the level that would be the result if learning units were referenced directly to the EQF.

In order to develop the MLI, statements and criteria were collected that have the potential to describe the level of learning in formal learning processes of adults. These statements were drawn from the following sources:

- the draft European Qualifications Framework for lifelong learning (EQF),
- the framework of qualifications for the European Higher Education Area (EHEA Framework) , and
- interviews with managers of German enterprises on relevant aspects of professional competence.

In 2006 a preliminary version of the MLI (version 1) was published. The instrument was revised on the basis of an analysis of items. The current version 2 of the instrument was subsequently released on 4 July 2007.

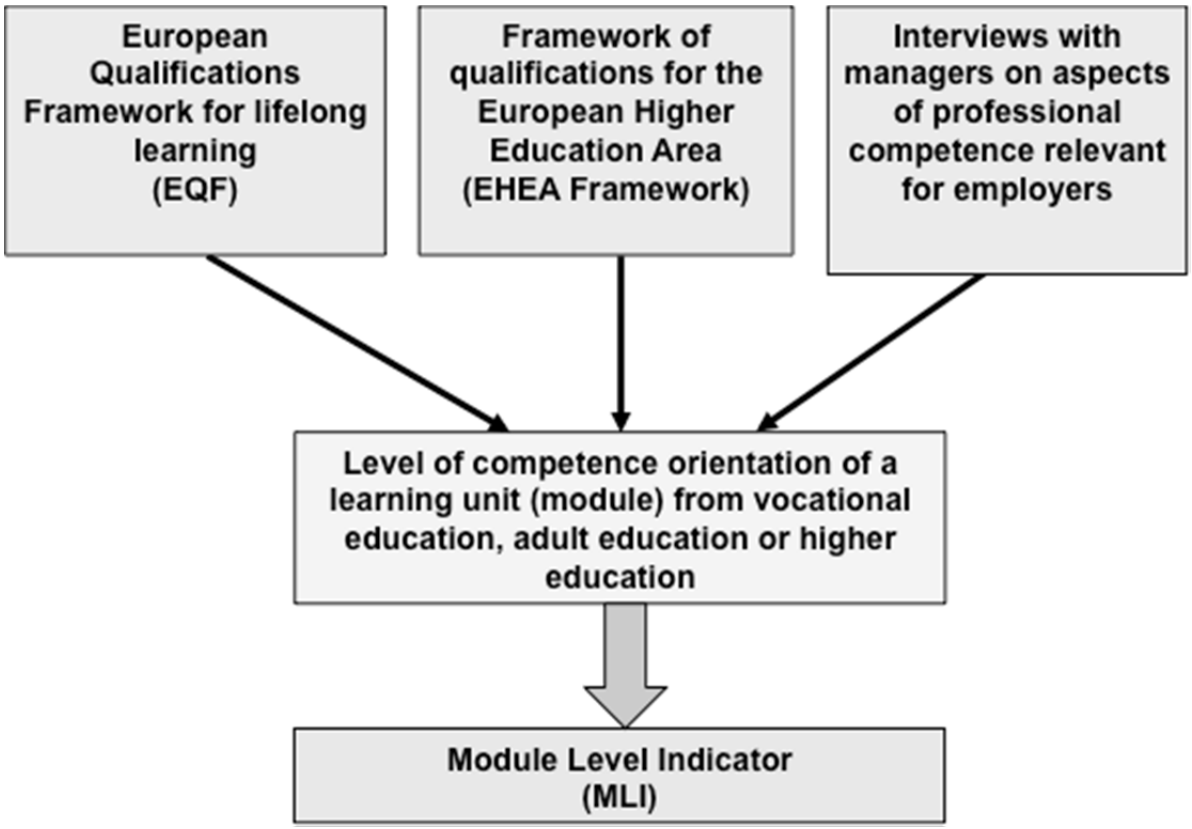


Fig. 3: Sources of the MLI items

3 Application of the MLI

As explained above, the MLI was originally developed in a project consortium oriented towards economics and business administration. It was used in this context for the accreditation of VET-based competences in university courses.

The first level comparisons took place between modules of a bachelor's degree in business administration on the one hand and learning units from various advanced vocational qualifications (certificates awarded by the chamber of industry and commerce) in the area of business and commerce on the other. Likewise, learning units related to various certificates of adult education providers were compared with modules of the bachelor programme in question (cf. Müskens, 2007).

Some of these learning units had a similar or equal level as those bachelor modules that are typically part of the initial phase and concern the fundamentals of the degree programme. Some particularly comprehensive qualifications from adult education and continuing vocational education featured learning units whose level was equal to average bachelor modules and sometimes even higher (cf. Müskens, 2007).

Similar results were observed in the area of engineering. These results were based on the comparison of initial and continuing training programmes in information technology with a bachelor's degree in business informatics (information systems). In this case, too, the level of certain learning units of the CVET qualification was higher than the corresponding modules of the bachelor's degree (cf. Hanft & Müskens, 2013).

Another level comparison was carried out in the juxtaposition of the vocational qualification of state-certified engineer (staatlich geprüfter Techniker) with a bachelor's degree in mechanical engineering. The level of some of the vocational learning units

was again equal to or higher than the level of the study modules (cf. Müskens, Tutschner & Wittig, 2009).

In economics as well as in engineering the MLI scores of the modules and learning units show that there are absolute MLI ranges that are "typical" for the bachelor's degree and its entry level.

The comparison of a specialist certificate in early childhood education and a bachelor's degree in inclusive early education also led to corresponding MLI scores for the modules and learning units reviewed (cf. Eilers-Schoof & Müskens, 2013). The absolute scores, however, were notably higher than in economics and engineering. Similar scores were achieved also in learning units in the areas of health and nursing. This can be attributed to the fact that ethical and social considerations play a more important part in these professional areas than, for instance, in engineering.

This leads to the conclusion that the MLI in its current version can be used for level comparisons within but not between disciplines or domains.

After the usability of the MLI had been tested at the level of various bachelor's degrees, there was the question as to whether the instrument was applicable for master's degrees as well.

In the field of mediation the MLI was filled in for study modules of a master's degree and learning units of a comprehensive certificate. The MLI analysis showed comparable scores for the study modules and the learning units, most of them above the bachelor (generic) level. The MLI procedure thus gave a reason to recommend an accreditation at the master's level (cf. Eilers-Schoof & Müskens, 2013).

Beside national qualifications, the MLI was also used for a closer look on international degrees. The equivalence check was realised between an international master's degree and a German master of innovation management. Some of the learning units could be assigned to the master's level or to the scope between the bachelor's and the master's level.

Completing the field of current applications, the MLI lead on to an interlocking of vocational qualifications and a bachelor's degree in the insurance, banking and finance sector. Important advices for the accreditation amount of the vocational qualifications were given and used for the transition to the course of study. Furthermore the course of study was shortened by accreditation. And with the close view on the MLI scales, changes within the content of some study modules were suggested (Hanft & Müskens, 2013).

The CrediCare Project is the first transnational setting in which the MLI is used. For an easier understanding in the following the result of an MLI assessment is visualised in a bar chart. The MLI diagrams first show the results of the 9 MLI scales. The bar on the right hand side represents the total MLI score. The values of the MLI scales are normalised. High values indicate that the scale in question is strongly realised.

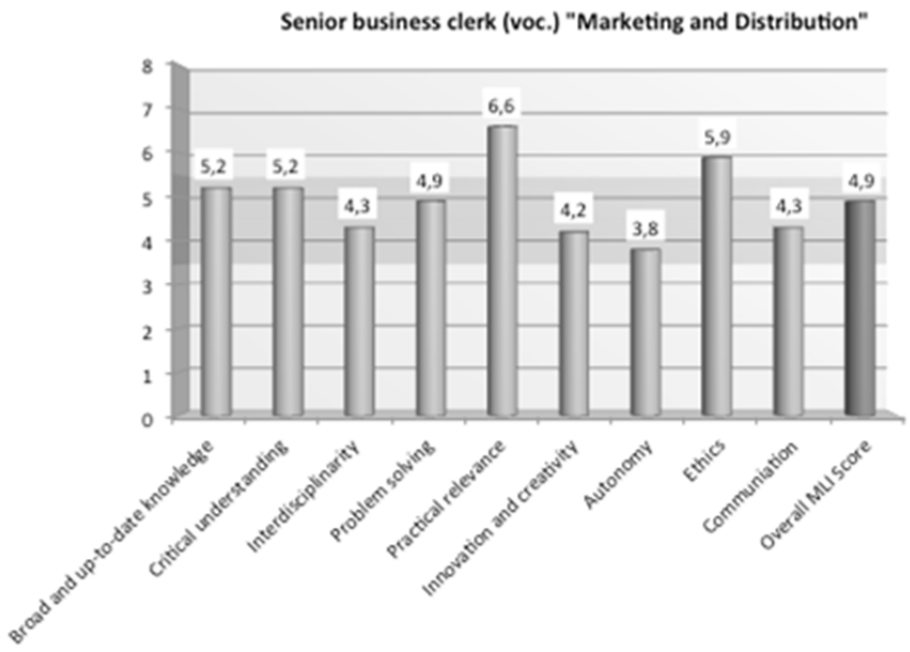


Fig. 4: Results of the MLI as a bar chart (example)

Summarising the different examples given above, they show a broad range of different applications of the Module Level Indicator.

References

Eilers-Schoof, A.; Müskens, W. (2013). Vom Äquivalenzvergleich zur allgemeinen Anrechnungsempfehlung: Eine Weiterentwicklung des Oldenburger Anrechnungsmodells. In: Hanft, A.; Brinkmann, K. (eds.), Offene Hochschulen - Die Neuausrichtung der Hochschulen auf Lebenslanges Lernen, Münster: Waxmann, pp. 248-257.

Gierke, W.; Müskens, W. (2009). Der Module Level Indicator – ein Instrument für qualitätsgesicherte Verfahren der Anrechnung. In: Buhr, R.; Freitag, W.; Hartmann, E. A.; Loroff, C.; Minks, K.-H.; Mucke, K.; Stamm-Riemer, I. (eds.), Wege zwischen beruflicher und hochschulischer Bildung, Münster: Waxmann, pp. 134-136.

Hanft, A.; Müskens, W. (2013). Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge: Ein Überblick. In: Hanft, A.; Brinkmann, K. (eds.), Offene Hochschulen - Die Neuausrichtung der Hochschulen auf Lebenslanges Lernen, Münster: Waxmann, pp. 223-234.

Hartmann, E. A.; Stamm-Riemer, I. (2006). Die BMBF-Initiative "Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge" – Ein Beitrag zur Durchlässigkeit des deutschen Bildungssystems und zum Lebenslangen Lernen. Hochschule & Weiterbildung (1), pp. 52-60.

Müskens, W. (2007). Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge – erste Ergebnisse des Modellprojektes "Qualifikationsverbund Nord-West". In: Hortsch, H. (ed.), Innovationen für die Durchlässigkeit von Studiengängen, Dresdener Beiträge zur Berufspädagogik, 24, pp. 37-49.

Müskens, W.; Eilers-Schoof, A. (2013). Neue Wege zwischen beruflicher und hochschulischer Bildung: Das Oldenburger Modell der Anrechnung in der Praxis. In: Hanft, A.; Brinkmann, K. (eds.), Offene Hochschulen – Die Neuausrichtung der Hochschulen auf Lebenslanges Lernen, Münster: Waxmann, pp. 235-247.

Müskens, W.; Gierke, W. B. (2009). Gleichwertigkeit von beruflicher und hochschulischer Bildung. Report – Zeitschrift für Weiterbildungsforschung, 32(3), pp. 46-54.

Müskens, W.; Tutschner, R.; Wittig, W. (2009). Improving permeability through equivalence Checks: An example from mechanical engineering in Germany. In: Tutschner, R.; Wittig, W.; Rami, J. (Eds.), Accreditation of Vocational Learning Outcomes – European Approaches to Enhance Permeability between Vocational and Higher Education, Impuls, 38, Bonn: BIBB, pp. 10-33.

Professional higher education for nurses in Estonia

Marii Haak, Krista Loogma

1 Background

1.1 Structure of vocational/professional education in health care and nursing

In the Estonian health care system, only the occupations of social care workers, massagers, and emergency medical technicians are taught at the vocational level while the all other professional profiles in the area of health care and social care are taught at the level of higher professional education. In the professional higher education system there are the following curricula: Health Promotion, Occupational Therapist, Basic Nursing Education, Nursing Education Specialisation, Midwife, Optometrist, Dental Technician, and Assistant Pharmacist. Tallinn Health Care College is one of the two health care colleges in Estonia providing professional HE for nurses (basic and specialisation) and midwives; and the only one providing education for occupational therapists, health promoters, assistant pharmacists, dental technicians and optometrists. In 2005 the Tallinn Medical School was renamed Tallinn Health Care College, and the school was linked with the previous Kohtla-Järve Medical School.

The first students started to study nursing at professional higher education level in 1996 and the first nurses were graduated with a professional higher education diploma in 2000. The nursing profession is a profession that is regulated at EU level, and the curriculum/study programme has been accredited on international level in 2008. The period of basic studies of nursing is 3,5 years. The study programme comprises 120 ECTS of theory studies and 90 ECTS of practicing in hospitals and health centres. Theory studies comprise also 276 hours of practical studies where all the students train their necessary procedures in simulation environment before heading to actual practice. During admission, the interest towards the studies is high with 3.5 candidates applying for one college place in Tallinn Health Care College (see table 1).

Generally, the professional qualification system established in 2000 in Estonia had 5 levels. However, the transformation of the system into an 8-level system according to the EQF is in progress. The main concept of the professional qualifications system is competence, which means that the system is conceptually based on competence and outcomes of curricula in HE. Generally, the qualification framework determines level by level the necessary competences the persons working in a particular profession should have. These competences, as a rule, are defined in curricula of HE as outcomes of modules and subjects. According to the regulation, modules and subjects are defined for all learning outcomes of the entire study programme.

Admission is one of the most significant stages in implementing the College's mission and aims. The objective of the admission process is to establish clear, transparent and unambiguous rules to ensure the applicants equal opportunities to apply for student/pupil places in the College's programmes. Rules for admission are defined in Admission Rules which are renewed each year. The rules take into account feedback from first-year students/pupils on the organisation of previous admission, experiences of the staff involved in admission procedures, and the expected number of state-funded student/pupil places. The entrance tests help form a body of motivated learners, which will create qualities for competitiveness in the labour market. Since 2008

the College has used the Admission Information System (SAIS) introduced by 13 Professional HEIs, 6 universities and 6 vocational educational institutions, who had formed a consortium.

The Admission Rules are made available on the College's website at least six months before admissions time. An e-mail address and telephone number are available for obtaining information all the year round. Curriculum-related information is available from the relevant chair via e-mail, telephone or through individual counselling on site.
The accession to the study programmes in nursing (e.g. basic nursing courses) is possible for persons having secondary level education, and passing entry exams. Since 2006 applicants have taken a computer-based test in the official language on equal basis, after that is the interview.

However, there are also study programmes (1 year) for working nurses who want to acquire another/additional specialisation (e.g. clinical nurse, health nurse) at HE level. And the entry requirements are almost the same. They have to write additional letter of motivation.

The education of nurses is school-based. Theory lessons take place in the classroom while work placements are implemented in hospitals. The study programme comprises 120 ECTS of theory studies with 90 ECTS of practicing in hospitals and health centres. Theory studies comprise also 276 hours of practical studies where all the students train their necessary procedures in a simulation environment before heading to actual practice. All Estonian curricula are performance based – following the outcomes, which are very clearly described in curricula.

1.2 Institutions and stakeholders involved

Stakeholders of the labour market (employers, employees, the state, trainers) are involved in all parts of the professional qualifications system. Additionally, each school has its own curricula board which consist of members also representing employers, different professional groups, teachers and students teaching and studying at the specific curricula. There are also institutions that are authorised to award vocational/professional certifications. These institutions are schools offering the respective study programmes, and in some cases specific professional associations. In the case of nurses (and other regulated professions) the professional certifications are very tightly related to the formal education and formal education certificates. For example, for working nurses, having nursing education at secondary VET level previously (before the beginning of 1990s), have possibility to take 2-year study programme, to specialise at HE level.

Tallinn Health Care College has defined its stakeholders and principal cooperating partners as follows:

Stakeholders:

The Republic of Estonia — society, local governments, the Ministry of Education and Research, the Ministry of Social Affairs and other state agencies; learners; employers; professional associations; foreign partners; College employees; alumni.

Principal cooperating partners:

The Ministry of Education and Research, Ministry of Social Affairs, National Institute for Health Development, North Estonia Medical Centre Foundation, East Tallinn Central Hospital, Tallinn Children's Hospital Foundation, Ida-Viru Central Hospital

Foundation, the main employers / practical training facilities / professional associations related to all curricula, Metropolia Ammattikorkeakoulu (Helsinki Metropolia University of Applied Sciences) (the Republic of Finland), and other foreign partners linked to College curricula.

The College as a unique competence centre is a cooperating partner to professional associations, and it takes an active role in advisory and decision-making bodies and in shaping regional and national strategies. The College supports the participation of its staff and learners in the activities of professional associations. Also, the College supports employees' participation in other bodies which mirror the specifics of their positions and the aims of the College. Employees participate as experts in public advisory and decision-making bodies.

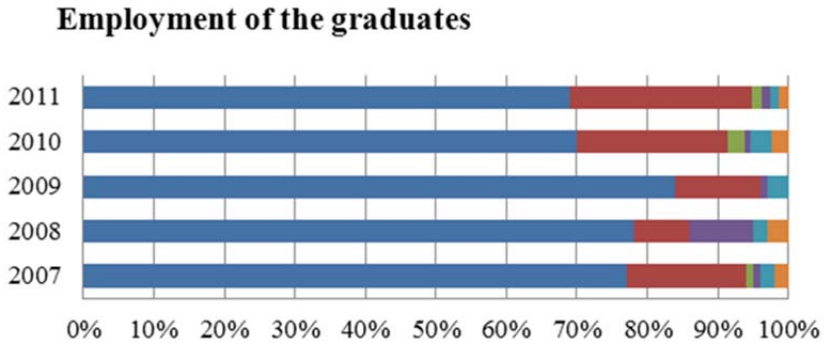
The more connected the partner is with the college the more responsibilities it has. They may simply respond to questionnaires in order to get feedback of the learning process, they might be involved in curricula board, in entry board, in graduation examination board etc.

1.3 Employment structure

The College has defined the general educational objectives in its development plan. The objectives are determined by the needs of the labour market that are based on the national priorities and field-related development plans. The College gets immediate feedback on the needs of the labour market through curriculum councils that involve representatives of employers and professional association.

Feedback from graduates shows that they wish to work or actually work in the acquired profession when graduating from the College.

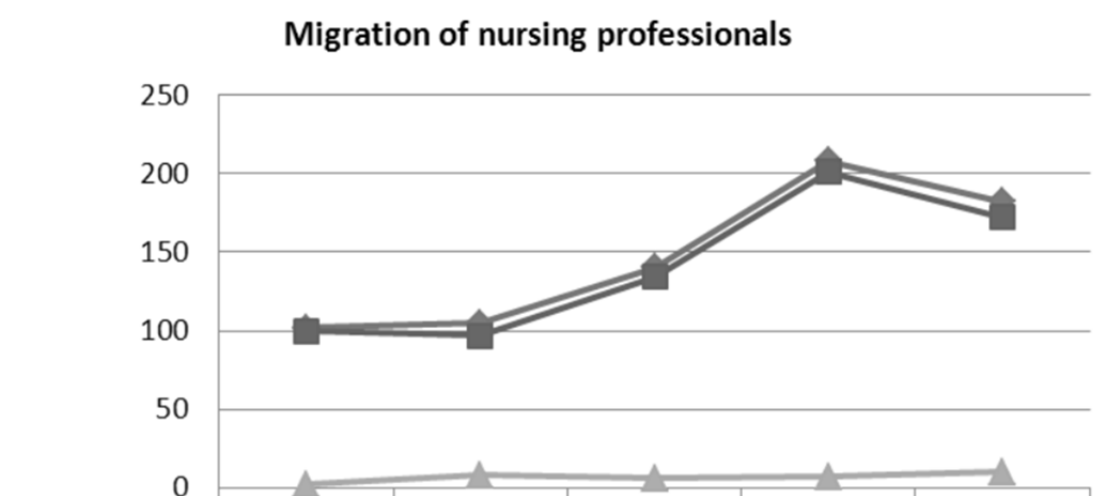
The College graduates are valued and competitive in their professions in the labour market outside Estonia as well, and start new businesses. According to the alumni survey of the Estonian HEIs in 2009, 83% of the respondents work in their professions or in closely related fields.



	2007	2008	2009	2010	2011
work in the acquired profession	77%	78%	84%	70%	69%
does not work or do not wish to disclose	17%	8%	12%	21%	26%
continues studies in Estonia	1%	0%	0%	2%	1%
study or working abroad	1%	9%	1%	1%	1%
child care leave	2%	2%	3%	3%	1%
non-professional work	2%	3%	0%	2%	1%

Fig. 1: Graduates with the intention to take up professional work

Migration of nursing professionals is showing a growing trend, as evidenced by the increase in numbers of nurse registration certificates issued by the Health Board in 2004–11. From this it can be inferred that the graduates of health care colleges are internationally competitive.



	2007	2008	2009	2010	2011
Total	102	105	140	208	182
Nurses	100	97	134	201	172
Midwives	2	8	6	7	10

Fig. 2: Migration of nursing professionals, 2007-2011 (statistics by the Health Board)

Generally, the health care workers' image in the society is rather low. However, the average net monthly wage in health and social care sector in 2011 was 672 euros, which is very close to the average of NACE 2008 in Estonia. Some efforts have been made to raise the status of nurses by increasing their responsibilities and introducing continuing education to the profession. The new Health Services Organization Act (2001) gave nursing care a legally well-defined status on a par with primary, specialist and emergency care. By and large, nurses and nursing in hospitals are acknowledged in their own right, by doctors as well as by patients.

Most of nurse-assistants, working in Estonian hospitals, do not have a medical education and they are not legally recognised as medical professionals in the Estonian health care system. Thus, they are also not registered as other health professionals (doctors, nurses, dentists and midwifes) in Estonia. So, we can only assume that the number of working care-assistants amounts to approximately 3,000 today. Even if there is a basic training for care-nurses in 3 nursing schools in Estonia, about 43% of graduates, soon after completing their main courses in nursing school, go to work abroad due to poor wages and working conditions.

According to the study carried out late in 2003 among health care professionals in Estonia, only 5% had definite plans to go to work abroad and 56% had intentions to go. However, it has been stated that the migration of health care workers is not a biggest problem in the Estonian health care sector. The major problem is that 6% of registered doctors and 13% of registered nurses do not actually work in the health care sector.

2 Description of the selected qualification

2.1 General overview

The aims of the College are to be an internationally recognised institution of professional higher education with a modern learning environment which provides education in the broad group 'Health and Welfare'; to promote, through applied research and development, the professions taught in the College; to influence health behaviours in the population; to contribute to the shaping of a healthy living environment; and to organise in-service training.

After having passed the basic nursing studies, according to the curricula the student is expected to have the following competences:

- Understands human being in its entity and can evaluate the human health necessities and health affecting factors;
- Understands the basic principles of nursing, proceeds from evidence based knowledge in the planning and applying of nursing procedures;
- In one's professional activity, proceeds from recognized ethic principles and takes the responsibility for one's professional skills;
- Is able to apply process-based nursing care by supporting, training and instructing the person, family and community in preserving health, prevention and recovering of diseases, and restoring well-being;
- In providing help to patient/client, applies team-work principles in cooperation with professionals from other health care fields in interdisciplinary team;
- Is prepared for lifelong self-instructing learning and development, and for evidence-based developing of profession.

After graduation an educated nurse is a partner and an independent specialist in a health care team. The nurse is able to make decisions concerning nursing activities and take responsibility for them. The nurse is able to perform nursing procedures, administer prescribed medication, consult a patient, advise him/her, evaluate the effectiveness of his/her own actions, and if necessary, cooperate with other members of the health care team. The programme prepares nurses to work with all age groups and with their knowledge the nurses operate as a connection between the health care personnel and doctors. Nurses are qualified to decide when nursing is not enough and the patient needs to see a doctor.

2.2 Organisation of the educational programme

The basic nursing education study programme consists of 12 modules: Nurse's personality and professional development; Basics of nursing; Clinical Nursing; Paediatric nursing; Intensive nursing; Health nursing; Mental Health Nursing; Human structure and functionality studies; Pharmacology; Research and development work methodology; Elective and optional subjects; Final work / final exam.

The College has defined the qualification requirements for the teaching staff and monitors the fulfilment thereof. Members of the teaching staff are specialists in their fields and professional practitioners who have teaching competences and readiness for self-improvement and lifelong learning.

The progress and study results of students are monitored by transparent rules. Student progress is supported throughout their studies. The College provides full-time

study in all curricula. The full-time study means the completion of 60 ECTS credits each academic year. The completion of the student workload is assessed twice in an academic year — in the end of the autumn and spring semesters. First-year learners' curricula contain an introduction to study skills.

Training involves contact learning, practical classes, field trips and practical training facilities. Training takes place in web learning environments such as Moodle, ÕIS and IVA.

2.3 Assessment and certification

The assessment in the College complies with the principles of outcomes-based assessment. The basic rules for assessment and the principles for challenges are formulated in the Academic Regulations, and comply with a regulation of the Minister of Education and Research that regulates the assessment. Differentiated or non-differentiated assessments are used in grading. The differentiated assessment is implemented in a six-point system; in the case of the non-differentiated assessment, it is assessed whether the learning outcomes have been achieved or not. On higher professional education the grading follows letters with A meaning 'excellent' etc.

As a rule, the member of the teaching staff who teaches the subject assesses the learning outcomes, except for a final paper, final examination, practical training, or large-scale independent work, such as a course paper, etc., where the relevant committee, including the representatives of employers and/or professional associations, decides on the grade. Assessment methods and criteria shall be established by a member of the teaching staff and he or she shall inform learners of them in the beginning of the module/subject in the SIS and the first lesson; in the case of e-learning the relevant information is made available in the corresponding web environment. The most common assessment method is a process-based grading which involves constant support for learners and feedback in the course of learning. Such assessment makes it possible to take into account the special characteristics of the learner and the obstacles that may emerge during learning (illness, taking care of a close relative, temporary economic hardship, etc.). Assessment methods have been selected on the principle that they would measure the achievement of learning outcomes. Based on the assessment methods, the assessment criteria are defined for each subject separately. Practical trainings are integral parts of curricula; they are carried out in cooperation with employers and enable the learner to acquire the expected knowledge and skills. The College attributes particular importance to the achievement of learning outcomes, and has a flexible attitude toward the forms of teaching and learning used. Assessment methods have been selected on the principle that they would measure the achievement of learning outcomes. Subject learning outcomes arise from module learning outcomes which in turn are based on curriculum learning outcomes. Consequently, the assessment of subject-based learning outcomes result in the assessment of the implementing of an objective of a curriculum after its completion. Based on the assessment methods, the assessment criteria are defined for each subject separately. Learners are eligible to take an examination, pass/fail evaluation, etc., up to three times. After an unsuccessful performance, the learner is eligible for consultation. The assessment procedure is governed by the Academic Regulations, is public and ensures equal treatment for all learners. Notifications of grades have deadlines (must be provided no later than 1 week after the last lesson of a subject), and grades are recorded in the SIS where each learner can see only his or her grades.

The procedure for the assessment of final papers and final examinations is established by the Guidelines for the Organisation of Final Examinations and Final Papers. There is one final examination which covers both the practical as well as theoretical part on vocational level. On professional higher educational level the one can also choose graduation theses. The tendency is to cover all necessary outcomes. There are examination board to carry out exams. The boards consist of members also representing hospitals and nursing homes beside faculty members. The examination questions are prepared in team work, each teacher responsible for his/ her module presents the questions for final examination. After graduation the students are awarded a diploma which is accepted across the European Union.

2.4 Transition points and perspectives

Admission is one of the most significant stages in implementing the College's mission and aims. The objective of the admissions process is to establish clear, transparent and unambiguous rules to ensure the applicants equal opportunities to apply for student/pupil places in the College's curricula. Rules for admission are defined in Admission Rules which are renewed each year. The rules take into account feedback from first-year students/pupils on the organisation of previous admission, experiences of the staff involved in admission procedures, and the expected number of state-funded student/pupil places. The entrance tests help form a body of motivated learners, which will create qualities for competitiveness in the labour market.

Admission competition by curriculum	2007/08	2008/09	2009/10	2010/11	2011/12
Professional HE	**3.8**	**3.4**	**3.6**	**5.4**	**5.3**
Basic Nursing Education	2.0	1.4	3.1	2.2	4.2
Basic Nursing Education (previous vocational education)	2.3	1.1	3.5	2.7	5.0
Nursing Education Specialisation — Health Nursing		1.5	0.9	1.1	1.1
Nursing Education Specialisation — Clinical Nursing					1.1
Midwife	2.8	2.9	3.8	6.1	8.0
Midwife (previous vocational education)			1.4		1.2
Assistant Pharmacist	3.6	2.7	5.1	3.9	4.9
Dental Technician	11.2	10.1		15.8	14.3
Optometrist	2.1	3.8	6.7	5.8	6.0
Occupational therapist		4.7		7.5	8.8
Health Promotion	2.9	2.3	4.2	3.1	3.2
Vocational training	**1.0**	**2.4**	**2.1**	**3.2**	**2.5**
Nurse Assistant / Care Worker	1.0	2.4	2.1	2.7	2.3
Emergency Medical Technician				3.6	2.6
Total	**3.5**	**3.3**	**3.4**	**5.0**	**4.8**

Tab. 1: Admission competition by curriculum in the 2007/08 to 2011/12 academic years (number of applicants per college place)

Since 2008 the College has used the Admission Information System (SAIS) introduced by 13 Professional HEIs, 6 universities and 6 vocational educational institutions, who had formed a consortium.

Since 2006 applicants have taken a computer-based test in the official language on equal basis. The College has a tradition of holding two Open Houses per year, and it participates in education fairs. Since 2004 the College has provided opportunities for intensive study of the official language to learners of different preparation levels to assist entry into the College. Official language courses are needs-based, such as preliminary courses offered at 30 or 60 ECTS credits, parallel courses at 30 ECTS credits, different programmes, etc. The official language study is analysed consistently and the findings are taken into account when preparing the programmes.

The number of state-commissioned education requests for the intensive study of the official language has been stable over the years: 90 student/pupil places (30 ECTS credits) and 30 places (60 ECTS credits).

In 2010 the College started to provide cyclical study in the Basic Nursing Education curriculum which supports adult (e.g., 30+) and working students to acquire the profession.

Teaching has expanded regionally. For example, in the 2011/12 academic year educational activities are carried out in Tallinn, Kohtla-Järve, Kuressaare, Pärnu and Kiviõli.

First-year learner satisfaction with admission procedures has been constantly high and somewhat higher than in reference HEIs. Improvement proposals from the feedback have been applied to the new Admission Rules each year.

		2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
comprehensiveness of information needed for entrance	our college	4.39	4.4	4.43	4.48	4.48					
	other colleges	4.21	3.27	4.37	3.97	4.13					
availability of information needed for entrance	our college	4.43	4.49	4.48	4.53	4.42					
	other colleges	4.34	3.52	4.48	4.48	3.85					
obtaining additional information from the college	our college	4.27	4.39	4.26	4.35	4.32					
	other colleges	4.17	3.61	4.22	4.14	3.7					
organisation of the receipt of admission documents	our college	4.49	4.66	4.46	4.72	4.55					
	other colleges	4.53	3.91	4.32	4.19	4.21					
learning about admissions results	our college	4.53	4.69	4.7	4.69	4.64					
	other colleges	4.34	4.09	4.47	4.43	4.25					

Fig. 3: First-year learner satisfaction with the organisation of admission (in a 5-point scale)

The College provides equal opportunities to all applicants. The Admission Rules are made available on the College's website at least six months before admissions time. An e-mail address and telephone number are available for obtaining information all the year round. Curriculum-related information is available from the relevant chair via e-mail, telephone or through individual counselling on site. Curricula and the learning, work and RDC environments are adjusted for learners with special needs, to ensure that each

learner has an opportunity to study and develop. Learners with special needs have an opportunity to consult with the relevant chair which will identify the suitability of the profession and the conditions necessary for completing the studies. The College was granted funding for the 'Improving Access to College Buildings and Ensuring Fire Safety' project through the 'Learning Environment of Institutions of Professional Higher Education' sub-measure of the 'Learning and Work Environment of Institutions of Higher Education, Research and Development' measure for the period 2011–13. The objective of the project is to provide learners and staff who have physical disabilities with safe access to college buildings in Tallinn and Kohtla-Järve, and safe movements within the buildings, as required by their studies, work and personal needs. As a result of the project, people with disabilities/special needs will be able to study and work at the College, and the general public and representatives of organisations will be able to use the college facilities due to improved mobility conditions.

Under the Primus Programme, students with special needs can apply for a scholarship to cover additional costs related to their special needs and studies. The scholarship can be applied to pay for periodic support services (e.g. a personal assistant, sign language interpreter, transportation for the disabled) and one-time or irregular services (e.g., an aid needed for learning).

A survey on the admissions organisation is conducted among first-year students each year in September, and the level of satisfaction with the learning environment by learners of the second through the last courses is surveyed each November. The results are presented on the intranet and bulletin boards, and are analysed by chairs/departments and the College Council. The results of the analyses are used in improvement activities. The learners are informed about the results of the feedback by means of the website, bulletin boards, discussions, etc.

The College has had an effective system for recognising prior learning and work experiences since 2006, and it is regularly reviewed and improved. The procedure governing the system in the College has been made public on the website. In 2008 a position with 0.5 workload for a Specialist for Recognition of Prior Learning and Work Experiences was created, whose primary duties are to counsel applicants and organise transfers of credits.

In cooperation with the Health Board, the College offers the possibility to take an examination in theory and practice for people who are not entered in the National Register of Health Care Professionals, but have qualifications in nursery or midwifery and wish to return to professional work.

After graduation from basic studies of nurses it is possible to continue one's studies in specialising studies that lasts one year. Basically it is the studies on the same level as basic studies i.e. the first level of higher education. Master level studies of nursing are opened at the University of Tartu, lasting for 3 years. 10-15 students are accepted every year to Master studies.

3 Results of the MLI assessments

3.1 Implementation of the MLI procedure

The implementation of the MLI procedure started in May 2012 in cooperation with Tallinn Health Care College. In May a six-member study group was formed to carry out the learning outcome based investigation of the modules and the subsequent

application and completion of the MLI questionnaire. The study group included Tallinn Health Care College personnel in the composition of the Vice-Rector of Academic Affairs, the Head of the Chair of Nursing, the Head of the Department of Vocational Education, one Lecturer-assistant in the Chair of Nursing, one Lecturer-teacher in the Chair of Nursing and one administrative staff member. The matrices for the description of modules were completed in cooperation with the heads of each module as the latter were estimated to have the best overview of the module in general and the subjects taught in the curriculum in terms of their aim, learning outcomes, volume etc. The process of collecting data and the analyses of the modules was completed by September 2012.

The process of completing the MLI started in October 2012 and ended in November 2012. In order to fill in the MLI questionnaire, six members of study groups worked in pairs of two to carry out interviews with the heads of the modules. Two pairs conducted three interviews and one pair four interviews. In total all the ten interviews were completed according to the MLI structure. Beforehand the work group studied in details the MLI FAQ document to be familiar with the relevant terminology and to construct a common structure to be followed during the interviews. Also, as a result, the MLI questionnaire was translated into Estonian. All study group members confirmed that the translation corresponded to the original questions, and all education system differences were taken into account. Heads of the modules were asked to peruse the translated MLI questions and the MLI FAQ document in English before the interviews. In case of importance, the content of the questions were explained during the interviews. All interviews were recorded in case of further needs. At the end of November the completed MLI sheets were sent to University of Oldenburg to get the MLI results.

3.2 Selection of modules

The Basic Nursing Education curriculum in Tallinn Health Care College includes 12 modules, whose volume ranges from 5 ECTS to 45 ECTS. Two modules – Elective or Optional Subjects and Final Work/Exam were not found relevant in this particular case. The matrices and MLI questionnaires were completed for 10 modules, which are directly related to the profession - Personal and Professional Development of the Nurse, Foundations of Nursing, Clinical Nursing, Paediatric Nursing, Intensive Nursing, Health Nursing, Mental Health Nursing, Teaching of Human Anatomy and Vital Functions, Pharmacology, Research and Development Methodology.

The modules were not restructured or divided into smaller sub-models in order to make them more comparable with other qualifications as the modules are structured in a way that makes them inseparable. For example, the Research and Development Work Methodology module consists of the subjects Research and Development Work Methodology I – IV. As the aim and the learning outcomes of each subject are similar and dependent on each other, we did not find a possibility to separate them. This is the question of several other modules as well.

3.3 Results by module

1. Personal and Professional Development of the Nurse

The objective of the module is to support the development of students' personality, knowledge and skills for working as a nurse in health care and social sphere. The module includes supportive subjects like Learning and Teaching, Psychology, Leadership and Teamwork, Social and Health Care System, Pre-diploma Internship.

In general, the learning outcomes expect the students to have a basic knowledge in psychology, including the knowledge about developmental psychology and the ability to assess one's development process in becoming a nurse. Also, the module requires demonstration of skills for team work and project work. Students are expected to have knowledge in Estonian social and health care systems and skills to support and promote health on community level.

2. Basics of Nursing

The purpose of the Basics of Nursing module is to develop systematic knowledge about nursing and the module prepares students for offering nursing aid based on systematic and continuous ethic principles. The module consists of three subjects, which cover topics like ethics, nursing philosophy and different theories in nursing, nursing history and internationalisation, infection control, nursing process, first aid.

Learning outcomes of the module require knowledge in above-mentioned topics, integration of those topics to practical work and demonstration of the nursing and first aid procedures.

3. Clinical Nursing

The aim of the clinical nursing module is to develop knowledge in clinical nursing and readiness for offering quality nursing aid. The module includes subjects such as internal nursing, surgical nursing, clinical nursing activity and practical training. Besides internal and surgical nursing, those subjects cover themes like neurology, clinical chemistry, gynaecology, genetics.

Some of the learning outcomes are directly connected to the module objective, as recognising patient's needs and nursing problems in case of surgical and internal diseases and demonstrating the nursing procedures of clinical nursing. Some are rather general learning outcomes, which support the direct ones. Examples include teamwork skills, the patient's preparation for necessary examination, and critical evaluation of one's work.

4. Paediatric nursing

The objective of the paediatric nursing module is to develop students' knowledge and readiness for offering quality nursing aid for children and their families. The module includes subjects such as pediatric nursing I and II and practical training.

After having passed the module, students are expected to have the skills for child's growth and development assessment, the child and the family support and performing nursing procedures of paediatric nursing. Also, students are expected to value the importance of individual responsibility, and teamwork, describe and demonstrate attitudes and value judgments in caring for children and family.

5. Intensive Care Nursing

The purpose of the intensive care module is to develop knowledge and skills for offering nursing aid to patients in need of intensive care, and to their families. Module includes theory and practical work in the field of intensive nursing.

Having passed the module, students are expected to handle the situations and illness cases that need intensive care and pathological processes that influence vital functions. The module requires knowledge in treatments most widely used in intensive care. Students are expected to demonstrate nursing procedures of intensive care and the algorithm of reviving on adult/child by selecting appropriate assisting measures for reviving a patient.

6. Health Nursing

This module aims to create the possibilities to understand the principles of health nursing as a complex system and for applying it in team work, for promoting healthy behaviour in all age-groups, valuing the client and family centeredness in a multicultural society. It includes theory and practical training.

The learning outcomes in this module expect the students to offer nursing aid to patients of all age- groups, evaluate critically their living environment, recognize and define the health problems of population and understand the system of health nursing. As supportive learning outcomes, the module requires critical evaluation and use of evidence- based knowledge in one's work.

7. Mental Health Nursing

The objective of the Mental Health Nursing module is to develop knowledge, values and skills for offering nursing aid in the area of mental health in cooperation with an interdisciplinary team in health and social care. The module includes theory and practical training in the field of mental health nursing.

Learning outcomes of this module concentrate on knowledge and principles of mental health, and the legal acts regulating the area mental health care. Students are expected to know the most widely spread mental disorders, their symptoms, influential factors and treatment.

8. Anatomy and Vital Functions

The aim of the anatomy and vital functions module is to shape knowledge of the development, building and vital functions of both, healthy and sick human body. The module consists of the subjects Human Structure and Functionality Studies I, II and III.

The module requires knowledge in development, construction and operation of the human body and physiological and pathological processes regulating thereof and related key terms in Estonian and Latin.

9. Pharmacology

The purpose of the pharmacology module is to provide an overview about the basic principles of pharmacology, the different forms of treatment and medication, and enable students to understand the mathematical calculations for the determination of medications.

Having passed the module, the students are expected to know the effect of medications, different forms of medications, ways of administering medications, the general principles of treatment in case of medication poisoning. Students are expected to be able to apply mathematical calculation during the administering of medication.

10. Research and Development Methodology

The aim of the Research and Development Methodology module is to develop knowledge about the principles and objectives of research in nursing science, and developing readiness for conducting research by using evidence based knowledge in order to develop the profession.

The requirements of the module expect students to know the principles of scientific way of thinking, the principles of the process of research and basics of research in nursing science, know the nursing terminology in Estonian and English and be able to use the scientific databases. To graduate from the curriculum, students are expected to defend a final thesis or carry out a final development project.

3.4 Notable findings in relation to the MLI scales

In all modules the total MLI level is around 6.0 with the lowest score at 5.5 and the highest score at 6.74. In most of the modules the creativity and innovation dimension is remarkably lower than others. In comparison with the learning outcomes, we find the result to be accurate as the curriculum is based on applied higher education, which doesn't require students to put much emphasis on innovative and creative approach. In some cases it even inhibits innovation and creativity as the approach in nursing may be very strict in some criteria.

Other dimensions are throughout the modules relatively on the same level with some notable score differences, which are certain module specific. For example in the module Personal and Professional Development of the Nurse it is particularly high consideration of social and ethical issues dimension. That is due to the reason that learning outcomes of subjects taught in the module – Psychology, Management and Teamwork, Social and Health Care Police require students to focus on social and ethical aspects. At the same time most of the modules don't put so much emphasis on those matters.

References

Basic Nursing Education Study Programme (2009)

European Federation of Public Service Unions - Estonia: health care reforms, Online http://www.epsu.org/a/2242

Poolakese, A. (2011) Tervishoiutöötajate tunnipalk märts 2011. Tervise Arengu Instituut, Tervisestatistika osakond

Tallinn Health Care College Institutional Accreditation Report (2012)

Finnish health care VET – the case of practical nursing

Marja-Leena Stenström, Mira Väisänen, Seija Rossinen, Rea Tuominen, Pirjo-Liisa Laakkonen

1 Background features of the Finnish education system

This Finnish article is part of the CrediCare project "Quality-oriented Accreditation of Vocational Learning Outcomes in Health Care and Nursing" within the Lifelong Learning Programme launched by the European Commission. The article begins with general information about the Finnish education system. It is followed by a description of the vocational qualification of social and health care in vocational education and training, and the module structure covered by the MLI procedure. Finally, the article presents the findings of the modules of the MLI tool.

Finnish education and science policy stresses quality, efficiency, equity and internationalism. The priorities in educational development are to raise the level of education among the population and the labour force, to improve the efficiency of the education system, to prevent children's and young people's exclusion and to enlarge adults' opportunities in education and training. Special attention is also paid to better impact and internationalisation of education (Finnish Ministry of Education and Culture, 2012).

Basic education is free nine-year education provided in comprehensive schools. Completing the basic education syllabus gives eligibility for all upper secondary level (post compulsory level) education. This is divided into general education and vocational education and training, as shown in Figure 1. General upper secondary schools provide a three-year general education programme which leads to the national matriculation examination. Vocational upper secondary schools (initial vocational education) also provide three-year study programmes, and these lead to vocational qualifications. There are 119 study programmes leading to 53 different vocational qualifications confirmed by the Ministry of Education and Culture. Vocational education and training is intended both for young people and for adults already active in working life. A vocational qualification gives general eligibility for polytechnic and university studies.

Students in upper secondary schools have also the option of studying for both a vocational qualification and the matriculation examination at the same time. Both forms provide eligibility for further studies at polytechnics (universities of applied sciences) and universities. Adult education and training is available at all levels (Ministry of Education and Culture, 2012).

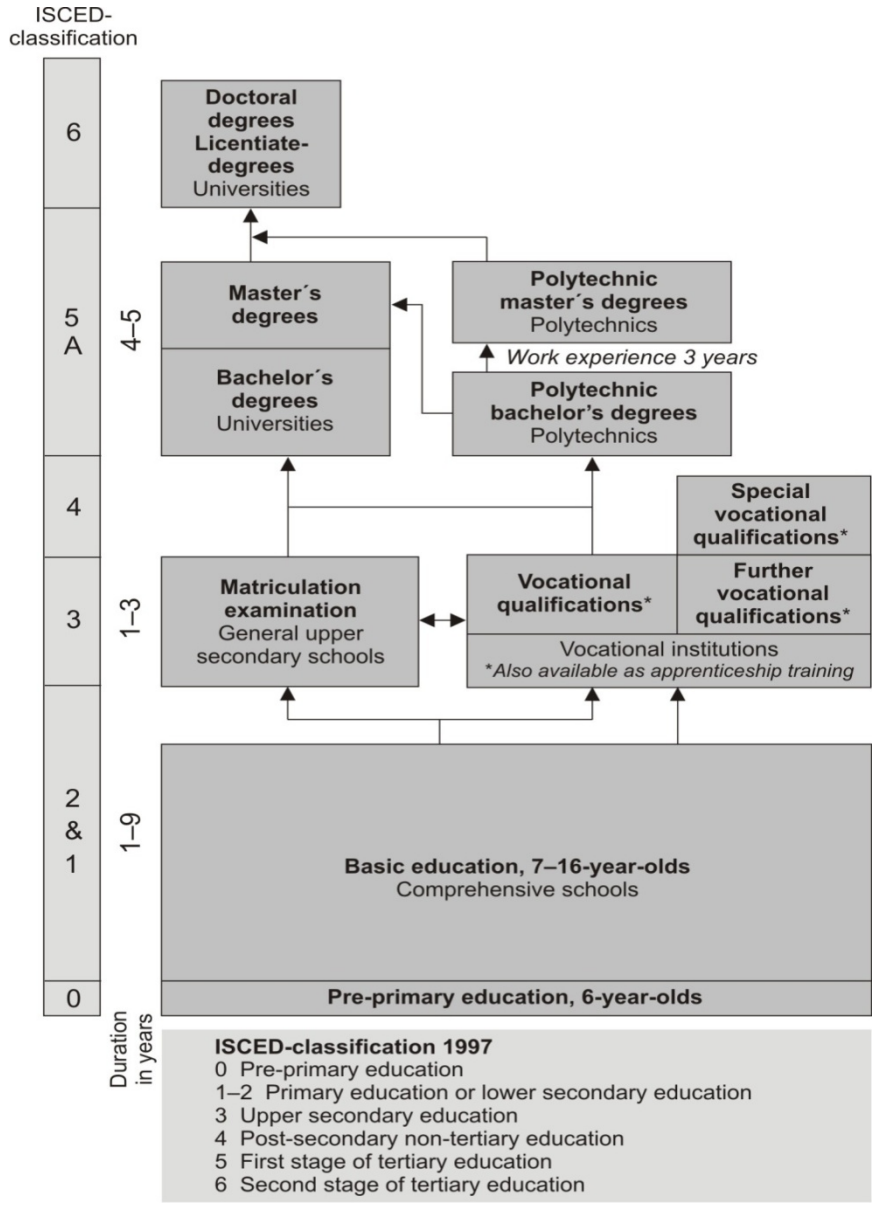


Fig. 1: Formal Education in Finland (Source: http://www.minedu.fi/OPM/Koulutus/koulutusjaerjestelmae/?lang=en)

1.1 Vocational education and training (VET)

The aim of vocational education and training is to improve the skills of the workforce, to respond to skills needs in the world of work and to support lifelong learning. VET comprises initial vocational training and further and continuing training.

Initial vocational education and training is built on the basic education syllabus. Vocational qualifications consist of 120 credits and take three years to complete. One year of study consists of 40 credits, with one credit equivalent to 40 hours of study by an average student (includes contact hours, preparation, assignments, etc.). The qualification includes at least 29 credits of on-the-job learning. The duration of studies is up to 40 credits shorter for those who have completed the general upper secondary school syllabus. Prior learning acquired in training, working life or other learning environments can be credited for the qualification.

Vocational qualifications can be completed in one of the following three ways: 1) school-based education and training, 2) apprenticeship training, or 3) as competence-based qualifications. School-based education and training is the most common, and it is carried out in vocational institutions. Apprenticeship training is based on an employment agreement (apprenticeship contract) between a student and an employer and confirmed by the education provider. The third route to a vocational qualification is through a competence test administered by a qualification committee. These competence tests have been used since the year 1994 (Finnish Ministry of Education and Culture, 2012).

1.2 Higher education system

The higher education system consists of polytechnics (also known as universities of applied sciences; in German Fachhochschule), and universities, and admission requirement is a secondary general or vocational diploma. Polytechnics are practically oriented and their mission is to train experts to serve the working life and carry out research and development (R&D) in supporting educational and regional development. The first polytechnics started to operate on a trial basis in 1991−1992 and the first were made permanent in 1996. By 2000 all polytechnics were working on a permanent basis. Polytechnic education is provided in the same fields as in vocational education and training (Finnish Ministry of Education and Culture, 2012).

The Bachelor Degree of Health Care includes the Degree Programme in Nursing. Students in the degree programme graduate as nurses who are experts in their fields. They can respond to the health care needs of individuals, families and communities. Graduates from the nursing programme can work in specialist health care or basic health care both in the public and private sectors.

The programme consists of 120 credits and takes about 3.5 years to complete. The bachelor's degree corresponds to a bachelor's degree at scientific university level (Act 426/2005, 10 §) and EQF level 6. The degree consists of basic and subject-related studies, practical training, bachelor thesis and elective studies. Practical training, which represents one third of the nursing studies, is implemented in several phases in various health care environments.

1.3 Adult vocational education and training

Adult education is designed to provide study opportunities for adults. Adult education is provided at all levels of education. Adults can study for vocational qualifications and further and specialist qualifications, or study in further and continuing education without aiming at a qualification. Qualifications in vocational adult education and training are carried out as competence-based qualifications and thus enable working-age adults to gain qualifications without necessarily attending formal training. However, most candidates have taken part in some preparatory training. In competence tests, adults demonstrate their vocational skills regardless of where or how skills have been acquired (Finnish Ministry of Education and Culture, 2012).

The system of competence-based qualifications is the most established form of recognition in the Finnish vocational education system. Recognition of prior learning is of great importance in Finnish vocational education and training (VET) structure through the development of competence-based qualification system. These qualifications can be demonstrated and recognised in officially approved practical skill

tests. Candidates can take their exams after or during formal training (Nevala, 2007; Stenström, 2009). Initial vocational education provides preparation for initial vocational qualifications. Preparatory training for candidates of further and specialist vocational qualifications is arranged by additional and supplementary vocational training (Nyyssölä 2004).

1.4 Institutions and stakeholders

The Ministry of Education and Culture is the highest education authority in Finland. It supervises publicly subsidised education and training provision (from primary and secondary general education and vocational training to polytechnic, university and adult education). The Ministry of Education and Culture and the National Board of Education are responsible for implementing education policy (Finnish Ministry of Education and Culture, 2012). National qualification requirements are drawn up by the Finnish National Board of Education in co-operation with employers' organisations, trade unions, the Trade Union of Education and student unions. They are dealt with by National Education and Training Committees, which are tripartite bodies established for each occupational field by the Ministry of Education and Culture for a term of three years at a time to plan and develop vocational education and training. Qualification requirements for upper secondary vocational qualifications and requirements for competence-based qualifications are common to education and training for young and adult students.

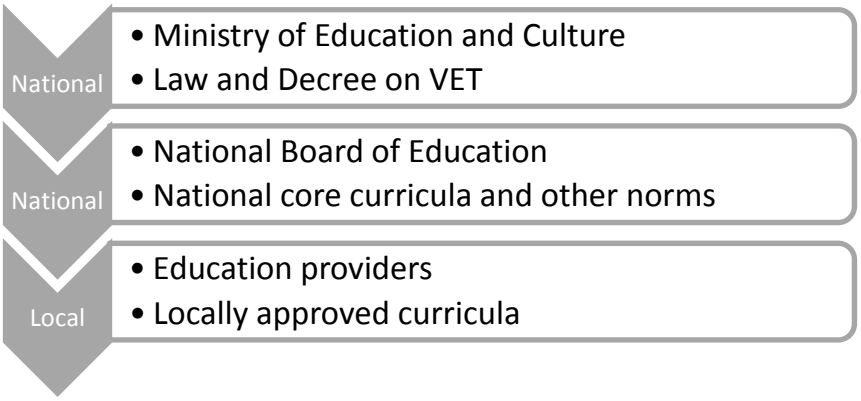


Fig. 2: Organisation of the educational programme

The education providers decide matters within this statutory framework. Vocational education and training providers are responsible for organising training in their areas, for matching provision with local labour market needs, and for devising curricula based on the core curricula and requirements. They also decide independently what kind of institutions or units they run.

A VET provider may be a local authority, a municipal training consortium, a foundation or other registered association, or a state company. There are around 210 VET providers in Finland. The majority of vocational institutions (usually VET institutions) are maintained by local authorities, joint municipal authorities and the state. 40% are maintained by private organisations but only 20% of students study in institutions maintained by private organisations. Funding criteria are uniform irrespective of ownership (Finnish Ministry of Education and Culture, 2012; Finnish National Board of Education, 2012).

2 Overview of the vocational qualification of social and health care in VET

2.1 Study programmes of the social and health care sector in VET

The field of Social Services, Health and Sport includes the following qualifications (Finnish National Board of Education, 2010):

- Vocational Qualification in Beauty Care
- Vocational Qualification in Dental Technology, Dental Laboratory Assistant
- Vocational Qualification in Hairdressing, Hairdresser
- Vocational Qualification in Pharmaceutics
- Vocational Qualification in Social and Health Care, Practical nurse
- Vocational Qualification in Sports, Sports Assistant

These qualifications represent the EQF level 4.

Study Programme or Specialisations for vocational qualification (VQ) in Social and Health Care (Finnish National Board of Education, 2010):

- Customer Services and Information Management
- Emergency Care
- Rehabilitation
- Children's and Youth Care and Education
- Mental Health and Substance Abuse Welfare Work
- Nursing and Care
- Oral and Dental Care
- Care for the Disabled
- Care for the Elderly

Study programmes provide specialisation to certain areas of practical nurse's work, but they do not determine where the person with a VQ in Social and Health Care is going to work. For example a practical nurse with specialisation from children's and youth care and education is able to work in elderly care and vice versa. In this study the specialisation in Care for the Elderly in Jyväskylä College was selected.

2.2 Structure of the vocational qualification in social and health care, practical nurse

The requirements of a vocational qualification state e.g. the objectives set for the qualification and study programme or specialisation, structure of qualification, module specific skills requirements or objectives, targets of assessment and assessment criteria for core subjects as well as the ways of demonstrating vocational skills in the case of vocational study modules.

The vocational study programmes consist of 120 credits (one year of full-time study equals 40 credits). In social and health care sector studies include 30 credits on-the-job learning. One credit equals 40 hrs of work for the student. Contact teaching at the college is 28 hrs/week. On-the-job learning is 35 hrs/ week. The rest is reserved for example for independent study, homework, self-assessment.

Vocational modules, 90 credits	Core subjects, 20 credits	Free-choice modules, 10 credits
• Compulsory modules for all, 50cr • Specialisation specific modules, 30 cr • Optional vocational modules, 10 cr	• Compulsory modules for all, 16cr, e.g. languages, mathematics, chemistry, physics, health education • Optional, 4 cr • e.g. environmental studies, information and communications technology, ethics, cultural knowledge, psychology, entrepreneurship,	• Modules providing individual in-depth vocational competence (modules that expand the scope of a vocational upper secondary qualification

Fig. 3: Structure of VQ in Social and Health Care, 120 cr (curriculum-based qualification)

The Vocational Qualification in Social and Health Care has been divided into following modules:

- Compulsory vocational modules for all (50 credits)
  - Support and guidance of growth, 15 credits
  - Nursing and care, 20 credits
  - Rehabilitation support, 15 credits
- Specialisation in Care for the Elderly (30 cr)
- Optional vocational modules (10 cr)
- Core subjects (20 cr)
- Optional modules (10 cr)

A table of all modules can be found at the webpage: http://www.oph.fi/download/140436_vocational_qualification_in_social_and_healthcare_2010.pdf (Finnish National Board of Education, 2010, pp. 14-16).

Contact teaching in Jyväskylä College consists of both theoretical and practical content. The proportion varies depending on the subject matter, needs of the students, the individual teacher and the agreements made with the local working life representatives. In Jyväskylä College students in social and health care sector have five different on-the-job learning periods (six weeks each) over the three-year programme. On-the-job learning period can also take place during mobility. The education providers and the workplaces that provide on-the-job learning possibilities can locally agree on prerequisite studies for on-the-job learning e.g. for health and safety reasons. These prerequisites are usually documented either in the memorandum of understanding or in individual learning agreements prior to the on-the-job learning period.

On-the-job learning is guided and goal-oriented study at the workplace (Virtanen, Tynjälä & Stenström, 2008). In this work-based module, the student learns some of the practical skills included in the qualification. Apart from the minimum requirement of

on-the-job learning, the national core curriculum does not stipulate where and how learning is to take place.

At different points during their training in initial VET, students demonstrate the skills they have learned in tests arranged as either practical work situations or as practical assignments (Stenström, Laine & Kurvonen, 2006). These skills demonstrations assess how well the student has achieved the competencies needed in the labour market. The aims and assessment criteria of the skills demonstrations are determined in the core curricula issued by the National Board of Education. The tests are devised and implemented in cooperation with business and industry and other employers. (Finnish Ministry of Education and Culture, 2012.)

2.3 Assessment and certification

Vocational Qualifications consist of units (parts of qualifications). They are composed on the basis of functions in working life and named according to activities at working life. Knowledge, skill and competence are described as learning outcomes of these units. Theory and practice (KSC) are expressed, studied and assessed together within the same unit and there is a common mark in the certificate. The targets of assessments are in common in all Finnish VET qualifications. Learning outcomes and assessment criteria are expressed in terms of activities of the occupational area and activities in work.

The requirements of vocational qualification modules and the objectives of core subjects have been defined as learning outcomes (knowledge, skills, competence). This forms the basis for describing the targets of assessment through mastering the work process, work method, equipment and material as well as underpinning knowledge and the key competences for lifelong learning.

The students' knowledge and skills are assessed and the students are given feedback on their progress at sufficiently regular intervals during the studies. In the curriculum-based education the students' acceptable performances are graded on the following scale: excellent (3), good (2) and satisfactory (1).

Assessment is conducted by the teachers and, for on-the-job learning periods and vocational skills demonstrations, the teacher in charge of the period or demonstration together with the on-the-job instructor or workplace tutor appointed by the employer. The assessment must guide and motivate the students as well as develop their abilities in self-assessment.

The education providers are the so called competent bodies when it comes to curriculum-based vocational qualifications and certificates are thus awarded by the education provider. Students are awarded a qualification certificate (tutkintotodistus/examensbetyg) upon the completion of all the studies required for the qualification.

Each education provider appoints a tripartite body for the purposes of implementing and monitoring skills demonstrations. Students are awarded a separate certificate for completion of skills demonstrations, which forms part of the qualification certificate. Vocational skills demonstrations aim to ensure the quality of education and training in co-operation with the workplace, and feedback received from skills demonstrations are used as a basis for developing instruction.

2.4 Entry requirements and transition to further studies

Students apply for VET through a national joint application system. The entry requirement is a leaving certificate from the comprehensive school (basic education) or an equivalent amount of studies (Finnish Ministry of Education and Culture, 2012, http://www.minedu.fi/OPM/Koulutus/ammatillinen_koulutus/opiskelu_ja_tutkinnot/?lang=en).

In the selection of students for vocational upper secondary training, points are awarded for general academic success and success in the relevant subjects, for work experience and for gender (in male or female dominated fields, points are given for the minority gender). Some education providers, such as Jyväskylä College, also arrange an aptitude test. Especially young people without previous vocational education are given priority in the selection. The aim is to secure an opportunity for each applicant to obtain one vocational degree.

Recently the legislation on ineligibility to work in certain professions (SORA-laki) has been revised and certain handicaps and/or illnesses can be considered as an obstacle for obtaining a study place in e.g. social and health care. In the social and health care sector students must also present an extract of criminal background upon request (required of everyone working with minors) and agree to take drug tests if necessary.

The "no dead-ends" educational policy means that the upper secondary vocational qualifications give a general eligibility for further studies at a university or polytechnic. To improve his/her eligibility to pursue further studies a student can choose general upper secondary studies, even take the matriculation examination (dual or triple qualification). These studies can e.g. compensate for core subjects, other optional qualification modules and free choice studies.

Prior learning

Vocational Education and Training Act (Act 630/1998, section 14) contains the provision of a student's right to make individual choices in his/her studies. Vocational Education and Training Decree (Decree 811/1998, sections 3, 4 and 12a) contains the provision of how to inform students of the training offered, of student counselling and recognition and validation of prior skills. In order that a student's right to make individual choices is possible, the education provider must prepare for the student an individual study plan based on his/her individual starting point and update it throughout the training provided.

Recognition of prior learning is regulated by Act and Decree on vocational education and training (1.1.2006). Recognition is based on learning outcomes, not on learning time. The VET provider decides on the recognition and assessment (validation) of prior learning.

2.5 Qualification of the practical nurses

This description of the qualification of the practical nurses bases on the national core curriculum (Finnish National Board of Education, 2010). Practical nurses who have completed the Vocational Qualification in Social and Health Care, work with and for people. Practical nurses know how to meet clients and patients of different ages and promote their health and well-being through their actions. Practical nurses work with nursing, care, education, and rehabilitation tasks in the social and health care sector. They can help and guide the client and patient, based on the client/patient's resources,

individually and equally in everyday situations. They can guide the client and patient in maintaining his/her functional abilities, as well as regular lifestyle, e.g. nutrition, physical exercise and life management. They can guide and support their clients and patients in applying for and using different welfare services and, when needed, they can refer their clients/patients to various peer support organisations.

Practical nurses work systematically and flexibly in changing situations and they can make choices and decisions creatively. They abide with the values of the field of social and health care. They are able to recognise, deal with and solve ethical problems in their work and comply with vocational ethics. They are primarily accountable for their work to the client, but also to society. Practical nurses maintain their vocational skills by keeping up with current vocational developments and improving their vocational competence through further training.

Practical nurses encounter their clients holistically, humanely and tolerantly. They pay close attention to client and patient safety, prevent accidents and work in a safe and ergonomically correct manner. They can recognise threats of violence and its different forms (e.g. domestic violence) and they participate in the prevention of violence and marginalisation.

Practical nurses are able to work in multidisciplinary and multicultural teams and projects. They can cooperate constructively with different vocational groups and communicate appropriately in different situations. They apply their vocational, interactive, human relations and negotiation skills, as well as their language proficiency at work. They utilise peer support between client and patient groups and members of the work community.

Practical nurses pay attention to the aesthetic aspects of their working and living environment, as a factor, which promotes wellbeing. Practical nurses master the core knowledge of their profession, dealing with connections between man and his psychosocial and physical environment and society. They can exploit technology in their own field, including information technology. They are capable of embarking on entrepreneurship and working in networks and multicultural settings. They are capable of paying attention to the environmental and economic impact of their actions, and work in an economical and effective manner, not forgetting high quality. They comply with the principles of sustainable development in their work. They possess the skills of lifelong learning and are able to acquire and apply new information in their work and justify their decisions.

Practical nurses who have completed the study programme or specialisation in Care for the Elderly are able to plan, implement and assess the care, services and social interaction which maintain the functional abilities and promote the rehabilitation of elders or patients with dementia, in different settings. They can guide and support elders or people with dementia in daily activities and decision-making procedures concerning their lives, and support their participation together with their families and cooperation networks. In their work, they can take the client's life history, resources and individual situation in life into account. They are able to promote the client's good, meaningful and safe life through their actions. Practical nurses can guide the elderly and their families in promoting physical and mental health, adopting a healthy lifestyle, and exploit methods which promote rehabilitation and functional abilities and pay attention to occupational safety. They can develop their vocational skills and care for the elderly and exploit the multidisciplinary knowledge in their own field. Typical workplaces in this

study programme or specialisation in the public, private and third sector, include home care, day activities, service homes and centres, dementia units, old people's homes and hospitals.

2.6 Employment structure of practical nurses

Practical nurses work in hospitals, health centres, schools, day care centres, homes for the elderly and disabled, home care and other outreach services – everywhere, where people are cared for and are being helped. Although work in the social and health care sector is considered to be both demanding and poorly paid (apart from doctors) it has a good image in Finland. People working in the social and health care sector are employed by the public sector (local authorities, joint municipal authorities, central government), private sector or third sector and, more and more frequently in the future, as independent self-employed people or entrepreneurs as well.

There are plenty of job opportunities in this sector at the moment. Due to demographic changes it is estimated that the total number of persons working in this sector by 2025 will have to increase by over 100 000 if the current level of service is to be maintained. The relative proportion of elderly care is increasing and operating methods are diversifying. Support activities for children and young people and their families require more people qualified in the field. In addition, the various symptoms evident in other age groups also increase demand for competent people in working life, in particular in primary health care, social welfare and specialized medical care. The field wants plenty of young applicants and new qualified people (Ministry of Finance, 2006).

The employment opportunity of the practical nurses is good at this moment, but a salary not very high, because it is mainly shift work. An average total salary was in 2010 about 2,450 euros. For example in 2010 the average total salary of the practical nurses

- in nursing and care was 2,600 euros
- in oral and dental care 2,100 euros
- in children's and youth care and education 1,900 to 2,100 euros (KT Local Government Employer, 2012).

3 Results of the MLI assessments

3.1 Implementation of the MLI tool

For the study purposes, the large modules of the Finnish Practical Nurse programme needed to be divided from the original six modules into sixteen, while keeping two of the smallest modules intact. If the module included on-the-job learning, it was divided equally for all parts. It needs to be stressed, that even when divided, the different parts of the modules can include almost all of the learning outcomes expressed in national core curricula. Also the division of on-the-job learning is unauthentic, since the themes tend to overlap and are learned simultaneously. In addition, the division made for this study was suited to the particular partner institution only, and it could be different in some other case.

Testing

After a careful examination of the MLI tool we decided to test it in the context of Finnish VET in health care. Testing took place in Jyväskylä College, where the head

teacher of one of the study modules answered the questions/items of the tool. Representatives from the Finnish Institute for Educational Research acted as experts of the tool and other teachers from Jyväskylä Educational Consortium acted as experts of the content. After testing, all possible questions and comments were sent to the coordinator of the project and the developer of the MLI tool for clarifications. Most of the questions got answered in MLI-FAQ sheet, which provided more information on how to apply the MLI tool.

Actual implementation

The experiment provided also possibility to test the interview method in the MLI procedure and it was decided that the same method would be used in actual implementation. Representatives from the Finnish Institute for Educational Research FIER) continued as the experts of the MLI tool and teachers from every module would be the experts of the content. The implementation of the MLI tool was accompanied by interviews with the teachers responsible for the module, and the ratings were discussed in group work sessions with the experts. The interviews were held in October and November 2012 in Jyväskylä College. Interviews dealing with larger modules involved two or three teachers, while small, one-credit modules had one teacher answering the questions. Two FIER representatives acted as interviewers.

Interview as a method

The interviews began with an introduction of the CrediCare project and short inquiry about the modules. The division, if needed, was made in the beginning so teachers could answer the questions for every part of the module separately. National Core curriculum and local syllabuses were used as evidence but for some answers more explicit evidence was requested. Discussions and evidence were important to get the answer right and to see how questions were understood.

As a method interviews with teachers were considered to be a good way to examine the modules. Teachers have first hand information on the teaching materials and assessment so they are the number one experts on the content. The syllabus of some modules had been revised recently and had not yet been carried out in practice. Therefore studying the content through teaching materials, exams, or student interviews, for example, would have been infeasible within the schedule.

Interview as a method is sensitive to subjective understanding and contextual interpretation of the situation even when the information is provided with evidence. Some of the MLI questions also leave space for subjective interpretation, which can be due to the differences of vocational education and the original purpose of MLI. Reliability might be challenged if interviewee sees the study as an assessment of his/her own work, and therefore feel pressured to answer in certain way.

3.2 Selected modules and results

The modules covered by MLI procedure in the Finnish case were as follows:

- Compulsory vocational modules for all (50 credits)
  - Support and guidance of growth, 15 credits
  - Nursing and care, 20 credits
  - Rehabilitation support, 15 credits
- Specialisation modules (30 cr)

  - Care for the elderly, 30 cr
  - Working as an Employee and Entrepreneurship (1 cr, part of Care of the elderly)
- Optional vocational modules (10 cr)
  - Home care and nursing of the elderly 10 cr
- Compulsory core subjects (16 credits):
  - Health education, 1 credit

The following modules represent every category (mandatory modules, optional modules, study programme) examined in this study.

3.2.1 Compulsory vocational modules for all

Support and guidance of growth, and Nursing and Care

Support and guidance of growth is the first module taught in Practical Nurse training. The part "Professionality in practical nurse's work" helps the students to take responsibility of their own learning and occupational growth. It also includes subjects such as human perception and values, occupational ethics, ICT skills, principals of self-assessing etc. Assignments include launching occupational growth file and group assignment and the whole module, as other modules (excluding "Working as an employee and entrepreneurship") presented in this chapter, are assessed in skills demonstrations, which comprise all the contents that are not tested through other assignments.

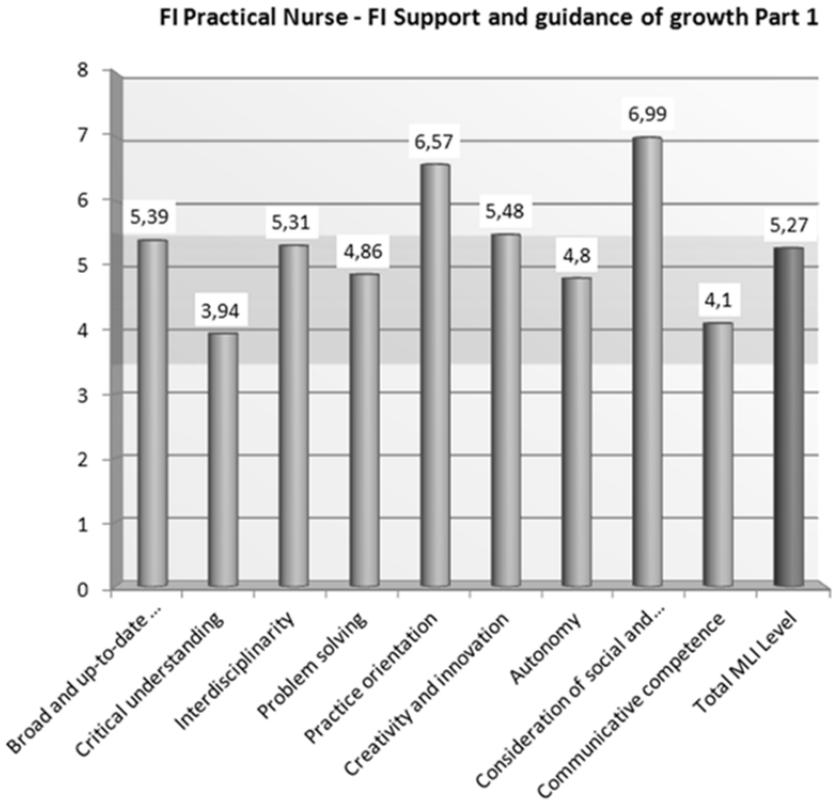


Fig. 4: MLI results of Support and guidance of growth (part 1)

In this part of the module broad and up-to-date knowledge is rarely provided with information on how the theories have been developed or tested. Therefore the score in critical understanding is lower than other scales. It was expected that some of the scores would be lower in the modules that are taught in the beginning of the practical nurse training. The main focus of the module is on reflective competences, which can explain relatively low scores in communicative competences. Practical orientation and consideration of social and ethical issues have naturally high scores in all the modules since they are one of the core elements in the practical nurse education.

Nursing and Care

This is one part of the module of Nursing and Care (Foundations of Practical nurse's work in nursing and care, 3,5 credits + 2 credit on-the-job learning) and one of the compulsory modules for all in Practical nurse training and it is taught at the end of the first year. It gives the students the basic knowledge of care and nursing. The part of the module comprises topics from Nursing and care, Social sciences, Anatomy, Biology and Law. Contents deal with e.g. social and health care services, goal-oriented working, sustainable development and body functions.

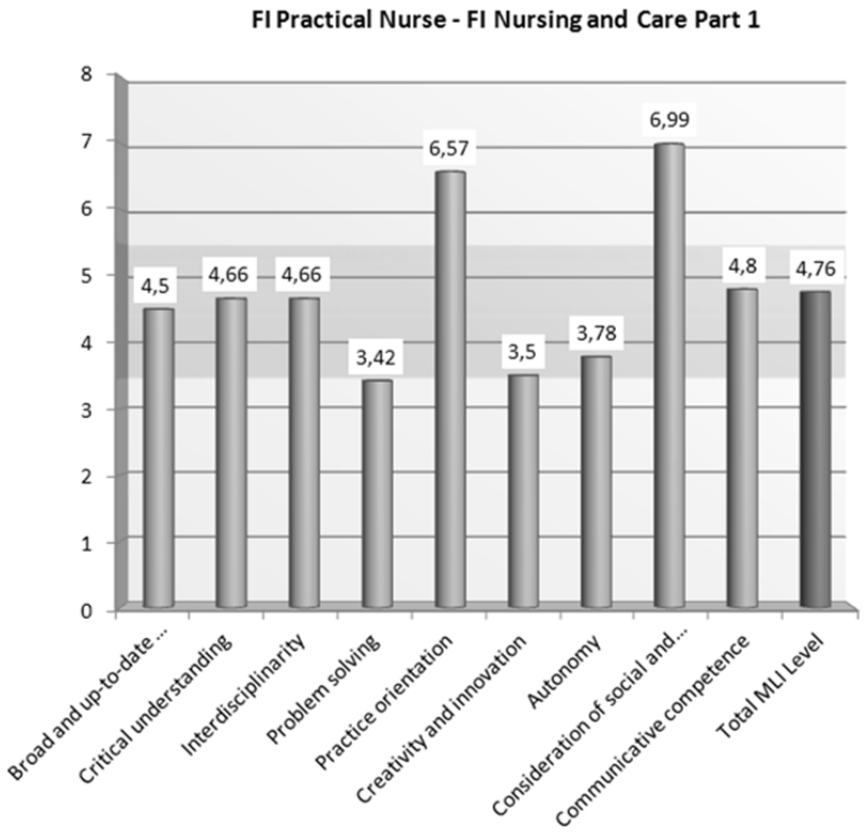


Fig. 5: MLI results of Nursing and Care (part 1)

The module is one of the first modules taught in the study programme and it was expected to have lower overall score than later modules. "Problem solving", "Creativity and innovation" and "Autonomy" are below EQF level, whereas "Practice orientation" and "Consideration of social and ethical issues" have considerably high scores. Being one of the first modules and a "foundation-level" part of the whole module provides one explanation in lower scores.

This module does not for example include novel requirements or tasks where students need to find solutions to abstract problems. However, those competences are expected later on the whole module, where these foundations of practical nurse's work are applied in practice.

The inherent characteristics of the study programme as interdisciplinary vocational social and healthcare education provide a natural explanation for high scores in "Practice orientation", "Consideration of social and ethical issues" and "Interdisciplinarity" of all the modules studied through the MLI tool. Their key role in practical nurse training seems to keep the total MLI level high even in the earlier phase of education.

3.2.2 Optional vocational modules: home care and nursing of the elderly

This optional module in Practical nurse training can be carried out after the three compulsory modules for all. Theme imparts the essential contents of nursing and home care of the elderly. Contents deal with Psychology, Pharmaceutics, Social sciences, Nutrition and ecology. The part (Acting in Elder's home 3 credits + 4 credits on-the-job learning) of the module includes issues of e.g. age-related physical and mental changes and diseases, pharmaceutics and nutrition in home care and home chore management.

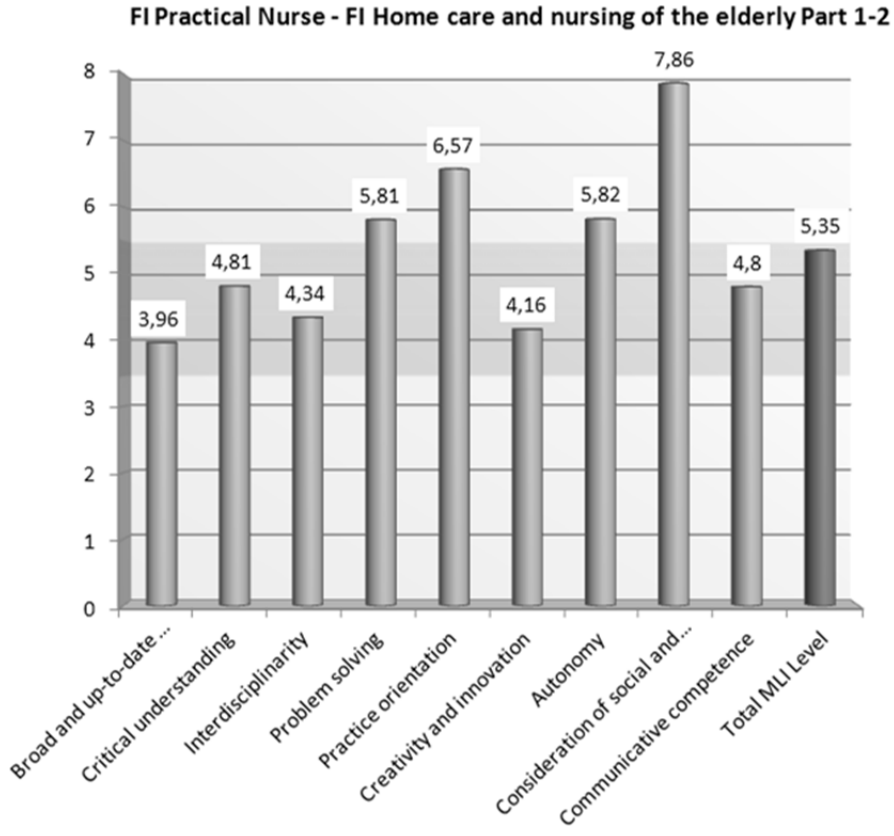


Fig. 6: MLI results of Home Care and Nursing of the Elderly (part 1-2)

Home care emphasises students' independent action, which is reflected in the high level of "Autonomy" and "Problem solving". In national curriculum, autonomy is one of the key-factor when assessing student's performance in skills demonstrations. Independency of action naturally requires a reasonable level of all knowledge, skill and competence –

related scales. Even if the Module doesn't itself impart in-depth knowledge or include latest academic findings, it does expect applying broad and up-to-date knowledge from earlier modules.

3.2.3 Specialisation modules: care for the elderly

The module Care for the Elderly covers a specialisation area for students in care and nursing. It is carried out in the last year of studying and all the compulsory study modules need to be accomplished before embarking on this module. This part (Promoting Health of the Elderly, 9,5 credits (including a thesis 1cr) + 4 credits on-the-job learning) of the module concentrates on promoting elderly health and it includes topics from Nursing and care, Pharmaceutics, Gerontology and Psychology. The module includes issues pertaining e.g. to assisting, age related diseases, supporting elderly with social issues, dealing with a dying patient and palliative care, nutrition, mouth hygiene, mental health and substance abuses and promoting students own health and security.

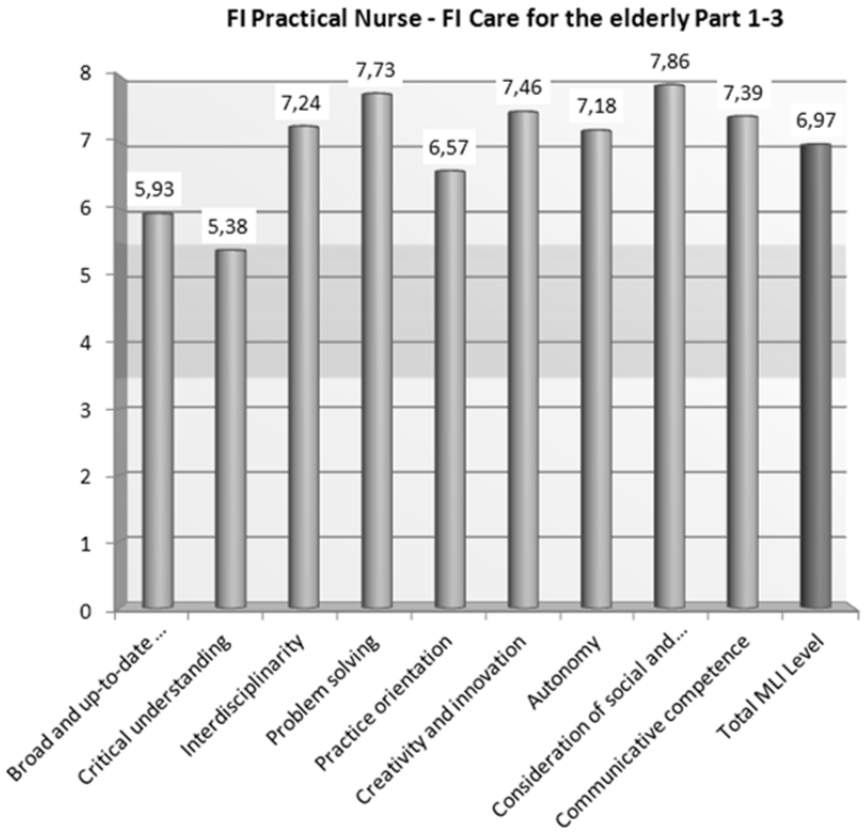


Fig. 7: MLI results of Care for the Elderly (part 1-3)

The module is the last and largest module in this VET programme and it provides more specialised knowledge about elderly care and nursing. At this point in studies students are expected to master a high level of knowledge, skills and competences in their area, and these expectations are seen in high scores on the MLI scales.

The module includes some aspects, which increase critical understanding, but these aspects are not an intensive part of learning information. Study in its whole includes 12 credits (480 hours) of on-the-job learning where most of the skills and

competences can be learned and assessed. Since the module is a part of a study programme, it also includes a thesis, which requires theoretical competences and utilising up-to-date knowledge. Against these premises high level of MLI scores seem reasonable even when they exceed the EQF level.

Part of specialisation modules in care for the elderly: working as an employee and entrepreneurship

This module is a part of Care for the Elderly (1 cr). It is carried out in the last year of studying. It comprises topics from Law, Social sciences and Entrepreneurship. It imparts knowledge about collective labour agreements, labour contracts, qualification requirements, teamwork skills, applying for a job, productising one's own know how and entrepreneurship.

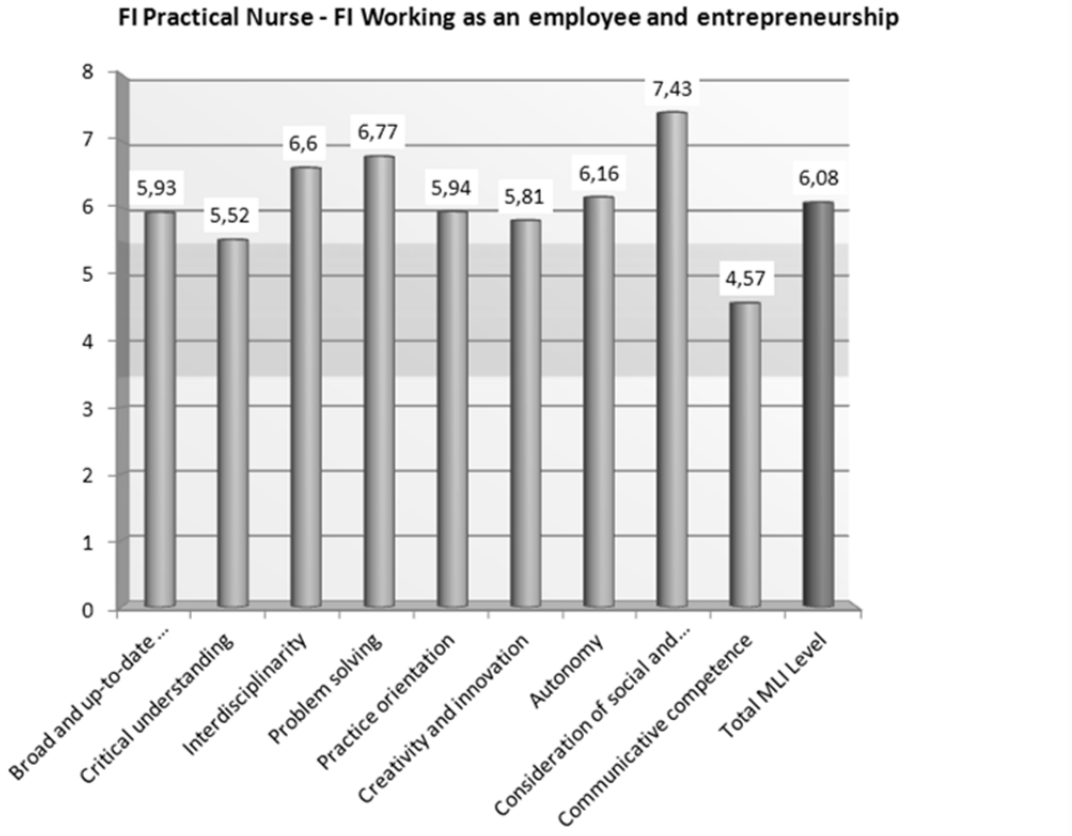


Fig. 8: MLI results of Working as an Employee and Entrepreneurship

This module imparts knowledge from a rather specific area of health care and nursing and is taught by a social sciences teacher with a qualification that also provides eligibility to teach in upper secondary school. High level of this module may be due to the teacher's high education.

High scores in interdisciplinarity and consideration of social and ethical issues are expected considering the nature of practical nurse training. A high score in problem solving is due to assessing written assignments that include special problems and complex questions through case studies and business plan. The score in communicative competence is lower than other scales. The module doesn't require communicating with laymen and it doesn't include assessed task where conclusions, judgements or information need to be communicated in way that reflects current state of research.

However, communicating with experts and specialists (eg. Teachers and occupational representatives in workplace) and other students is a key element in communicative competence in the module which leads to the score of 4,57.

3.2 Summary of findings

The overall results of the MLI are high in the Finnish VET setting. As expected, the initial modules in the study programme have lower scores than the ones in the last year of studying. Overall high results can be explained in various ways. Even after division the modules in the Finnish VET programme include theory and practice within the same unit, which explains that knowledge, skills and competence-based scales have relatively high scores in all modules.

The nature of the VET programme in social and health care assumes a high level of practice orientation and constant consideration of social and ethical issues, which yields notably high scores on these scales. Practical nurses are expected to work as independent actors in teams and such independency requires knowledge, critical thinking, problem-solving and ability to adjust one's actions in a creative manner. Autonomy is explicitly mentioned in the assessment guidelines as one of the main competences and learning objectives. Communicative competences are essential for acting not only in an interdisciplinary team but also with patients and relatives.

Another explanation for high MLI scores is the high level of teaching. Different subjects have their own expert teachers responsible for their area. For example, psychology is taught by a teacher with at least a Master's degree in psychology, pharmaceutics is taught by a licensed pharmacist etc. Since teachers are experts in their area, they are expected to have the latest knowledge to provide for the students. Expertise also shows in critical thinking, which is imparted along with the information. Theory-based studies together with compulsory core subjects are not only relevant for the Practical nurse education, but also to give the students eligibility and ability to apply for further studies in higher education. In the interviews extensive theory education also faced criticism since there are differences in information processing between the youngest students coming straight from the comprehensive school and those coming from upper secondary school.

4 Conclusion

The Finnish results seem to be high at the MLI level and differ from the official EQF/NQF levels. The level assignments may mean that the outcome of administrative and political decisions does not necessarily reflect the actual level of learning outcomes. Overall the social and health care sector seems to be one of the most advanced fields in VET from the learning perspective (e.g. Virtanen, Tynjälä & Stenström, 2008).

Finnish VET relies mainly on constructivism and comprehensiveness. The relevance of this background theory is exemplified in the Finnish case by the high scores on the "autonomy" scale in the MLI, which reflect the emphasis on "constructivist" competences in the Finnish education system. The theory is realised in student assessment. Constructivist thinking places emphasis on fostering the student's metacognitive thinking, self-directedness, learning-to-learn process, interaction, and willingness to collaborate. The student, who is assessing his or her own learning, contributes to the overall assessment process (Rauste-von Wright & von Wright 1994; Tynjälä 1999, Stenström, Laine & Kurvonen, 2006). In constructivist learning

environments the emphasis lies on the authenticity of learning assignments and assessment. The aim of authentic assessment is to evaluate knowledge and skills in natural situations (Rauste-von Wright & von Wright 1994; Tynjälä, 1999; Stenström et al., 2006).

Learning can be understood not only as a constructive process but also as a situation and context-bound occasion. The context of on-the-job learning goes beyond the work itself, and includes also the work environment, work community, equipment, and above all, interaction and cooperation between people. (Uusitalo 2001, p. 24.)

References

The Act on Higher Education. (2005). Act 426/2005.

The Act on Vocational Education and Training (1998). Laki ammatillisesta koulutuksesta 08/21/1998, 630/1998.

The Finnish Ministry of Education and Culture. (2012). Education System in Finland. Retrieved from http://www.minedu.fi/OPM/Koulutus/?lang=en

The Finnish National Board of Education. (2010). Vocational qualification in social and health care, practical nurse 2010. (Publications No. 21). Helsinki: Author.

The Finnish National Board of Education. (2012). Vocational upper secondary education and training. Retrieved from http://www.oph.fi/english/education/vocational_upper_secondary_education_and_training

KT Local Government Employer. (2012). Average earnings in the municipal sector. Helsinki: Author.

The Ministry of Finance. (2006). The Finnish public sector as employer. Helsinki: Author.

Nevala, A.-M. (2007). European inventory on validation of informal and non-formal learning. Finland. C3342 / December 2007. ECOTEC Research & Consulting Ltd. In Manuel Souto

Nyyssölä, K. (2004). Achieving the Lisbon goal: The contribution of vocational education and training systems. Country report: Finland. Retrieved from http://www.refernet.org.uk/documents/Country_Report_Finland.pdf

Rauste-von Wright, M. & von Wright, J. (1994). Oppiminen ja koulutus. [Learning and education.] Juva: WSOY.

Stenström, M.-L. (2009). Validation of learning outcomes through individualisation. In R. Tutschner, W. Wittig & Justin Rami. Accreditation of vocational learning outcomes:

European approaches to enhance permeability between vocational and higher education (pp. 85-102). Bonn: BIBB, Bundesinstitut für Berufsbildung.

Stenström, M-L., Laine, K. & Kurvonen, L. (2006). Practice-oriented assessment in Finnish VET - Towards quality assurance through vocational skills demonstrations. In M-L. Stenström & K. Laine (Eds.), Quality and practice in assessment: New approaches in work-related learning (pp. 89-120). Jyväskylä: University of Jyväskylä, Finnish Institute for Educational Research.

Tynjälä, P. (1999). Oppiminen tiedon rakentamisena: konstruktivistisen oppimiskäsityksen perusteita [Learning as knowledge construction: Foundations of the constructivist conception of learning]. Helsinki: Kirjayhtymä.

Virtanen, A., Tynjälä, P. & Stenström, M-L. (2008). Field-specific educational practices as a source for students' vocational identity formation. In S. Billett, C. Harteis & A. Eteläpelto (Eds.), Emerging perspectives of workplace learning (pp. 19-34). Rotterdam: Sense Publishers.

Uusitalo, I. (2001). Työssäoppimisen ja kouluoppimisen vuorovaikutus [Interaction between work-based and school-based learning]. In M. Räkköläinen & I. Uusitalo (Eds.) Työssäoppiminen ja ohjaus ammatillisissa oppilaitoksissa [On-the-job learning and student supervision in vocational education establishments] (pp. 13–27). Helsinki: Tammi.

Education and training in the French health care sector: the case of nursing

M'Hamed Dif

1 Introduction

The French Education and Training system (système educatif français) is composed of two interconnected and complementary systems: General education and VET (Vocational Education and Training) systems. The general education system concerns comprehensive compulsory schooling (covering all segments of primary and lower secondary education up to 15-16 years old) and some segments of upper- secondary and higher education not directly leading to professional qualifications (such as General Baccalaureate at the end of upper secondary cycle, General Bachelors' and Research Masters' degrees in higher education). As for the VET system, it plays an important role in connecting the latter to the world of employment and the production sphere through its increasing capacity of promoting practical skill development, professionalisation and learning path fluidity and complementarity within and between formal, informal and non-formal learning. It is composed of two interconnected and complementary VET systems:

- Initial vocational education and training (IVET) system which is composed of three basic segments: School-Based IVET (in upper secondary and higher education), alternating training ("formation en alternance" in apprenticeship and professionalisation contracts) and specifically targeted training and accompaniment schemes.
- Continuing Vocational Training (CVT), which concerns basically working adults, is composed of three basic components: Employer-Directed CVT (ED-CVT), Employee Self-Directed CVT (SD-CVT) and Employee-Employer Directed CVT via the "Individual Right to Training (DIF-Droit Individuel à la Formation)" (Dif, 2009).

All the levels of awarded VET qualifications are referenced through the French five-level National Qualification Framework (NQF) (1969 nomenclature) to those of the European Qualification Framework (EQF) as follows (CNCP, 2010):

- NQF level 1 which includes two higher education grades where the Doctorate grade = EQF level 8 and the Master's grade = EQF level 7;
- NQF level 2 which concerns the three-year-higher education qualification "Licence", i.e. Bachelor's degree = EQF level 6:
- NQF level 3 which covers all two-year-higher education qualifications = EQF level 5;
- NQF level 4 (Baccalaureate level) = EQF level 4;
- NQF level 5 (Professional Aptitude Certificate level: CAP) = EQF level 3.

Given that the French NQF (CNC-Cadre National de Certification français) is a certification-based qualification framework for VET, there is no referencing to the other two remaining EQF levels: 1 and 2 (CNCP, 2010; Dif, 2010).

2 Systemic features of VET in health care and nursing

2.1 Structure of VET in health care

VET in the French healthcare system, which is subject to healthcare regulations jointly established by the Ministry of Education and the Ministry of Healthcare and labour, is composed of two basic categories: medical and paramedical VET.

Medical VET: It covers NQF levels 2 and 1 (EQF levels 6, 7 and 8) and concerns professions allowing for undertaking healthcare medical actions based on the right to prescribe "medical prescriptions". The concerned medical professions which are mainly defined by the 1st book within the 4th part of a regularly updated Public Healthcare Code published on "légifrance" website) include: a) Doctors of medicine (generalists/specialists (NQF level 1 = EQF level 8); b) Dentists (NQF level 1= EQF levels: 7 to 8); c) Pharmacists (NQF level 1=EQF levels: 7 to 8); d) Veterinaries (NQF level = EQF levels: 7 to 8); e) Midwifes (NQF levels: 2 to 1 = EQF levels: 6 to 7).

Paramedical VET: It is basically functioning through an alternation between an in-school VET and a workplace training within a healthcare (public/private) institution/organisation, leading to obtaining qualifications which integrate within the NQF repertory usually ranging from EQF level 3 (NQF level 5) to EQF level 7 (NQF level 1). These qualifications and their related curricula/training programmes can be grouped into three basic categories connected with the main paramedical professions (as defined under the headings from 1 to 10 of the 3rd book in Public Healthcare Code): nursing, rehabilitation/re-education and medico-techniques.

VET in rehabilitation and paramedical care techniques: VET in rehabilitation/re-education care concerns the following basic paramedical professions: physiotherapist (EQF level 6), occupational therapist (EQF level 6), orthoptist (EQF level 5), audiologist ("audioprothésiste": EQF level 6), speech therapist (EQF level 6), dietician (EQF level 5), pedicure – podiatrist (EQF level 6), psychomotor (EQF level 6), optician (EQF level 5), social life auxiliary (EQF level 3). As for VET in paramedical care techniques, it concerns the following basic paramedical professions with qualification levels varying, on the whole, from EQF level 3 to EQF level 6: electro-medical radiology manipulator, pharmacy technician, laboratory medical technician, medical information technician, ambulance-man/ ambulance auxiliary.

VET in nursing: It composed of two main types of programmes: Basic programmes in nursing for general and auxiliary nurses, and programmes for specialisation.

- Basic VET programmes in nursing for general and auxiliary nurses: It includes the programmes connected with obtaining the following exemplary basic qualifications:
- State diploma in auxiliary nursing (DEAS - Diplôme d'Etat d'Aide-Soignant) (NQF level 5=EQF level 3): It is a ten-month-programme of 41 weeks (1435 hours) implemented through an alternation between: (a) theoretical and clinical training within an auxiliary nursing institute (IFAS) or a nursing institute (IFSI) of 17 weeks (595 hours); (b) workplace training within a healthcare institution/organisation of 24 weeks (840 hours). The programme is composed of the following 8 modules: 1) Accompanying a person in his/her daily live activities; 2) Clinical conditions of a person; 3) Care and treatment; 4) Ergonomics; 5) Relationship - communication; 6) Hygiene of hospital spaces; 7) Work organisation; 8) Transmission of information. The implementation of two situated professional cases (scenarios) within this programme, are mandatory: the first

case integrates within module 1 and the second is part of module 3. There are 6 types of clinical workplace traineeships (of 140 hours each) in: a) short-term services provided in medical care; b) short-term services provided in surgery; c) long provided services to elderly or disabled people; d) services provided in mental healthcare or psychiatry; e) an optional institution/organisation. Access to the programme is obtained through a competitive examination based on a written admissibility test and an oral selection test. The holders of a diploma of NQF level 4 (EQF level 4) or a NQF level 5 diploma (EQF level 3) obtained through the IVET/CVT within the socio-healthcare sector are exempted from the admissibility written test. The students who complete and validate successfully all the programme units are awarded the DEAS (Diplôme d'Etat d'Aide-Soignant) (EQF level 3). This qualification can also be obtained via the VAE (Validation of Acquired Experiences) (Dif, 2009).

- State Diploma of Auxiliary Childcare Nurse (DEAP-Diplôme d'Etat d'Auxiliare de Puériculture) (NQF level 5=EQF level 3): As it is the case with the auxiliary nursing, it is an alternation-based ten-month-training programme of 8 modules with the same contents and access conditions. The only difference lies in the contents and places of undertaken related workplace training. The DEAP's related six types of practical training (140 hours each) are distributed as follow: a)-An internship in a maternity care institution; b)-An internship in a healthcare institution for ill children; c)-Two internship in an institution/organisation hosting children under the age of 6 years old; d)-An internship in an institution/organisation for hosting children with disabilities, or for dealing with the child psychiatry or well-being.
- State Diploma in (general) Nursing (DEI-Diplôme d'Etat d'Infirmier/Infirmière) (NQF level 2=EQF level 6): As the programme connected with obtaining this qualification is selected as a case study for the MLI application in inter-country comparison of qualifications in nursing.
- VET programmes for specialisation in nursing: They are usually part of career progression of graduates in general nursing holding the "DEI" qualification (EQF level 6).

2.2 Institutions and stakeholders involved

Given its pluralistic character with highly regulated professions/occupations, there is a variety of institutions and stakeholders involved in healthcare VET, which fall within the range of the following three basic categories:

2.2.1 Regulating and monitoring institutions/organisations

They are basically composed of public institutions or organisations (private/public) acting on national, sectoral and regional levels. First, on national level there are basically the following State institutions, namely:

- The Ministry of education (including higher education) and the Ministry of healthcare and labour: they are jointly responsible for the regulation of VET provisions in healthcare. They are also responsible for the creation and renovation/updating of qualifications and their related occupational and

certification referential standards in consultation with the sectors' following professional bodies and institutions/organisations:

  - The Professional Consultative Commissions (CPC – Commissions Professionnelles Consultatives) composed of representatives of employers' and employees' organisations in the sector, of the concerned ministries and qualified experts in the domain. They take in charge the design and updating of qualifications and their referential standards.
  - The educational and training institutions/providers which initiate curricula/qualifications related proposals to be examined by the sectors' concerned ministries and CPCs.
  - Professional bodies concerned within the sector such as the medical association or the "order of doctors" (Ordre des Médcins) and the nurses' association (Ordre des Infirmiers), etc. They regulate independently and in cooperation with the public authorities the practices and the ethics of their respective professions.

- The National Commission for Vocational Qualifications (CNCP-Commission Nationale des Certifications professionnelles) created through the Social Modernisation Act in 2002. It manages and keeps updated the NQF repertory for vocational qualifications and related certifications (including those created and/or renovated in healthcare VET through CPCs) called RNCP (Répertoire National des Certifications Professionnelles). For each qualification registered within the NQF repertory, two description documents are created and accessible to the public on the RNCP's official website: the RNCP's qualification fiche (Fiche RNCP) and the Europass Certificate Supplement in French and sometime in some other EU languages (basically English, German and Spanish). This repertory is also connected (through Internet) with the labour market Operational Repertory for Trades and Occupations (ROME – Répertoire Opérationnel des Métiers et des Emplois).
- Other overarching public independent institutions. They include:
  - Healthcare High Authority (HAS-Haute Autorité de Santé) whose basic role consists of maintaining solidarity and reinforcing quality in healthcare provision.
  - High Council for Public Healthcare (HCSP-Haut Conseil de la Santé Publique) which contributes to the definition of public healthcare related objectives and priorities.
  - French Agency for Sanitary Safety of Medication Products (AFSSAPS-Agence Française de Sécurité Sanitaire des Produits de Santé) which ensures efficiency, quality and appropriate use of medication products.

Secondly, there are the Regional Healthcare Agencies (ARS-Agences Régionales de Santé) created in 2010 to take over all the activities previously taken in charge by seven regional and departmental organisations (DDASS, DRASS, ARH, GRSP, CRAM, URCAM, MRS). Their roles on regional level consist basically of the following:

- Taking in charge healthcare security and undertaking preventative actions;
- Organisation of healthcare provision through the territorial distribution of healthcare professionals and their duties in hospitals and clinics;
- Piloting actions undertaken for the improvement of professional practices in healthcare and related VET provision.

There are other regional networking institutions common to all types of VET, such as:

- Regional Employment and Vocational Training Committees (CCREFP-Comités Régionaux de l'Emploi et de la Formation Professionnelle) responsible for the

coordination of vocational policies and means in coherence with employment policies, and the promotion of cooperation between different stakeholders involved in VET.

- Regional Economic, Social and Environmental Council (CESE-Conseil Economique, Social et Environnemental) which acts as a consultative body for the regional policy makers.
- Regional Employment and Training Observatories (OREF-Observatoires Régionaux Emploi-Formation) which carry out necessary prior and follow-up analysis of the main employment and VET issues on the ground.

2.2.2 In-school initial and continuing VET providers in healthcare

Within the medical sector, the related VET is provided in the higher education faculties or schools specific to each field of study (medicine, pharmacology, dentistry, and midwifery, veterinary). As for paramedical VET is provided within different institutes/schools or centres specific to type of paramedical qualification or speciality such as the Nurses' Training Institute (IFSI-Institut de Formation en Soins Infirmiers), the The Auixilary Nurses' Training Institute (IFAS-Institut de Foramtion des Aides-Soignants), etc. The CVT after the graduation is usually provided within the same IVET provision institutions/organisation. But, it can be also organised within CVT or adult education organisations/providers such as GRETA, AFPA by using the usual CVT instruments and measures.

2.2.3 Workplace training institutions/organisations

They are composed of public and private institutions used for traineeship placements:

- Public institutions are composed of regional and local hospitals: The regional hospitals (including teaching and research hospitals) provide specialised care, while the local hospitals provide routine health care;
- Private institutions are profit and non-profit. The non-profit institutions have the same type of management system as public institution and provide the same healthcare services.

2.3 Employment structure

With the annual average of 1,756,000 occupied individuals in 2007-2009, the healthcare sector represents about 6.7% of the total employment in France. The paramedical sector is dominant with 78.2% of the overall healthcare employment against 21.8% in the medical sector. This is basically due to the dominance of the nursing occupations in healthcare representing 73.8% (36.5 % for nurses and 37.3% for their auxiliaries). The second dominant profession within the healthcare sector is represented by Doctors of medicine: 14.2% (cf. table 1 below concerning the Employment structure and its evolution in healthcare sector professions during the period 2003-2009).

Concerning the evolution of employment, the healthcare sector achieved an overall increase of 10.9% between 2003 and 2009. Most of it was achieved in the medical sector by doctors (23.3%), then the paramedical occupations basically by psychologist-psychotherapists (16.1%), followed by the specialists in medical devises (12.5%) and nurses (12.1%).

According to the results of a survey conducted by the National Institutes for Statistics (INSEE) on "the evolution of employment during the period 1982-2009"

treated by DARES (2010), the evolution of employment for certain professions within the health healthcare sector, presents the following basic characteristics:

- The profession of auxiliary nurses representing 1.5% of the average total employment in France is predominantly feminine, where 9 out of 10 jobs are occupied by auxiliary nurses. Half of them hold diplomas (CAP or BEP) equivalent to EQF level 3. In 2009, the search for employment within this profession was relatively low.
- The nurses' professions predominantly occupied by women (88%). 70% of them within the public sector. About 40% of them work on a full-time basis and receive a salary variable between € 1,500 and € 2,000 per month. The unemployment within this profession is practically non-existent as its related IVET is accessed through a competitive examination.
- The other premedical professions are occupied by young people, predominantly women (73%), representing as salaried employees (71%). The level of unemployment within these paramedical professions is low. Their access to CVT is relatively high with 50% against 42% for the average of all occupations.
- Concerning the medical professions (with the exception of midwifery), although they are predominantly occupied on free-lance basis (50%), the salaried employment (as an employee) within the public sector is increasing. Although predominantly occupied by men over 50 years old, the number of women among young generations is increasing. Access to CVT is very high: ¾ of working individuals within the medical sector benefited for CVT during 2006. 50% of employed doctors are on full-time basis and receive a net salary over € 3,000.

	Number 2003/07	Number 2007/09	Structure 2007/09 in %		Evolution 2003/09 in %
Medical occupations (total 1)	**342 000**	**382 000**	**100**	**21.8**	**11.7**
Doctors	202 000	249 000	65,2	14.2	23,3
Dentists	34 000	36 000	9.4	2.1	5.9
Veterinaries	15 000	12 000	3.1	0.7	-20.0
Pharmacists	75 000	69 000	18.1	3.9	8.0
Midwifes	16 000	16 000	4.2	0.9	0,0
Paramedical occupations (total 2)	**1 241 000**	**1 374 000**	**100**	**78.2**	**10.7**
Nurses	448 000	502 000	36.5	28.6	12.1
Nursing auxiliaries	471 000	513 000	37.3	29.2	8.9
Medical technicians and repairers	139 000	141 000	10.3	8.0	1.4
Specialists in medical devices	48 000	54 000	3.9	3.1	12.5
Psychologists and psychotherapists	31 000	36 000	2.6	2.1	16.1
Other paramedical professionals	104 000	128 000	9.3	7.3	23.0
Overall healthcare: total (1+2)	**1 583 000**	**1 756 000**	**-**	**100**	**10.9**
Source: DARES (2011) - Les familles professionnelles – Portraits statistiques 1982 – 2009.					

Tab. 1: Employment structure and its evolution in healthcare sector professions: Annual average and structure over the period 2007-2009 and evolution during the period (2003-2009)

3 Description of the selected qualification in nursing

3.1 General overview

3.1.1 Title and level of the qualification

The State Diploma in Nursing (DEI-Diplôme d'Etat d'Infirmier): degree of Bachelor (three years of full-time study) in nursing at the National Qualification Framework (NQF) level 2 (EQF level 6, 180 ECTS).

3.1.2 Activities

Nurses intervene autonomously and collaboratively as part of multi-professional teams in healthcare. They exercise their activities and responsibilities in a variety of areas: public and private hospitals and clinics, socio-healthcare services to individuals at home, healthcare at schools, occupational healthcare, humanitarian health organisations, etc.
The professional referential standards connected with this qualification regroup the functions and tasks of a graduated practising nurse into the following nine basic categories:

1. Observation and collection of clinical data;
2. Provision of comfort and well-being care;
3. Provision of healthcare related information and education to individuals and groups of patients and their entourage;
4. Monitoring the evolution of the patient's state of health;
5. Undertaking/executing care tasks and activities connected with diagnostics or therapeutics;
6. Coordination and organization of care taking tasks and related activities;
7. Control and management of medical equipment, devices and products;
8. Information and training provision to new staff and trainees;
9. Keep-up activities connected with developments in the profession and its related research and practices.

3.1.3 Competences

The qualification referential standards requirements for exercising these nursing functions and tasks are composed of ten basic competences connected with different units of the educational and training programme. They are distributed over two basic categories: professional core competences specific to the nurse's profession and transversal competences common to nursing and other paramedical professions.

Core specific competences

C1. Assessment of a clinical situation and the establishment of diagnosis in nursing care: this includes: assessing health needs and expectations of a person or a group of persons; analysing a health care situation and making related interpretative assumptions; developing a clinical situation diagnosis and/or a nursing diagnosis based on the responses to issues connected with the health of an individual or a group of individuals/a community and identifying the necessary nursing care action to be undertaken; assessing the risks in a situation of emergency, violence and abuses, and identifying the priority measures to be undertaken.

C2: Design and management of a nursing care project: Development of a nursing project in a multi-professional context; implementation of nursing care actions in conformity with quality and safety related regulation, procedures and instruments (hygiene, asepsis, vigilance, ...); adaptation of nursing care protocols to individuals, situations and contexts; accompanying and guiding individuals in their health care pathways; identification of risks connected with care provision situations and determination of preventative measures and/or adapted corrections; planning and implementation appropriate measures in an emergency situation or a crisis with reference to exiting protocols.
C3. Accompanying a person during the process of carrying out daily healthcare: assessing the individual's capacity to perform daily life activities and accompanying him/her by encouraging the participation of the entourage; adapting the patient's daily care needs by taking into account his/her resources, deficiencies or disabilities; assessing the evolution of the individual's capacities to take in charge his/her own healthcare.
C4. Implementation of diagnostic and therapeutic actions: preparing and implementing drug treatment and testing safety rules; preparing and implementing drug treatment and testing according to the rules of safety, hygiene and aseptic; organising the administration of medication according to prescription, ensuring compliance and continuity of the treatment; implementing treatment protocols tailored to the clinical situation of a person; initiating and adapting the administration of analgesics and dealing with vaccination; use of therapeutic and psychotherapeutic techniques as part of a multidisciplinary team; planning, installing and using the operational medical equipment and devices necessary for the patient's comfort and treatment; prescribing medical devices according to the rules of a good practice.
C5. Initiating and implementing educational and preventative care: accompanying the patient in the processes of learning about how to take care with his/her health and related treatment; developing and implementing counselling, health promotion and preventative actions to meet the needs of the target population; providing healthcare and prevention related educational activities to individuals and groups; developing, formalising and implementing a therapeutic educational project.

Transversal competences

C6. Communicating and conducting a relationship in a healthcare context: receiving and listening to a person asking for healthcare and taking into account his/her life story and its context; looking for and creating a climate of trust with the patient and his/her entourage for a therapeutic alliance; informing the patients about the provided treatment and seeking their consent; conducting a communication and therapeutic based approach suited to patients and their entourage/relatives according to the identified specific situations.
C7. Analyzing provided healthcare and improving its related professional practice: assessment of provided healthcare services and the implementation of nursing protocols according the principles of quality, safety, ergonomics, and satisfaction of the care recipient; analysing and adapting the nursing professional practice according to regulations, ethics, deontology, and evolution of science and technology; contributing within the team to the improvement in the quality of healthcare provision through the use of scientific methods; evaluating the application of tracking rules and regulations

regarding the input-output movements of medical materials and devices with the aim of identifying any non-compliance.
C8. Research and analysis of professional and scientific data: identifying and analyzing documentary resources; questioning and analyzing scientific data and / or professional data; selecting methods and tools of investigation adapted to the subject matter and implementing them; writing and presenting professional documents for written or oral communication purposes.
C9. Organisation and coordination of healthcare actions: organisation and distribution of healthcare activities within the team based on employees' skills and the everyday context; coordinating healthcare and help actions to the person being treated in cooperation with the various health, social and home help actors; cooperating within a multi-professional teams with the aim of optimising the management of healthcare and medico-social actions.
C10. Informing, and training professionals and trainees: organisation of information provision and hosting of new trainees and professionals within the healthcare organisation / institution; organization and supervision of the learning activities of students/trainees; supervising and evaluating the collaboration actions of AS (auxiliary nurses), AP (childcare auxiliaries), AMP (medico-psychological auxiliaries) and taking into account their level of competence and actions; facilitating debates and discussions concerning healthcare actions and their organization with involved actors.

3.2 Organisation of the education and training programme

3.2.1 Programme

The education and training programme is based on VET referential standards in nursing and it is implemented within any of the accredited training institutes for nurses (IFSI – Instituts de Formation en Soins Infirmiers) in France. As detailed in the table 2 below, it is composed of 37 study units (UE: Unités d'Enseigement) distributed over six interrelated fields of nursing:

Programme study units (UE) per basic field of study (F) and semester (S)	Acquired competence (s) per study unit (UE)	Amphitheatre courses (lectures) (CM) (in hours)	Tutorials (TD) (in hours)	Guided personal practical work (TPG) (in hours)	ECTS
F1. Humanities, social sciences and law					
UE 1.1.S1 & S2 Psychology, sociology, anthropology.	C6	65	25	35	5
UE 1.2. S2 & S3 Public health and health economics	C5	40	35	50	5
UE 1.3.S1 & S4 Legislation, ethics and deontology	C7	50	40	35	5
Total F1		***155***	***100***	***120***	***15***
F2. Biological and medical sciences					
UE 2.1.S1 Basic biology	C4	20	5	0	1
UE 2.2.S1 Cycles of life and major functions	C4	45	15	15	3

UE 2.3.S2 Health, illness, disability and accidents of life	C1	15	15	20	2
UE 2.4.S1 Traumatic processes	C4	30	10	10	2
UE 2.5.S3 Inflammatory and infectious processes	C4	30	10	10	2
UE 2.6.S2 & S5 Psychopathological processes	C4	60	20	20	4
UE 2.7.S4 Organic failures and degenerative processes	C4	30	10	10	2
UE 2.8.S3 Obstructive processes	C4	30	10	10	2
UE 2.9.S5 Tumour processes	C4	30	10	10	2
UE 2.10.S1 Infectiousness, hygiene	C3	20	20	10	2
UE 2.11.S1, S3 & S5 Pharmacology and therapeutics	C4	80	25	20	5
Total F2		***390***	***150***	***135***	***27***
F3. Sciences and techniques in nursing, fundamentals and methods					
UE 3.1.S1 & S2 Reasoning and clinical approaches in nursing	C1	20	50	30	4
UE 3.2.S2 & S3 Project in nursing care	C2	10	30	10	2
UE 3.3.S3 & S5 Nursing roles, work organisation and inter-professionalism	C9	20	30	25	3
UE 3.4.S4 & S6 Introduction to the research approach in nursing	C8	40	25	35	4
UE 3.5.S4 Supervision of healthcare professionals	C10	10	20	20	2
Total F3		***100***	***155***	***120***	***15***
F4. Sciences, techniques and nursing interventions					
UE.4.1.S1 Comfort and well-being care	C3	6	34	10	2
UE.4.2.S2, S3 & S5 Relationship care	C6	7	71	22	4
UE.4.3.S2 & S4 Emergency care	C4	9	33	8	2
UE.4.4.S2, S4 and S5 Therapeutics and contribution to medical diagnosis	C4	19	91	40	6
UE.4.5.S2 & S4 Nursing care and risk management	C7	20	20	10	2
UE.4.6.S3 & S4 Educational and preventative care	C5	4	36	60	4
UE.4.7.S5 Palliative and end of life care	C4	10	20	20	2
UE.4.8.S6 Quality of care assessment practices	C7	30	20	25	3
Total F4		***105***	***325***	***195***	***25***

F5. Integration of knowledge and situated professional postures in nursing					
UE 5.1.S1 Accompaniment in achieving daily healthcare	C3	0	35	15	2
UE 5.2.S2 Assessment of a clinical situation	C1	0	20	30	2
UE 5.3.S3 Communication, project management	C2 & C6	0	40	60	4
UE 5.4.S4 Educational care, training of professionals and trainees	C5 & C10	0	40	60	4
UE 5.5.S5 Implementation of therapeutics and care coordination	C4 & C9	0	40	60	4
UE 5.6.S6 Quality analysis and processing of scientific and professional data	C7 and C8	0	40	160	8
UE 5.7.S5 & S6 Optional UE		0	20	30	2
UE 5.8. S1 to S6 Traineeships (2100 hours)					60
Total F5		***0***	***235***	***415***	***86***
F6. Work methods					
UE.6.1.S1 Work methods and ICT		0	25	25	2
UE.6.2. S1 to S6 English		0	60	190	10
Total F6		***0***	***85***	***215***	***12***
TOTAL (1+2+3+4+5+6)		**750**	**1050**	**1200**	**180**
Source: Order of 31st July 2009 concerning the State Diploma in Nursing (the new programme applicable since September 2009): http://www.coordination-nationale-infirmiere.org/index.php/200906111008/Actualites/Nouveau-diplome-d-Etat-d-Infirmier-pour-la-mise-en-place-du-LMD.html					

Tab. 2: Detailed three-year-period education and training programme in nursing

3.2.2 Organisation and methods

The programme is implemented on a fifty-fifty alternating training basis between theoretical and practical courses within a training institute for nurses ((IFSI – Institut de Formation en Soins Infirmiers) and workplace clinical training within hospital or non-hospital accredited (public/private) institutions/organisations.

Training courses within the ISFI

There are three basic forms/methods of provided education and training courses:
Lectures (CM- Cours Magistraux): They are courses whose contents are basically "theoretical", provided by qualified teachers within the domain in a room of an amphitheatre type to a large number of nurses. The total number of 720 hours devoted to CM during the tree-year-period is distributed over the 6 semesters as follows:

	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Total
CM hours	231	126	118	109	116	50	750

Tutorials (TD-Travaux Dirigés): As a mandatory part of the educational and training courses, they are provided into groups gathering no more than 25 students per a group. These supervised and guided courses are used to illustrate, deepen and complete the theoretical course/lecture via the introduction of new data (which may be theoretical or practical), and to allow students to prepare individually and in groups presentations/reports, exercises and other miscellaneous works (including cases of working on clinical situations/postures). The total number of 1050 hours devoted to TD during the tree-year-period is distributed over the 6 semesters as follows:

	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Total
TD hours	234	183	177	187	184	85	1050

Guided personal works (TPG-Travaux Personnels Guidés): They concern the activities undertaken individually by the students themselves such as: carrying out some research or study works; preparing presentations, writings or projects; taking in charge some assignments requested and guided by the trainers based on the capacities and the autonomy of each the concerned trainee. There are two categories of TPG: the basic mandatory TPG and the complementary TPG. The total number of 1200 hours devoted to both basic TPG (300 hours) and complementary TPG (900 estimated hours) during the tree-year-period, is distributed over the 6 semesters as follows:

TPG (hours)	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Total
Basic	60	41	55	54	50	40	300
Complementary	100	150	150	150	150	200	900
Total	160	191	205	204	200	240	1200

Workplace training

a)-Types and durations:

There are four types of mandatory workplace training connected with the study units (UE 5.8.S1 to S6) which integrate within the framework the implementation of the three-year-programme of the selected qualification for the case study in general nursing:

1. Short duration (or punctual) nursing care;
2. Long-term, follow-up and rehabilitation nursing care;
3. Psychiatric or mental healthcare;
4. Individual or collective nursing care in life spaces.

These fours workplace clinical traineeships have an overall duration of 60 weeks for three years, i.e. 2100 hours (60 ECTS), based on 35 working hours per week. This duration is distributed over the 6 semesters of the three-year-period, as follows:

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6
5 weeks	10 weeks	10 weeks	10 weeks	10 weeks	15 weeks (10 +5) or (5+10)
175 hours	350 hours	350 hours	350 hours	350 hours	525 hours (350+175) or (175+350)
Types of undertaken training: 1, 2 or 3	Types of undertaken training: 1,2,3,4	Types of undertaken training: 1,2,3,4	Types of undertaken training: 1,2,3,4	Types of undertaken training: 1,2,3,4	Types of undertaken training: according to the IFSI's choice
5 ECTS	10 ECTS	10 ECTS	10 ECTS	10 ECTS	15 ECTS

b)-Tutoring and follow-up of training:
Tutoring and follow-up of each student is taken in charge by four types of tutors: a training master, a training tutor, a proximity tutoring professional and an IFSI's referent trainer for traineeship, However, these four follow-up and accompaniment functions can be performed by the same person for organisational reasons or in the case of team management constraints:

The training master (maître de stage) takes in charge the training related organisational and institutional functions and guarantees the quality of provided training by securing the provision of the appropriate necessary means and resources, namely the existences of qualified professionals, coordination and liaison activities and tools allowing for the achievement of real high quality learning through the undertaken traineeship.

The training tutor (tuteur de stage) takes in charge, in cooperation with the training master and the IFSI's referent tutor, the training related pedagogical functions and proposes solutions to any difficulties or conflicts. He/she secures the accompaniment of the trainees and evaluates their progression via the organisation of regular meetings and interviews with the trainees.

The proximity tutoring professional (professionnel de proximité) takes in charge the daily pedagogical supervision and guidance of the trainee's activities at workplace.
The IFSI's referent trainer for traineeship (formateur de l'IFSI, referent de stage) takes in charge, in cooperation with the training master and the tutor, the following basic activities:

- Participation in the implementation and follow-up of the traineeship related necessary organisational and institutional arrangements;
- Follow-up of the trainees' learning paths and undertaking the appropriate measures to deal with any pedagogical issue that may arise during the training.

The implementation and follow-up instruments and tools of the traineeships in nursing include the following:

- The establishment of a prior traineeship tripartite agreement (convention de stage) signed by the IFSI, the host training organisation/institution and the trainee in conformity with the Decree n° 2006-1093 of 29 August 2006. This agreement specifies the traineeship objectives, duration, trainees' remunerations, modes of follow-up, assessment and validation of acquired knowledge and competences, and the commitments of parties involved in its implementation.

- The establishment of a traineeship follow-up and supervisory charter (charte d'encadrement) between the IFSI and the host training organisations/institutions, which formalises the commitments of the two parties in this connection.
- The establishment of a welcome and supervision booklet (livret d'accueil et d'encadrement), which is specific to each hosting site of the internship and it includes basically:
  - Necessary information for understanding the hosting organisation functioning and activities (different department/units, types of health services provided, treated pathologies, …);
  - Most common situations the student may face;
  - Tasks and activities that will be offered;
  - Elements of more specific skills that the student may acquire;
  - List of resources available to students in the internship;
  - Supervision arrangements;
  - Training organisation regulations on the training site.

3.3 Assessment and certification

As it is the case within the whole educational and training system in France, there are two modes of assessment used to validate the acquired knowledge and skills in nursing care during the whole educational and training duration of three years (6 semesters = 180 ECTS):

- Continuing assessment during the course of study and training periods (CC – Contrôle Continu);
- Punctual assessment (CP - contrôle ponctuel).

3.3.1 Assessment and validation of traineeships

Concerning the assessment of acquired competences and skills during the clinical traineeships periods, the "student's training portfolio" (portefeuille de l'étudiant) is used as a tool for the follow-up, measuring and the assessment of the student progression in this connection. It is focused on keeping a continuous record of undertaken nursing tasks and activities, and related acquired skills and competences during the training periods. It includes several parts completed at each training stage:

- Elements concerning the training objectives and the curriculum, already included in the "training portfolio" by the students himself/herself before the start of the training;
- Analytical elements covering the student's practices connected with archived activities and tasks at workplace training, written by the student;
- Elements of acquired skills and competences in conformity with the listed set of criteria, written by the tutor, in consultation with the training follow-up and supervision team, during the training related assessment interview;
- Elements concerning the implemented nursing care actions, activities or techniques, written by the tutor, in consultation with the training supervision team and the student during the traineeship placement;
- An overall assessment report ("un bilan") concerning the student progress during each of the undertaken traineeships, established by the tutor.

The acquisition of the elements of each competence and technical activity is progressive process through which each student can make progress at his/her own pace, provided that the minimum requirements laid out in the training related referential standards (Order of 31 July 2009 concerning the "State Diploma in Nursing (DEI)") are fully respected.

At the end of each semester, the referent trainer of the IFSI in charge of the pedagogical follow-up the student establishes an assessment report concerning the student's achievements. This referent trainer within the IFSI advises and guides the concerned student about the next career steps to follow. Taking into account the element contained in "the student's portfolio', the concerned student may have to modify his/her career path.

The ECTS corresponding to the undertaken training are awarded when the student meets the following conditions (Art. 56 of the Order of 31 July 2009):

- Having undertaken all required traineeships, where the presence in each one of them cannot be less than 80% of the planned duration, within the limits authorized by the regulations;
- Having analyzed the activities exercised during training, including having them listed in the student's portfolio;
- Having implemented and validated required elements of competences in one or more situations;
- Having validated the technical capacity of performing actions or activities connected with the undertaken internship.

The training tutor and/or the master assess and mark the trainee's acquired competences during undertaken training and register it in the student's portfolio. Then, the IFSI's referent trainer in charge of the pedagogical follow-up of the student takes a note of the awarded mark and proposes to the ECTS Awarding Commission for the validation of the student's undertaken training.

3.3.2 Assessment and calidation of the study units (UE) and certification

Assessment and transition from one year to another

Each educational and training unit (UE-Unité d'Enseignement) is assessed and validated (via continuing and/or punctual assessment methods) over each semester. A system of compensation between certain study units (UE) might be used on the condition that the awarded mark should be at least 9/20. The transitions connected with the outcomes of the assessment process are regulated as follows:

- The transition from the first to the second year is obtainable through the validation of semesters 1 and 2, or the validation of a full semester, or even through the validation of 48 out of 60 ECTS spread over two semesters. The student who obtained between 30 and 47 ECTS, are allowed to repeat the first year. As for those who got less than 30 ECTS, the pedagogical council may allow them to repeat the year.
- The passage from the second year to the third year is allowed via obtaining the validation of the semesters 3 and 4 or the validation of three semesters out of four, or even through the validation of 108 out of 120 ECTS spread over the four semesters of training. They are allowed to repeat the second year, the

students who obtained between 90 and 107 ECTS over four semesters. For those who obtained less than 90 ECTS, the pedagogical council may allow them to redo the second year.

- At the end of the third year, the students who did not obtain the 180 ECTS, are allowed to enroll again in order to validate the missing study units. The procedures for recuperating these missing units are organized through a decision taken by the pedagogical teaching staff. Then this decision is communicated to the Pedagogical Council for information.

For students who choose to be redirected, there is a special system which allows them, at any time during their career path, to have individually an overall assessment of acquired learning and its validation in terms of ECTS. Additionally, appropriate support will be given if needed.

Award of ECTS

There is an ECTS Awarding Commission placed under the responsibility of the Director of the IFSI. During each semester, the trainer in charge of the pedagogical follow-up proposes to the ECTS Awarding Commission, the assessment results of the student performance so that the Commission can take a decision concerning the awarded credits, including the decision concerning the next steps to follow by the concerned student.

Awarding the certification

At the end of the three years of training, and on the basis of the overall results obtained by the student, the jury takes decision concerning the award of the certification and issues the diploma. The State Diploma in Nursing (DEI) is obtained after obtaining 180 ECTS in accordance with these qualification referential standards.

The same State Diploma in Nursing (DEI) can also be obtained through the Validation of Acquired Experiential learning (VAE-Validation des Acquis de l'Expérience).

3.4 Transition points and perspectives for career progression

3.4.1 Access conditions and exemptions

The access and exemption requirements to the new programmes concerning the selected qualification in nursing, are specified by the Order of 31 July 2009 concerning the State Diploma in Nursing (DEI-Diplôme d'Etat infirmiers). The candidate has to be aged at least 17 years old by 31 December during the year of the competitive exam. There are usually three basic cases of lists in which the candidate has to enroll.

Case 1: It concerns the following types of candidates:

- Holders of all types of baccalaureate certificates including the diploma for access to university studies DAEU (Diplôme d'Accès aux Etudes Universitaires) (EQF level 4);
- Holders of the State Diploma for Medico-Psychological Auxiliary (Diplôme d'Etat d'Aide Médico-Psychologique), justifying the equivalent of three years of working professional experience;
- Candidates chosen by the regional pre-selection jury on the basis of:

- justifying three years of working experience within the health and socio-medical sector or five years within other professional sectors (marked on 20 points),
- sitting for a two-hour-French examination (marked on 20 points),
- and obtaining ultimately an overall overage mark of 20/40 at least (but no one of the 2 marks should be lower than 7/20).

The overall competitive access examination concerning all these candidates, in this first case, includes the following three selection tests:

- Two written tests: the fist test consists of 3 questions covering a text (within the socio-healthcare field) of 1 to 2 pages (for 2 hours) followed by an aptitude test. If the overall average of the two obtained marks is equal or higher then 20/40 (but no one of the 2 marks should be lower than of 8/20), then the candidate can go for the next last test.
- One oral admission test which consists of a presentation concerning a healthcare and social theme of 10 minutes followed by a discussion of 30 minutes with the members of selection jury.

Case 2: It concerns the candidates holding the State Diploma of an Auxiliary Nurse (DEAS-Diplôme d'Etat d'Aide Soignant, ex. DPAS) or the State Diploma of an Auxiliary Childcare (DEAP-Diplôme d'Etat d'Auxiliaire de Puériculture, ex.DPAP), justifying three full-time (or equivalent) working experience in the domain. The competitive selection examination specific to candidates among auxiliary nurses (AS – Aide soignants) and childcare auxiliaries (AP-Auxiliaire de Puériculture) consists of only one test. This includes a written analysis covering three professional situations prepared in 2 hours and marked on 30 points. Only candidates who obtained a mark at least equal to 15/30 are admitted and ranked by order of priority within the principal list limited to 20% maximum of the available places reserved to this specific category within the IFSI. The remaining successful candidates are put on a complementary waiting list pending on withdrawal. The admitted successful candidates in this case, are exempted from the 3 educational and training units corresponding to the competence n°3 "accompanying a person during the process of carrying out daily healthcare", i.e.:

- UE 2.10.S1 Infectiousness, hygiene;
- UE.4.1.S1 Comfort and well-being care;
- UE 5.1.S1 Accompaniment in achieving daily healthcare.

They are also exempted from undertaking the workplace clinical traineeship programmed for the 1st semester. The resulting free time may be devoted, after approval of the pedagogical council, to some activities facilitating the adaptation of these students to continue effectively their educational and training paths.

Case 3: It concerns two other categories of candidates:

The first category in this case, concerns candidates who can be exempted from the first year of study with the IFSI, if they hold one of the following qualifications (Art.36 of the Order of 31st July 2009):

- The State diploma of physiotherapist, or occupational therapist, or pedicure – podiatrist or medical radiology manipulator;
- Diploma of hospital assistant within the civil hospices of Lyon;

- Students in medicine justifying their admission to the second year of the second cycle;
- Midwifes justifying the validation of the first year of the first stage in their studies.

Their access to the 2nd year within the IFSI is based on the condition that they have to pass successfully a written anonymous test consisting of a multi-questionnaire covering all the study units to be exempted from during the first year and obtain a mark at least equal to 10/20.

The second category concerns candidates holding certifications in nursing outside the European Union who can follow all or part of their nursing studies within the IFSI. The competitive access examination to the programme consists of one primary admissibility test and two final selection tests. The primary one is an anonymous written test (of 2 hours) consisting of a clinical case study connected with the professional nursing practice, followed by 5 questions for assessing particularly the candidate's acquired knowledge and competences in health and social care including French linguistic aptitude. To go for the final 2 selection tests, the candidate has to obtain at least 10 out of 20 in this test.

The final selection stage consists of an oral test and the preparation of a practical scenario. During the oral part lasting for 30 minutes, the candidate is interviewed in French by a jury composed of 2 executive nurses (one from the IFSI and the other one from the nursing sector) concerning his/her professional career and motivations. It is marked on 20. As for the second part which lasts one hour, consists of the implementation of two nursing treatment actions. These two practical cases allow the same two members of the jury, to assess the candidate's technical and gesture capacities. It is also marked on 20.

To be ultimately admitted within the IFSI, the candidate has to obtain an overall average mark of 30/60 for the three tests. The admission quota for this category of candidates is limited to 2% of the total number of selected student nurses within the IFSI's programme for the targeted qualification.

3.4.2 Graduate nurses' career evolution after obtaining the DEI

A nurse holding a State Diploma in Nursing (DEI – Diplôme d'Etat d'Infirmier) (EQF level 6) can integrate the following occupations within the labour market:

- As an employee within the private or public hospitals and clinics, in nurseries, in schools, in mother and child care centres, in old people homes or within the Health and Rescue Service as fire-fighting nurse" (ISP - Infirmier Sapeur-Pompier), etc.
- As an independent (on free-lance basis), the nurse provides care to patients at home or in private practice, on doctor's prescription in most cases requiring medical treatment and care.

The graduate working nurses (as generalists) can progress in their career via further learning by:

- Undertaking a specialisation in nursing requiring State diplomas (usually EQF level 7) such as:
  - Anaesthetist nurse (duration of specialization: 24 months);
  - Operating Room Nurse (duration of specialization: 18 months);

  - Healthcare officer (duration of specialization: 11 months);
  - Paediatric nurse (duration of specialization: 12 months);
  - Occupational Healthcare Nurse (with professional authorization) (duration of specialization: 12 months), accessed through competitive exams after a working experience as a nurse of 2 years for the first two specialisation and 4 years for the 3rd one,
- Or, going for other specialisations not requiring State certifications such as: hygiene nurse; stoma-therapeutic nurse; clinical specialist nurse; bedsores specialist nurse; public health nurse.

During their working career, both generalist and specialist nurses have to update/improve their knowledge, skills and competences in their fields of activity through the use of existing continuing vocational training (CVT) instruments within the French VET system.

4 Results of the MLI assessment

4.1 Implementation of the MLI procedure: research method

- Documentation and desk research specific to the selected qualification in nursing for the preparation of data collection matrices, testing of the MLI implementation feasibility and final completion of MLI questionnaires in cooperation and partnership with the following partners:
  - The Nurses' Training Institute of Strasbourg Hospitals (IFSI- Institut de Formation en Soins Infirmiers des hôpitaux de Strasbourg) ;
  - Two senior experts in nursing and healthcare: 3 main working workshops were held between the core partner, the IFSI team and the two experts on 13/05/2012, 24/08/2012 and 21/11/2012.
- The undertaken tasks and activities connected with the documentation specific to the selected case study and the compilation of related data matrices, testing of MLI implementation feasibility and completion of MLI questionnaires included basically the following:
  - Experts meetings, translation of the MLI questionnaire into French and interviews with the "referent trainer" in charge of each study unit and his/her pedagogical assistant;
  - Consulting all the referential documentations and materials connected with each unit such as: the National Referential Standards for training in nursing in its six annexes (Order of 31 July 2009 concerning the State Diploma in nursing), the mandatory overarching textbooks (e.g. "anatomie physiologique" of Tortora-Deprickson, "diagnostic infirmier" of Carpenito, etc.), each study unit's specific pedagogical documents concerning the adaptation and the implementation of the training programme referential standards, the assessment and examination records, recommended articles and text books by the teaching/training staff for each study unit.
  - Follow-up and monitoring work progress (for desk research, documentation and the completion of data collection matrices and MLI questionnaires) via meetings between the core partner, the IFSI and the experts.

4.2 Selection of study units of the concerned qualification

As presented in table 2 of section 3 (through six basic study fields in nursing), the 37 units making up the whole programme of the selected qualification "DEI" (Diplôme d'Etat d'Infirmier) at EQF level 6 are regrouped according to their nature and role into four interrelated basic categories:

- Units (UE 1.1 to UE 2.11: 42 ECTS) considered as "contributory units" to the development and acquisition of basic knowledge for nurses as they cover two basic fields: "humanities, social sciences and law (15 ECTS)" & "biological and medical sciences (27 ECTS)".
- Units (UE 3.1 to UE.4.8: 40 ECTS) considered as "constitutive units" of core knowledge and competences in nursing as they cover two subject fields in nursing: "sciences and techniques in nursing: fundamentals and methods (15 ECTS)" & "Sciences, techniques and nursing interventions (25 ECTS)".
- Units (UE 5.1 to UE 5.8: 86 ECTS) considered as "integrative units" of different forms of knowledge and competences in nursing developed and acquired through situated and work-based learning. They encompass all the units of the subject field of "integration of knowledge and situated professional postures in nursing", including the six-semester unit connected with the development and the acquisition of practical knowledge and competence at workplace through the undertaken "mandatory clinical traineeships (60 ECTS)" of 2,100 hours over the whole duration of the curriculum implementation
- Units (UE.6.1.S1 and UE.6.2.S1 to S6: 12 ECTS) considered as "transversal units" integrating within the field: "work methods". They allow student nurses to develop their transversal knowledge and competences.

4.3 Notable MLI level assessment results: overall tendencies

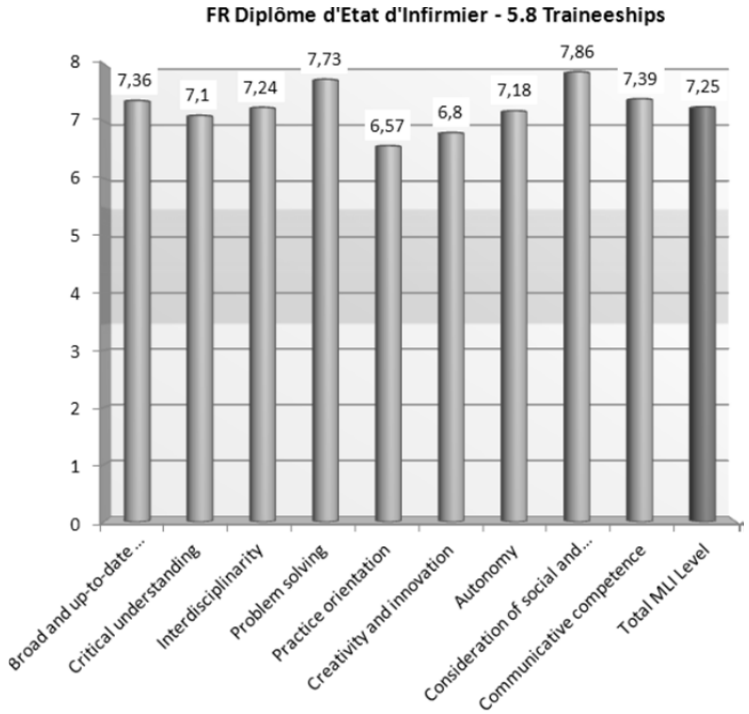
The obtained MLI level scaling cores represent, for each assessed study unit, the aggregation of the 51 item responses to nine average scaling dimensions: broad up-to date knowledge, critical understanding, interdisciplinarity (as knowledge scaling dimensions), practice orientation, problem solving, creativity and innovation (as skills scaling dimensions), autonomy, communicative competence and consideration of social and ethical issues (as competence scaling dimensions) (Müskens, Tutschner & Wittig 2009).

Concerning the outcomes of the application of the MLI assessment tool to the "DEI" qualification in nursing, the average level indicator for 37 assessed units is situated between a minimum of 3.88 obtained within the "transversal units" by the unit "work methods and ICT" and a maximum of 7.25 achieved within the "integration units" by the unit "traineeships". The overall tendencies can be presented in a decreasing order of importance of achieved level-assessment results by basic category of study units as follows:

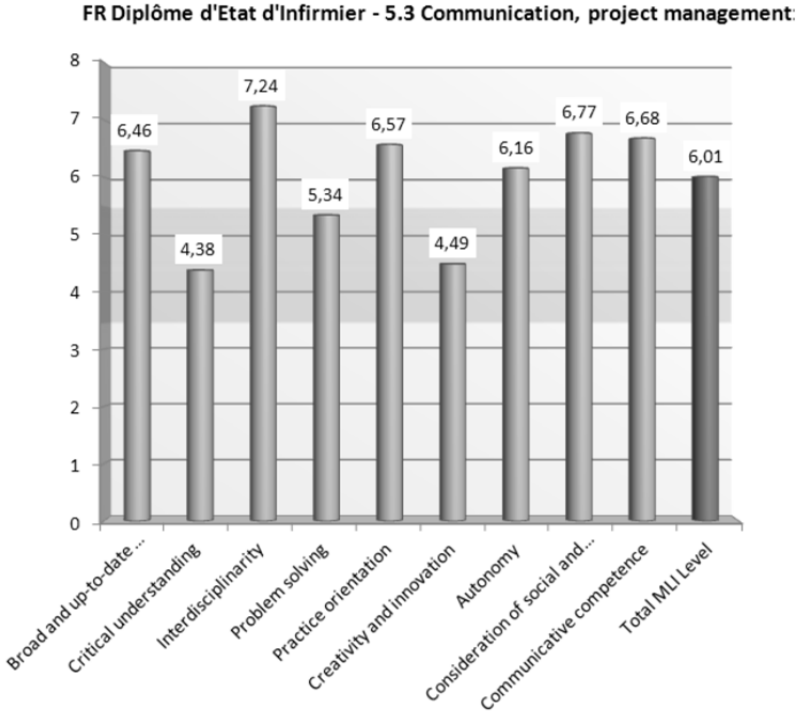
4.3.1 Integrative units

These units achieved the highest average (6.18) for the 8 units (5.1 to 5.8). The highest score (7.25) was obtained by the unit "UE 5.8-Traineeships" dominantly through the dimensions: consideration of social and ethical issues (7.86), problem solving (7.73),

communicative competence (7.39) and broad up-to-date knowledge (7.36) (see chart 5.8 below).

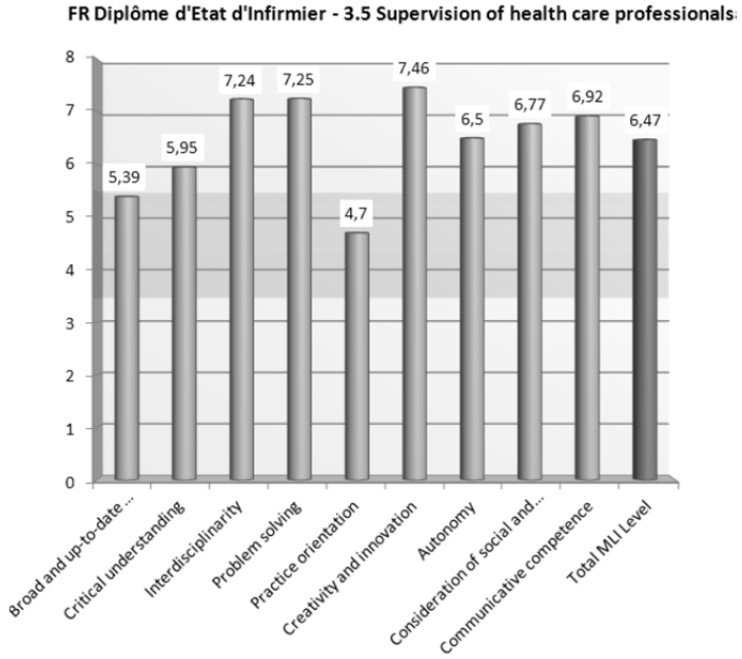


The lower bound of this category is represented by the unit "UE 5.3-communication and project management (chart 5.3)" which achieved an average MLI score of 6.01, prominently through the dimensions: interdisciplinarity (7.24), consideration of social and ethical issues (6.77), communicative competence (6.68), practice orientation (6.57), broad and up-to-date knowledge (6.46) and autonomy (6.16).

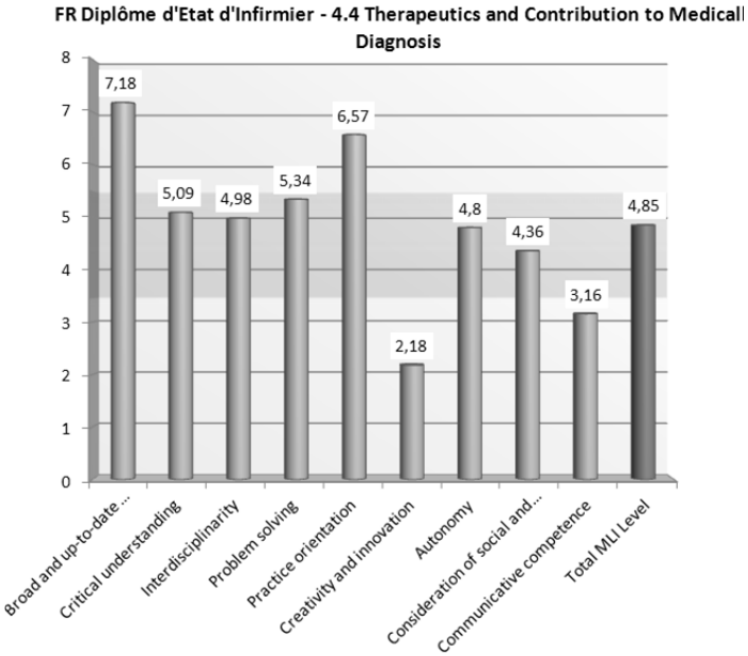


4.3.2 Constitutive units

Covering two fields of study ("sciences and techniques in nursing: fundamentals and methods" and "sciences, techniques and nursing interventions") over 13 units (3.1 to 4.8), the "constitutive units" obtained the second highest average score of 5.80. The unit "UE 3.5- supervision of healthcare professionals (chart 3.5)" achieved the highest scaling score (6.47) dominantly through the dimensions: creativity and innovation (7.46), problem solving (7.25), interdisciplinarity (7.24), communicative competence (6.92) consideration of social and ethical issues (6.77) and autonomy (6.50).

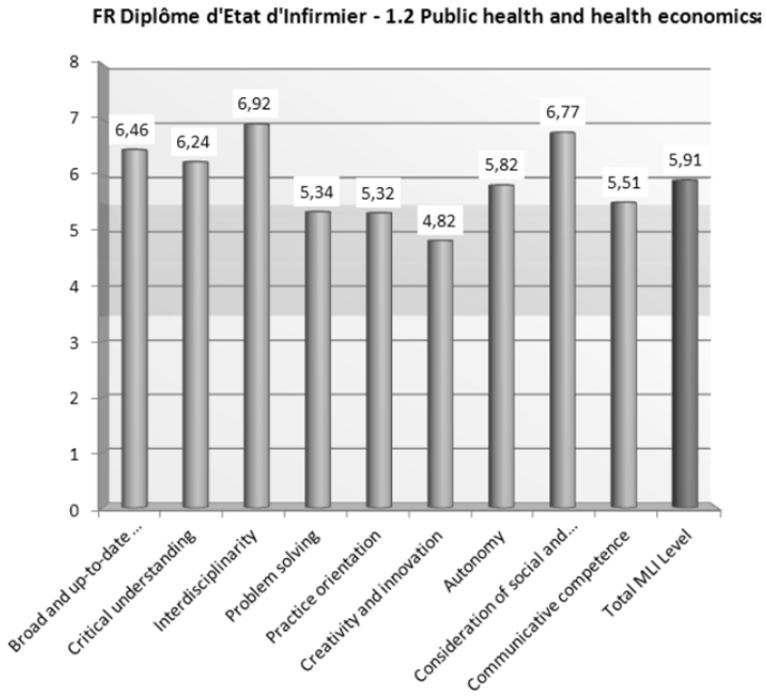


The lowest score (4.85) in this category was obtained by the unit "UE 4.4 therapeutics and contribution to medical diagnosis (chart 4.4)". The predominant constitutive dimensions in this unit are basically: broad and up-to-date knowledge (7.18), practice orientation (6.57), problem solving, critical understanding (5.09) and interdisciplinarity (4.98).

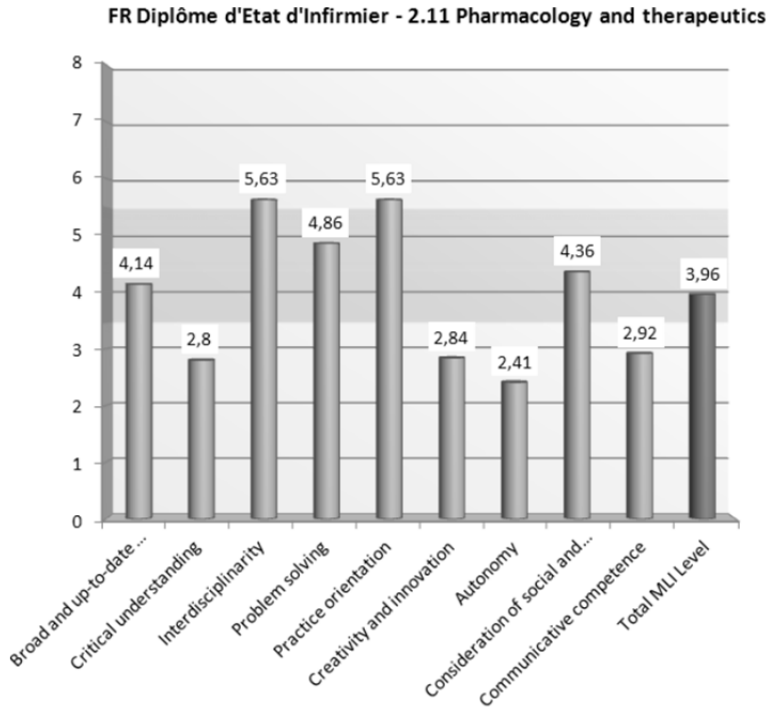


4.3.3 Contributory units

Encompassing two fields of study ("humanities, social sciences, law" and "biological and medical sciences") of 14 study units (1.1 to 2.11) in total, they constitute according to MLI assessment the third important contributor to the nursing programme (with a score of 5.11 on average). The highest average score (5.91) was obtained in the unit "UE 1.2- public health and health economics (chart 1.2)" dominantly through the dimensions: interdisciplinarity (6.92), consideration of social and ethical issues (6.77), broad up-to-date knowledge (6.46) and critical understanding (6.24).

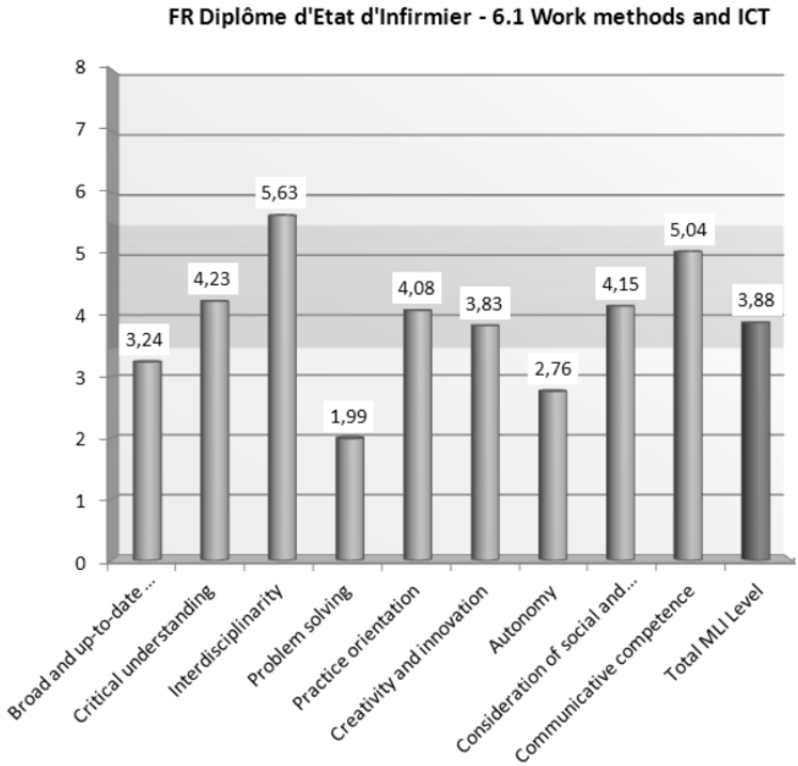


The lowest score in this category, was obtained in the "UE 2.11 pharmacology and therapeutics (chart 2.11)" which is lower than EQF level 4. However the most contributing dimensions to this unit, with scores higher than the unit average (3.96), are basically: interdisciplinarity and practice orientation (5.63), followed by problem solving (4.86), consideration of social and ethical issues (4.36) and broad and up-to-date knowledge (4.14).



4.3.4 Transversal units

They achieved the lowest MLI average scaling (3.98) within the whole DEI qualification in nursing. The lowest average score (lower than EQF level 4) was obtained by the "UE 6.1 work methods and ICT". However, as it can be seen in the chart 6.1 below, the achievement of this unit's transversal dimensions, interdisciplinarity and communicative competence, remains situated within the bounds of EQF level 5 and 6.



5 Conclusion

In the light of the above analysis conducted throughout the three main sections of this article, it is important to underline some of the overall tendencies concerning some of the outcomes of the exemplary case in nursing:

- First, predominantly feminine (88%), the nursing profession constitutes the largest occupational segment within the French healthcare system. The number of working nurses and their auxiliaries represents about 78% of the occupations within the paramedical sector and 58% of the overall healthcare employment (DARES, 2011).
- Secondly, the qualified nurses, especially the holders of the State Diploma in nursing (DEI- Diplôme d'Etat d'Infirmier) at EQF level 6, can integrate the labour market and exercise their activity in two ways: either as an employee within the public or private hospitals/clinics (including old people homes, mother and child care centres, occupational medico-healthcare institutions, schools, nurseries, health and rescue service units) or working as a self-employed nurses. They can progress in their careers by going for further learning and qualifications leading to specialisation and responsibility positions (basically at EQF level 7). They also update or improve continuously their work related knowledge, skills and competences through the use of the existing CVT (continuing vocational training) instruments.
- Thirdly, concerning the application of the MLI procedure to the selected exemplary case of an EQF-level-six-qualification in nursing, the obtained overall average level indicator of 5.52 for the "DEI-qualification" is situated between a unit minimum level indicator of 3.88 and a maximum of 7.25. The highest MLI unit level indicator were achieved within the units of the field "integration of knowledge and situated postures in nursing" (with a unit average of 6.18), followed by those of the field "sciences and techniques in nursing: fundamentals and methods" (5.94 on average) and then those of the field "sciences, techniques and nursing interventions" (with a unit average of 5.71). The fourth position is held by the units of the field "humanities, social sciences and law" (5.53 on average), followed by those units of the study field of "biological and medical sciences" (by a unit average of 5.00). The lowest MLI level indicators were obtained by the units of the study field "work methods" of 3.98 on average, which fall outside the boundaries of the unit EQF level indicators (directly estimated by the experts and the trainers) of a minimum of (4.5) and a maximum of (6.5).

References

Barlet, M. & Cavillon, M. (2010) : "La profession infirmière : Situation démographique et trajectoires professionnelles", Série Etude et Recherche, Document de Travail n° 101 – novembre 2010, DREES (Direction de la recherche, des études, de l'évaluation et des statistiques) : http://www.sante.gouv.fr/IMG/pdf/serieetud101-2.pdf.

Buisine, S., Romain, O. (2004): "Les effectifs et l'activité des professionnels de santé", Rapport ONDPS 2004, Tome 1

CNCP (2010) : "Référencement du cadre national de certification français vers le cadre Européen de certification pour la formation tout au long de la vie", Commission Nationale de la Certification Professionnelle (CNCP), Octobre, 2010.

DARES (2011) : "L'évolution des métiers en France depuis vingt-cinq: Les familles professionnelles – Portraits statistiques 1982 – 2009", DARES, Sept.2011 : http://www.travail-emploi-sante.gouv.fr/IMG/pdf/2011-066.pdf and http://www.travail-emploi-sante.gouv.fr/IMG/pdf/V-Sante_action_sociale_culturelle_et_sportive.pdf

Delamaire, M.-L., Midy, F. & Polton, D. (2004): "Analyse de trois professions sages-femmes, infirmières, manipulateurs d'électroradiologie médicale", Rapport ONDPS 2004, Tome 3.

Dif, M. (2010): "EQF effect on national and sectoral qualification processes", in L. Deitmer, M.-L. Stenström and S. Manning (Eds): Proceedings of the ECER-VETNET Conference 2010 -"Education and Cultural Change", Helsinki (25 to 27 August 2010), http://www.b.shuttle.de/wifo/vetnet/ecer10.htm

Dif, M. (2009): "Validation of Acquired Experiential Learning within the French VET System: Functioning and role in promoting professionalisation and Lifelong Learning", in R. Tutschner, W. Witig & J. Rami (Eds.): "Accreditation of Vocational Learning outcomes: Perspectives for European Transfer", pp.56-74, 43/2009, Bremen: ITB.

Jakoubovitch, S. (2009):"La formation aux professions de la santé en 2008", DREES, Document de travail, série « Statistiques », n° 139.

Müskens, W., Tutschner, R. & Wittig, W. (2009): "Improving permeability through equivalence Checks: An example from mechanical engineering in Germany". In: Tutschner, R., Wittig, W., Rami, J. (Eds.): "Accreditation of Vocational Learning Outcomes – European Approaches to Enhance Permeability between Vocational and Higher Education", Impuls, 38, pp. 10-33, Bonn: BIBB.

Order of the 31st July 2009 concerning the State Diploma in Nursing (Arrêté du 31 juillet 2009 relatif au diplôme d'Etat d'infirmier), available online: http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000020961044&dateTexte=&categorieLien=id & http://www.coordination-nationale-infirmiere.org/index.php/200906111008/Actualites/Nouveau-diplome-d-Etat-d-Infirmier-pour-la-mise-en-place-du-LMD.html

ONI (Ordre National d'Infirmiers) – Nurses' National Association (Order), on-line available: http://www.ordre-infirmiers.fr/

ONM (Ordre National des Médcins) – Doctors' National Association (Order), online available : http://www.conseil-national.medecin.fr/l-ordre

Public Healthcare Code (Code de la santé publique), available online "legifrance.gouv.fr": http://www.legifrance.gouv.fr/affichCode.do?idArticle=LEGIARTI000006685741&idSectionTA=LEGISCTA000006170991&cidTexte=LEGITEXT000006072665&dateTexte=20120429 Legifrance.gouv

RNCP (Répertoire National des Certifications Professionnelles) – National Repertory for Vocational Qualifications (NQF repertory), Online : http://www.rncp.cncp.gouv.fr/

ROME (Répertoire Opérationnel des Métiers et des Emplois)-Labour market "Operational Repertory for Trades and Occupations", Online : http://www2.pole-emploi.fr/espacecandidat/romeligne/RliIndex.do.

Geriatric nursing in Germany

Dagmar Koch-Zadi

1 Background: nursing education in the German education system

At the beginning of the 20th century most of the European countries started a comprehensive educational reform in the nursing sector. Currently the European landscape in nursing education is really heterogeneous, because there is a great variety of education and study pathways. In general this educational field has a high dynamic growth.

Talking about nursing education in Germany requires considering the development in this field since recent years. All important stakeholders are involved in this process: politics, experts in education science, in practice and on the labour market.

The important lines in this development process are:

- Reformation of the occupation act in nursing: Currently the government is working on the amendment of the Occupation Act. In March 2012 the Federal-state working group presented a document describing the key issues for a new occupational act in Nursing. It aims to combine the different training programmes for the three branches General Nursing, Geriatric Nursing and Paediatric Nursing.
- Restructuring the vocational education and training in nursing: Currently in the education system several ways for the professionalization of nursing are discussed. Experts in science and practice debate qualification structures and profiles, particularly related to the European discussion about qualification level, learning outcomes and mutual recognition of diplomas. In vocational training several pilot projects and model tests are carried out to prove a new structure of the vocational training in nursing education and to develop a new professional profile for nursing in general.
- Restructuring further training programmes and study paths: Educational institutions for further training develop programmes in cooperation with schools and universities. New courses of study in nursing are introduced in many universities in the federal states. Dual study paths in nursing are introduced, some of them in close cooperation with nursing schools (incorporated model). Study paths in nursing offer possibilities for lifelong learning at higher education level including the recognition of prior learning (permeability).
- The employment system: On the labour market there is a high lack of qualified staff; employers are looking for strategies to make the nursing profession more attractive. In the last few years the nursing institutions started several activities in relevance to work organisation, staff promotion, personal development in order to improve the working conditions.
- The professionals: At least the nurses themselves "stand up" and show their empowerment in this process. The nurses are the biggest professional group in the health care sector. They started various activities to strengthen the effect of the profession, such as implementation of a professional association for nursing, campaigns against the lack of nursing experts etc.

To sum up: all the important stakeholders actively promote the development of nursing in the health sector and the European context in general.

1.1 Structure of vocational/professional education in nursing

1.1.1 Nursing education in the national education system – a unique position

The education for nursing in Germany takes a unique position in the context of the system of vocational education and training. This status induces special structures in the Education system, in responsibility, financing and requirements on the schools. What is the special feature in this case?

No general nursing profession but three different branches

In Germany there are three branches in nursing, defined by age-group: nursing, geriatric nursing and paediatric nursing (Figure 1).

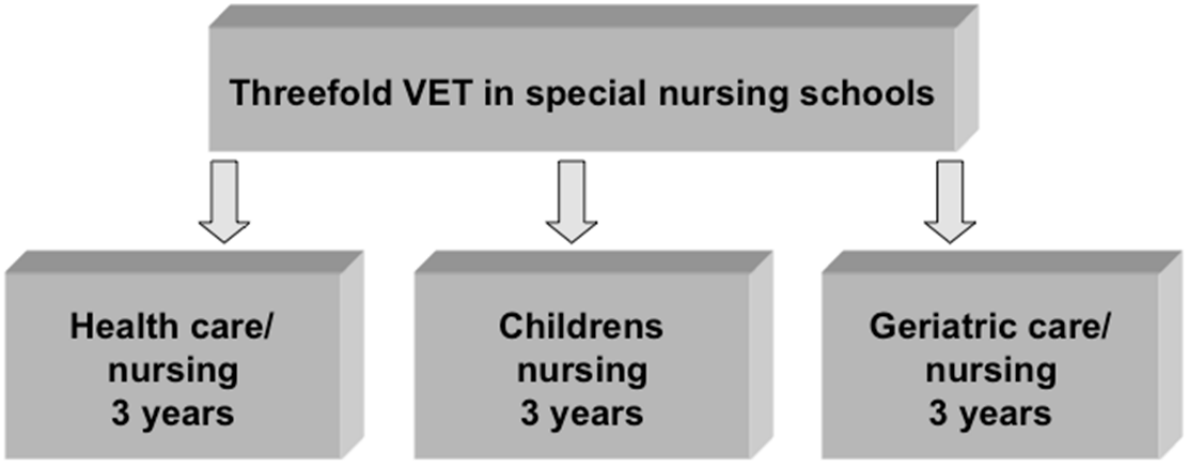


Fig. 1: Branches of vocational education and training in nursing

It needs to be emphasised that the initial training in geriatric nursing only exists in Germany.

Regulation outside the German Vocational Training Act

The nursing education does not fall into the scope of the Vocational Training Act and is not a part of the Dual System (in-company-training and part-time vocational schooling).

The nursing education is regulated by professional law called "Act on Occupations in Geriatric Nursing" of 2003 and the Geriatric Nursing Vocational Training and Examination Regulations of 2002.

The initial vocational education and training in the three nursing branches takes place at the level of upper secondary education and lasts for three years. Besides the initial training there are trainings for nursing assistants which last one or two years and belong to lower secondary education.

The initial training takes place in schools for nurses. The schools provide training for non-academic nursing occupations and usually are integrated with hospitals or care institutions where theoretical and practical training take place. Many of these are private schools and school fees have to be paid.

Skilled nurses who want to pursue their nursing careers have several options to advance their education. The further training on the upper secondary level offers training programs for skilled professionals and executives with state recognition or certificate.

In the tertiary sector there are several study paths in Bachelor and Master degrees in several specialisations (nursing, nursing management, nursing pedagogy etc.).

In the German Qualifications Framework (DQR) the nursing education belongs to level 4. The DQR classifies vocational education and training (3-3.5 years) in general on the 4th level. The outcome of level 4 is defined as "Be in possession of competences for the autonomous planning and processing of technical tasks assigned within a comprehensive field of study or field of occupational activity subject to change." By comparison the outcome of level 5 is defined as "Be in possession of competences for the autonomous planning and processing of comprehensive technical tasks assigned within a complex and specialised field of study or field of occupational activity subject to change".

Among experts in the nursing sector (professional associations, e.g. Deutscher Berufsverband für Pflegeberufe/DBfK) this assignment has been criticized (DBfK 2012) The main argument is that nurses in Germany get competences on level 5, in many fields even level 6. Another problem is the mutual recognition and mobility of the professionals in Europe.

Because of this assignment the German nursing education is not on the same level as in the most other European countries.

In the future this will be an important topic in the multilateral discussion about learning outcomes and comparability of nursing education in Europe.

1.1.2 Educational programmes and qualifications – classical and new pathways

In the secondary education system there are different vocational education and training programmes for the three nursing branches (cf Table 1). This can be called the "classical pathways", because some new pathways in nursing education are in development.

Vocational training	Profession law	Duration	Occupational title
Health care	Single federal law	3 years	Nurse
Health care Assistant	Single federal law Different education and examination regulations in the federal states	2 years	Nurse Assistant
Children's nursing	Single federal law	3 years	Pediatric Nurse
Geriatric care	Single federal law	3 years	Geriatric Nurse
Geriatric care Assistant	Different education and examination regulations in the federal states	1-2 years	Geriatric Nurse Assistant

Tab. 1: VET programmes and qualifications at the secondary level

For a number of years "new pathways" in training programmes are carried out as pilot projects (BMFSFJ 2008; Oelke/Menke 2002). They are designed as joint training

programmes for the three branches (Figure 2). One pathway is the "integrated training programme" with 2 – 2.5 years basic training and 1 year specialisation (in General Nursing, Paediatric Nursing or Geriatric Nursing). The other pathway is the "general training programme" with triennial (or 3.5 years) generalized training for the three branches.
The results of the scientific evaluations recommend accordingly a junction of the three different branches in nursing and a joint vocational education programme (Görres/Stöver 2009).

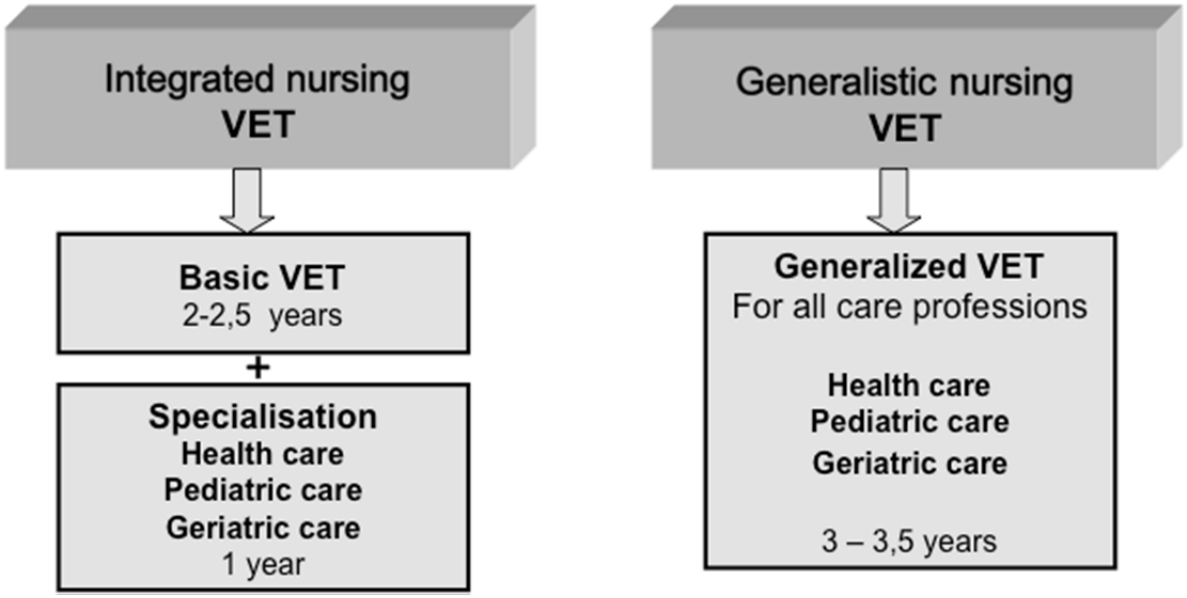


Fig. 2: "New pathways" in VET for the health care and nursing sector

At this point the training programmes for Assistant Geriatric Nurse/Assistant Nurse will not be discussed in detail because the equivalence check in the CrediCare project is concerned with VET in Geriatric Nursing. But it should be noticed that these training programmes are regulated differently in the federal states. In some federal states (e.g. Bremen) the training programme takes one year and the degree is recognised for the training in geriatric nursing (reduction of one year). In other federal states (e.g. Lower Saxony) there are assistant training programmes which last two years.

1.1.3 Entrance requirements

The entrance requirement for all nursing training programmes is the intermediate educational qualification (10 years). This implies that Germany differs from most of the other European countries, which have 12 years school education as entrance requirement. The EU Directive 2005/36/EC demands the higher qualification level for nursing education. In the discussion experts emphasise that in behalf of cross-recognition of degrees Germany has to raise the entrance requirements gradually on the European level (dip 2012).

In particular the entrance requirements are described in Section 6 of the Geriatric Nursing Act: the successful completion of secondary school or another educational qualification recognised as equivalent, or completion of another ten-year period of school education expanding the leaving qualification of a secondary modern school (Section 6 Geriatric Nursing Act). Even students with a certificate of secondary

education have access if they have completed successfully a vocational training lasting at least two years. Students who have the licence as Nursing Assistant or successfully completed vocational training as a Geriatric Nursing Assistant or Nursing Assistant regulated under federal states law and lasting a minimum of one year can reduce the duration of vocational training (Section 7 Geriatric Nursing Act).

1.1.4 Organisation, learning venues and curricula in geriatric nursing

Initial vocational training in Geriatric Nursing lasts three years and takes place in schools for geriatric nursing and in training companies in the care sector. Training can also take place as part-time studies, lasting up to five years in this case.

The programme is organised as dual training, i.e. schools and firms train the students together (figure 3). The training is provided in alternating segments of instruction in school and practical training in the workplace. As a rule, the training is carried out in block-instruction that lasts several weeks. The total volume of the programme comprises 4,600 to 4,900 hours.

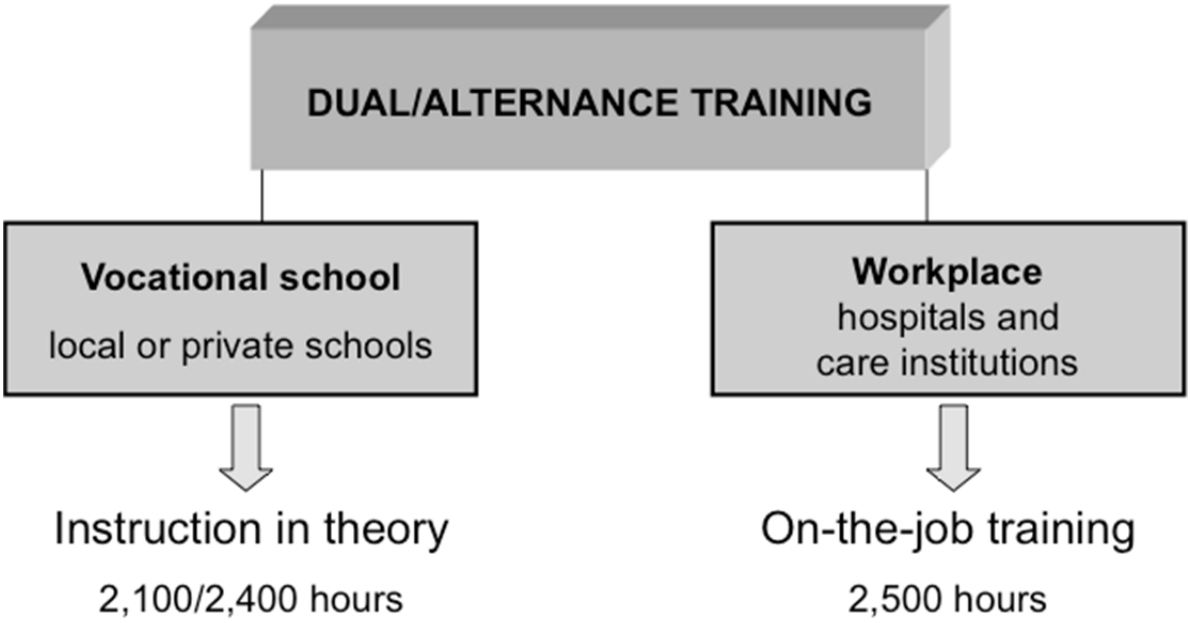


Fig. 3: Structure of VET in the health care and nursing sector

The theoretical and practical instruction in school encompasses at least 2100 hours. In some federal states the volume comprises 2400 hours, because 300 hours in subjects of general education are included in the theoretical instruction; the subjects are German language, foreign language English, politics and religion. These modules are not considered in the equivalence check.

The practical training takes 2,500 hours. The main field for the practical training are residential homes, outpatient nursing facilities (2,000 hours). Parts of the practical training (500 hours) can take place in other facilities which provide care for elderly people: psychiatric hospitals with a gerontopsychiatric department; general hospitals with a specialist geriatric department or specialist geriatric hospitals; geriatric rehabilitation facilities; facilities providing non-institutional assistance for the elderly.

The official timetable determines all learning fields with a fixed number of lessons. Each year has 800 hours of lessons at school for each training year. Each week of instruction comprises 35 hours with compulsory attendance. The practical trainings

normally takes between 6 and 12 weeks with 38.5 – 40 hours a week compulsory attendance (early shift, late shift, weekend) and comprises about 833 hours for each training year. Each training year has about 4 practical sections.

The learning content is based on the "learning-field-approach". In this education concept the training contents are based on professional requirements in the workplace. Students are learning in "learning situations" which present complex assignments of tasks and problems from daily work in the company. The "learning situations" are designed as case study and enable the students to solve practical tasks. Relevant fields of knowledge in the training are health care science, medical science, social sciences (sociology, psychology and pedagogy), ethics, jurisprudence, business administration.

The curriculum for geriatric nursing as described in the "Geriatric Nursing Vocational Training and Examination Regulations" of 26 November 2002 comprises 4 learning areas and 14 learning fields for the theoretical and practical instruction. The four learning areas are:

1. Tasks and concepts in geriatric nursing
2. Support of elderly in organising their lives
3. Legal and institutional framework conditions of geriatric nursing work
4. Geriatric nursing care as an occupation.

For the practical training in geriatric nursing there are 5 topics given which describe different levels of knowledge, competences and skills:

- Familiarisation with the practical field
- Participation in the comprehensive and planned nursing
- Performing independent subtasks
- Performing independent project tasks
- Independent planning and implementation nursing of elderly people

Currently there is no general curriculum in Geriatric Nursing training including a description of learning outcomes. Due to the fact that in Germany the federal states have the competence for education, each federal state has his own curriculum, based on the contents determined by law. The federal curriculums differ in structure, systematic, content etc. Some of them describe trainings goals; others define competences for each learning field. The general orientation for describing learning outcomes in the learning field approach is the occupational decision-making competence, including knowledge-based competence, human competence and social competence.

It can be assumed that in the amended Occupation Act for Nursing (see above) there will be a general curriculum for the three branches based on a description of learning outcomes.

1.2 Framework of geriatric nursing: institutions and stakeholders involved

1.2.1 Competent authorities for regulating the occupational sector and training programmes

The general legal provision regarding to vocational education and training and the professional activity in the geriatric nursing sector is the "Geriatric Nursing Act" of 25 August 2003 and the "Geriatric Nursing Vocational Training and Examination Regulations" of 26 November 2002.

Due to the fact that the federal states have the competence for education the competent authorities in the federal states (ministry of social affairs, ministry of education) are responsible for the occupational sector, the design of the vocational training in Geriatric Nursing and higher education in the tertiary level. In the federal states there are various legal provision concerning the professional activities, organisation, equipment and number of staff in the nursing institutions.

As defined in section 4 of the Geriatric Nursing Act the Geriatric Nursing school takes the overall responsibility for the vocational training. The legal structure of the vocational training in Geriatric Nursing is set out clearly.

1.2.2 Institutions and stakeholders - roles and responsibilities

In this education field a broad range of institutions and stakeholders with different responsibilities and tasks is involved.

- Public authorities: Federal Ministry for Families, Senior Citizens, Women and Youths; Ministries for Health, Ministry for Social Affairs or Ministry of Education in the federal states: Responsible for the legal provision and the amendment of the Occupation Act.
- Health insurance/nursing care insurance: Responsible for the nursing rates paid for outpatient/inpatient care and for apprentice's pay.
- Geriatric Nursing schools: The overall responsibility for the vocational training is borne by the Geriatric Nursing school (organisation, planning, performance).
- Nursing institutions: As training companies the nursing institutions (residential homes, outpatient nursing facilities and other facilities in which care is provided for elderly people) are responsible for apprenticeship contract, practical training and training allowance. They carry out the training programme in close cooperation with the nursing school.
- Professional associations for nursing: In the German landscape of nursing there are several professional associations for nursing, working as lobby of the nurse profession and representing professional, economic and cultural interests. Important professional associations are "German Professional Association for Nursing" ("Deutscher Berufsverband für Pflegeberufe/DBfK") and "German Education Council for Nursing Professions" ("Deutscher Bildungsrat für Pflegeberufe").

1.3 Employment structure for geriatric nurses

1.3.1 Occupational profiles in the sector

Geriatric Nurses mainly work in residential homes, outpatient nursing facilities and short-term care facilities. On account of their special education they work in psychiatric hospitals with a gerontopsychiatric department, in general hospitals with a specialist geriatric department or specialist geriatric hospitals, in geriatric rehabilitation facilities, in facilities providing non-institutional assistance for the elderly, in care advice centres etc.
The occupational profile of Geriatric Nursing is defined as "independent and self-responsible provision of nursing services, including the counselling, care and support of elderly people" (Section 3 Geriatric Nursing Act).

Regarding to the history of the profession we must bear in mind that Geriatric Nursing has originated an independent job description and an own occupational ethos (LdV Projekt pro-care). Some activities in Geriatric Nursing clearly distinguish from General Nursing done in hospitals. On account that the Elderly normally need long-time support and accompaniment the biography and habits of the person must be considered ("biographic work"). Geriatric Nurses take the social circumstances, the relatives and social network into account in their nursing planning and support elderly in managing their lives. Special tasks are nursing of dying elderly people and nursing of people with dementia and gerontopsychiatric changes. The occupational profile defines Geriatric Nursing as medically and socially orientated care.

1.3.2 Needs in the health sector

There is a broad consensus that care in Germany is on the verge of great challenges.

Nursing and health care are considered to be a growth sector. In 2005 the health sector had a total of ca. 4.3 million employees. Nurses are the biggest professional group in the health sector, ca. 1.2 million (Bericht – Situation und Perspektiven der Pflege in Bremen und Bremerhaven 2009).

Because of demographic, epidemiologic and social change processes the need for skilled professionals in this sector increases. Demands on professional nursing in the field are changing: higher life expectancy, complex diseases, multimorbidity, long-term care and outpatient care, new treatment structures, e.g. integrated treatment, introduction of DRG etc.

For years experts in Germany forecast an increasing lack of skilled professionals in the care sector, particularly in the geriatric nursing sector. Recent studies prove a high shortage of qualified staff (ZEIT online 2.8.2011). Nursing institutions don't find qualified employees. In the geriatric care sector there is a lack of 30,000 skilled staff. Up to 2020 a lack of 220,000 skilled staff is expected. This shortage can be expected to increase because of the decreasing number of graduates in general (demographic changes).

Stakeholders in politics, science, education and the employment system started several activities and campaigns to strengthen the nursing professions, particularly the geriatric nursing.

1.3.3 Status of health care and nursing occupations

"Old" and "care" have negative connotations in the German society (Görres et. al. 2009). The nursing professions are not really attractive, particularly for young people. As proved in the study of ipp/University of Bremen, nursing professions have a poor image; among young people and their parents there is really low motivation to become a nurse, particularly a geriatric nurse. Significant reasons for this are that nursing often has poor working conditions, is poorly paid and there are no attractive career paths. The standard wage for nurses according to the relevant collective agreement is 2,800 €, but often the salary is below the standard wage, especially in the private sector.

2 Description of the case

2.1 Selected qualification: geriatric nursing

The graduates are expected to have knowledge, skills and competences to practice their profession as independent and self-responsible provision of nursing services, including the counselling, care and support of elderly people (Section 3 Geriatric Nursing Act).

Vocational training in geriatric nursing
Section 3

Vocational training in geriatric nursing is intended to impart the knowledge, abilities and skills necessary for independent and self-responsible provision of nursing services, including the counselling, care and support of elderly people. This particularly includes:
1. Comprehensive and planned, competent and professional nursing in keeping with generally recognised knowledge in the nursing sciences, particularly medical nursing,
2. Participation in the treatment of sick, elderly people, including the implementation of doctors' orders,
3. Preservation and restoration of individual abilities in the framework of geriatric and gerontopsychiatric rehabilitation concepts,
4. Participation in quality-assuring measures in nursing, care and treatment,
5. Preventive health care measures, including nutritional guidance,
6. Comprehensive care of the dying,
7. Instruction, advising and support of caregivers who are not nursing professionals,
8. Support and advising of elderly people as regards their personal and social affairs,
9. Assistance in maintaining and activating an independent way of life, including the promotion of social contacts, and
10. Encouragement and supervision of family and neighbourhood help, and counselling of relatives providing nursing care.

In addition, vocational training is to enable the trainee to cooperate with other persons working in geriatric care and to deal with administrative work directly associated with the tasks in geriatric nursing.

The main area of responsibility is the autonomous and independent tasks of nursing service, counselling, caring and support. This includes basic personal care such as supporting elderly in all the activities of living, for example body care, eating, putting on or taking off clothes etc. Geriatric Nurses are responsible for assessment, long-term care planning, documentation of the nursing actions and evaluation of the care process. They work according nursing guidelines and standards, they carry out mobilisation and prophylaxis. In the medical treatment and rehabilitation Geriatric Nurses work under doctor's prescription: they perform tasks as changing bandages, administer medication, giving injections etc. They support elderly in daily life, hold tasks with the elderly motivate to leisure activities, accompany to visit the doctor or assist in dealing with the locale authorities. They cooperate with other institutions and professionals in the health care system (Case and Care Management). Geriatric nurses work in an interdisciplinary team. In nursing homes, hospitals and geriatric rehabilitation facilities their main

working area is the nursing ward or the living area in the institution. In the outpatient care they work in the private homes of the elderly and cooperate closely with the family members.

2.2 Organisation of the training programme

The training programme is really practice-orientated. The two learning venues school and training company are closely linked together to promote the transfer between theory and practice (see Fig. 3 above).

Therefore the pedagogical concept focuses learning methods which strengthen the independent and self directed learning of the students. The teachers use activity based methods and exercises, concepts as "Problem-Based Learning", "Self-Organized Learning", "Project Learning", case studies from nursing practice, project work, role-playing, workshops, excursions and practical skills training.

The geriatric nursing school supports and promotes the practical training in the various fields (see above), by providing practical supervision (Section 4 Occ. Act). For each training period in the workplace field the students get practical tasks/assignments to support the transfer of knowledge. In the training company the students get practical guide and instructions.

2.3 Assessment and certification

There are two forms of performance evaluation, a continuous performance evaluation during the three year course (annual report) and a final assessment in the last year (examination).

The performance in the training is assessed by a grade scale of numbers from one ("very good") to six ("inadequate") (Section 4 Geriatric Nursing Vocational Training and Examination Regulations).

2.3.1 Continuous performance evaluation – annual reports

The performance evaluation in the training is process-orientated (annual report). At the end of each training year the students get a report (certificate) concerning their performance in theoretical instruction and practical training. (Section 3 Geriatric Nursing Vocational Training and Examination Regulations). The notes are decided on the report conference (responsibility by executive board of the school).

Several methods are used for the assessment of the learner's attainment during the whole training period.

In the theoretical and practical instruction:

- written tests
- assignments
- seminar papers
- reports
- project work
- working groups
- involvement in the lessons

In the practical training:

- Practical assignments with a written part (assessment and care planning with regard to a specific care situation/specific dependant), performance of nursing care and reflection.

The grades of the year reports are preliminary grades for the final examination and take account with a share of 25 percent for the calculation of the final result. (Section 9 Geriatric Nursing Vocational Training and Examination Regulations)

2.3.2 Final examination

The final assessment is carried out as a state examination by the presiding member of the Board of Examiners (competent authority) and comprises three parts (cf Fig. 4).

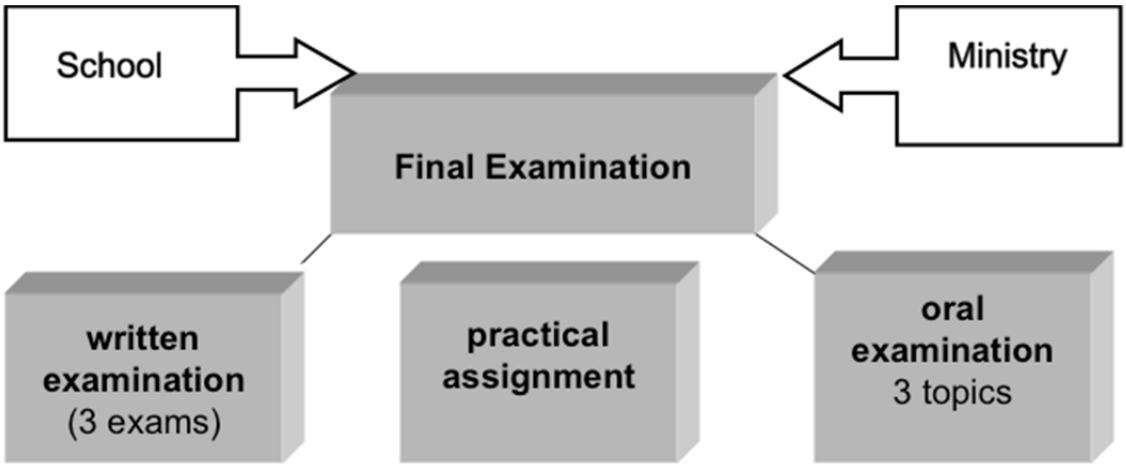


Fig. 4: Structure of the final examination in geriatric nursing

The written part (Section 10)

Three supervised examination papers with subjects from determined learning fields; each examination lasts 120 minutes.

1. "Incorporating theoretical principles in geriatric nursing activities" (LF 1.1) and "Planning, implementing, documenting and evaluating the care of elderly people" (LF 1.2)
2. "Caring for elderly people in a personally appropriate and situation-based manner" (LF 1.3) and "Contributing to medical diagnosis and therapy" (LF 1.5)
3. "Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities" (LF 2.1)

The examination paper carried out in the ibs Altenpflegeschule, reviewed and approved by the competent authority is based on requirement profile: Each examination paper comprises a scale of 100 points and different requirement levels: reproduction and reorganisation of knowledge (30%), transfer of knowledge with a case study (50 %) and critical reflection (20%).

The oral part (Section 11)

The oral part of the examination is conducted as an individual examination under the presiding member of the Board of Examiners (competent authority) and lasts about 10 minutes. The oral part covers the following learning fields:

1. "Caring for elderly people in a personally appropriate and situation-based manner" (LF 1.3)

2. "Giving consideration to institutional and legal framework conditions in geriatric nursing activities" (LF 3.1)
3. "Developing an occupational self-image" (LF 4.1) and "dealing with crises and difficult social situations" (LF 4.3)

The oral examination is orientated on the same requirement profile as the written part (100 points and different requirement levels; see above).

The practical part (Section 12)

The practical part of the examination refers to the learning areas "Tasks and concepts in geriatric nursing" (Learning area 1) and "Support of elderly people in designing theirs lives" (Learning area 2). It consists of a topic to comprehensive and planned nursing, including counselling, care and support of an elderly person. The subject is to be prepared, performed and administered in 2 days; the element of the examination involving the performance of nursing care is not to exceed a duration of 90 minutes. The examination comprises the written elaboration of a care plan, the performance of nursing and a final reflection. The practical examination is taken in a nursing home or in the residence of a person in need of long-term care.

For the practical examination an assessment sheet is used, which is based on a classification of evaluation criteria. Assessed are the following criteria: introduction of the patient, the nursing anamnesis and the nursing planning; work organization, professional performance, hygienic, communication, documentation of nursing activities; reflection.

2.3.3 Certificate and licence document

For the passed state examination a certificate is issued by the presiding member of the Board of Examiners (Certificate for the State Examination in Geriatric Nursing).

If the requirements for granting of the licence to use the occupational title are met, graduates get the licence document issued by the competent authority (Section 20 Geriatric Nursing Vocational Training and Examination Regulations).

2.4 Transition points and perspectives

In Germany there is no general regulation for the access to the Geriatric Nursing training programme. On the one hand the number of apprenticeship places is orientated on the needs in the sector; on the other hand it depends strongly on economic conditions of the federal states (financing the schools) and the companies in Geriatric Nursing (apprentice allowance).

The qualification does not address a special target group. Usually the training programme is attended predominantly by women – generally the geriatric nursing is a typical female profession, the proportion of women in this occupational field is about 75% (DGB 2011).

There are five main groups of students in this training programme:

- young school leavers who have made previous experience in the occupational field by internship during schooldays or voluntary social work
- young men with experience in the occupational field by community service
- women returning to work after having family (promoted by the Federal Employment Agency)

- people looking for new career paths or returning to work after periods of unemployment
- migrants looking for a professional career on the labour market.

For students with prior learning in other nursing programmes there is a possibility of recognition. Students who have the licence as Nursing Assistant or successfully completed vocational training as a Geriatric Nursing assistant or Nursing Assistant regulated under federal states law can reduce the duration of vocational training on application (see above).

The several study paths in nursing, particularly dual studies, offer possibilities for lifelong learning at higher education level including the recognition of prior learning (permeability).

Talking about the career perspectives for graduates in Germany requires considering the current development in this field (see above). A good overview of the typical career perspectives is provided in the concept for nursing education in Germany called "Nursing Education Offensive", presented by German Education Council for Nursing Professions and supported by renowned experts (Stöver/Görres 2009). This concept comprises general permeability on all levels and offers opportunities for transition to further education. The concept is a staggered model and includes training programmes on lower level (Assistant Nursing), training programmes for graduates (Nursing) at the secondary level, officially recognized continuing education programmes and study paths leading to bachelor's and master' degrees at the tertiary level.

It can be assumed that in the next few years there will be a fundamental reform of the nursing education system in Germany. The important milestones are (DBR 2006):

- Implementation of the job description Assistant Nursing
- Vocational training programmes for generalist nursing
- Reorganisation of the nursing education system (regarding structures, contents, ECTS) to promote lifelong learning
- Integration of the German nursing education in the European educational context
- Implementation of study paths for nursing (bachelor's and master's degrees) for initial qualification (dual study), for nursing education, nursing management and other specialisations.

3 Results of the MLI Assessment

3.1 Implementation of the MLI procedure at ibs e.V. in Bremen

The implementation of the MLI procedure was carried out in close cooperation with the geriatric nursing school of ibs e.V. in Bremen. ibs e.V. is a private, non-profit training organisation, established in 1983 with expertise in VET in geriatric nursing and health care and also in CVET for professionals in health care and social care sector.

ibs is certified to DIN ISO 9001:2008. ibs geriatric nursing school is a private officially recognized school for geriatric nursing and all training programmes are certified to AZAV, the accreditation regulation according to social security statute book in Germany.

ibs geriatric nursing school is one of the five private geriatric nursing schools in Bremen. There is no public school for geriatric nursing in Bremen. The ibs school

collaborates closely with the important stakeholders in geriatric nursing and health care sector: public institutions at national and EU level, professional associations, educational institutions, schools and school administration, universities, employment agencies in Bremen and Lower Saxony.

Due to this cooperation with competent authorities and experts from politics, science, education system and (geriatric) nursing institutions the school is involved in the development process for education in nursing. The curriculum, processes and standards of VET in geriatric nursing are developed and complied by geriatric nursing schools on behalf of the competent authority in Bremen. Since 2012 ibs geriatric nursing school is partner of the dual study path B.A. Nursing at the University of Bremen. Students at geriatric nursing school who have the university entrance qualification can combine VET programme in nursing and study in nursing science. The study path takes four years. During the first phase the study is accompanying the training programme. Students acquire 70 CP in special modules at school and 20 CP at university. After successful completion of the training programme students continue their study at university in three semesters (90 CP). The modules at school were developed in close cooperation between University of Bremen and the nursing schools (feasibility study).

At ibs nursing school about 100 students are enrolled in each school year. In the college work ca. 15 teachers with university degrees in Nursing, Social Sciences, Health Care, Medicine, Home Economics, Pedagogy, Psychology, Sociology, Business Administration, Law, Politics, German Studies.

During the first 6 month of CrediCare project the expert for the MLI assessment was appointed by the project coordinator. The project member herself carries out the MLI review as an expert because of her long time experience as headmaster of geriatric nursing schools and her expertise in curriculum development. By guidance of the project partner at University Oldenburg the expert was worked into MLI instrument and procedure. It was decided that ibs will carry out a test of MLI assessment and present the results on the second workshop in Finland (May 2012). Aim of this test assessment was to clarify the major issues related to the application of the MLI tool in the partner countries.

After the kick-off meeting in Bremen in November 2011 the MLI assessment was prepared in close cooperation with the geriatric nursing school. The reference material was compiled by the school and reviewed by the expert. As test version for MLI assessment the module 4.1 "Developing an occupational self-image" was defined and prepared. The test was carried out with support and advice by the MLI expert. This test assessment revealed some problems in the definition of questions in the MLI which had to be clarified with the other partners (2nd workshop in Finland).

In the second workshop in Finland the procedure and results of the MLI test assessment were presented by the expert of ibs and the MLI expert. The procedure and several questions of the MLI items were clarified and suggestions for revision of the MLI were agreed. Finally the discussion about the MLI assessment demonstration was an important step in the project work. Based on these results the MLI user guide was reviewed and refined.

In the following months the complete reference material of the geriatric nursing programme was compiled. The comprehensive collection of the school contains textbooks, collections of texts, worksheets, tasks, tests and proctored examinations,

written and oral examinations for each module (14 learning fields). It should be observed that the collection and review of the reference material is a demanding task that requires considerable effort.

3.2 The MLI assessment

The MLI assessment of geriatric nursing programme includes the complete curriculum, i.e. the 4 learning areas with 14 learning fields (= modules) of the professional subjects (2,100 lessons/173 CP). The theoretical instruction includes contains 200 lessons for free definable instruction; these lessons are used for special deepening in selected modules.

The general-education subjects German language and politics (300 lessons) were not taken into account.

The detailed overview of the modules shows that almost all modules several disciplines are involved. For example, in module 1.3. "Caring for elderly people in a personally appropriate and situation-based manner" one finds contents from the disciplines Nursing, Anatomy, Physiology, Geriatrics, Pharmaceutics, Gerontopsychiatry, Hygiene and Dietetics and finally Ethics.

There are some characteristics of the curriculum and the modules: First to point out the great difference in the work load (from 45 hours to 900 hours). Secondly it should be emphasised that geriatric nursing programme has a close connection to practice. All in all there is a clear dominance of practical part of training (2,500 hours) in the training programme in comparison to the theoretical training at school (2,100 lessons). This characteristic illustrates the feature of the German education system (dual organized). Particularly the central modules 1.3 ("Caring for elderly people in a personally appropriate and situation-based manner"), Module 1.5 ("Contributing to medical diagnostics and therapy") and Module 2.3 ("Support of elderly in designing their day and in self organized activities") are closely linked to practical training. They also include practical instruction at school (skills lab). Special practical tasks given by school are carried out in in-job training. They are examined by school during the whole training period. Finally it must be observed that most of the modules are taught during the complete training period. There are 5 modules which are taught only in one or two years of the training programme.

After intensive consultation with the MLI expert at the University of Oldenburg the structure of the modules were revised. The extensive module "Caring for elderly in a personally appropriate and situation based manner" (892 lessons) was divided in three sub modules taught in three consecutive years: First year: 297 lessons/500 hours practical training, second year: 290 lessons/500 hours practical training, third year 305 lessons/500 practical training. This new structure is a good starting position for the bilateral comparison with the partner countries.

Another feature should be pointed out: It can be assumed that the module 4.2 "Learn to learn" will not be included in the bilateral comparison. This module is not original professionally orientated but focuses trans disciplinary competences with regard to the learning process itself. Therefore this module is not taken into account.

The complete MLI assessment of geriatric nursing programme has been carried out in November/December 2012.

3.3 Results

The final results of the MLI assessment were available in January 2013. The analysis of the assessment results allows discussing some appraisals about the bilateral comparisons within the project consortium.

Overall the results of the MLI assessment show that the level of the geriatric nursing qualification is higher than the determined level for nursing programme in the German Qualifications Framework (level 5). Most of the modules have a total MLI value higher than five; the spectrum of score is between 6.38 and 3.97.

The module with the highest score (6.38) is the core module 1.3 "Caring for elderly in a personally appropriate and situation-based manner" (Figure 5).

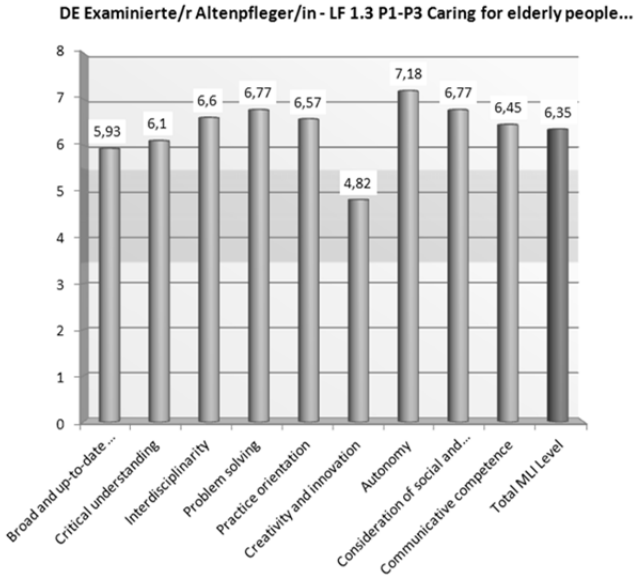


Fig. 5: MLI results for module 1.3

The module with the lowest score is module 4.4 "Maintaining and promoting personal health" which focusses cross sector skills as "personal health promotion", "occupational health and safety", "preventing and coping with stress" and "advice and supervision among colleagues" (Figure 6).

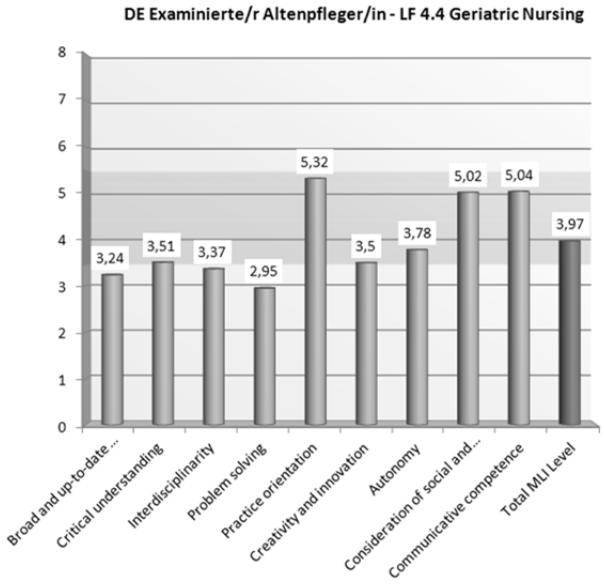


Fig. 6: MLI results for module 4.4

The high values of geriatric nursing programme confirm the critical attitude of nursing experts towards the DQR. The experts emphasize the high level of competences in several fields and demand revision of the DQR and assignment to level 6 for the nursing programme.

A closer look into the results of the items illustrates what are the typical learning outcomes in geriatric nursing programme.

The scores are highest on the following MLI scales:

- Autonomy: 7,18 (module 1.3 "Caring for elderly in a personally appropriate and situation- based manner")
- Critical understanding: 6.82 (module 2.1 "Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities", see Fig. 7)
- Consideration of social and ethical issues: 6.77 (module 1.3 "Caring for elderly in a personally appropriate and situation-based manner")
- Communicative competences: 6.68 (module 2.1 "Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities")

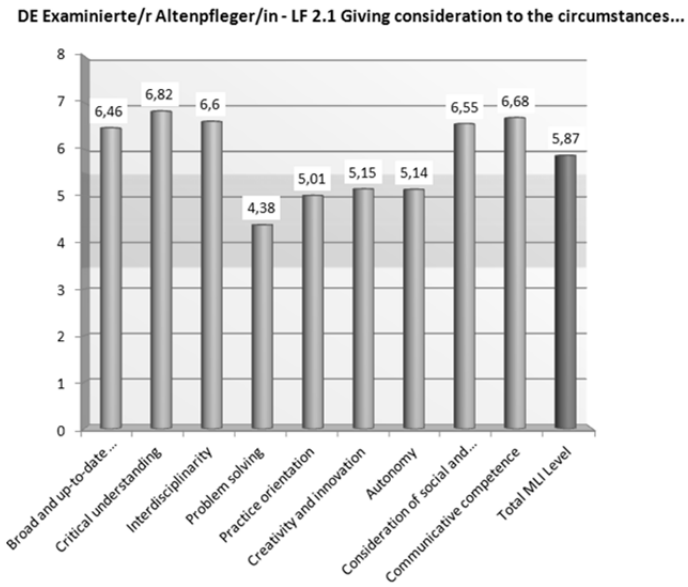


Fig. 7: MLI results for module 2.1

The lowest scores were found on the following scales:

- Problem solving: 2.95 (module 4.3 "Dealing with crises and difficult social situations"; Figure 8)
- Broad and up-to-date knowledge: 3.24 (module 4.4 "Maintaining and promoting personal health"; see figure above)
- Creativity and innovation: 3.5 (module 4.4 "Maintaining and promoting personal health")

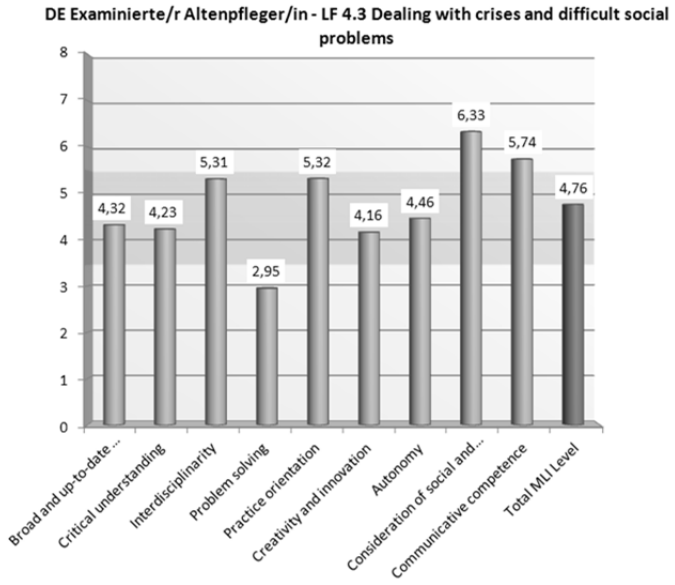


Fig. 8: MLI results for module 4.3

The quantitative evaluation shows that learning outcome of geriatric nursing programme refers mainly to "autonomy", "practice orientation", "critical understanding", "consideration of social and ethical issues" and "communicative competences". Noticeable "practice orientation" has consistently high scores in the assessment. Requirements concerning "problem solving" and "creativity and innovation" are not in the forefront of this qualification.

These results confirm the professional profile of nursing in Germany and also the level in the German education system. Qualification programmes on the upper secondary level are organized as alternance training, closely connected to practice and focus learning outcomes which enable graduates for daily professional activities.

The analysis of the MLI results has to take into account the special profile of nursing profession, particularly geriatric nursing in Germany and also the special concept of this programme. Professional geriatric nurses are experts in body-to-body, side-by-side and face-to-face work. They are responsible for nursing of elderly people, they reflect continuously their knowledge, they care and communicate in a personally and situation based manner and at least they consider ethical aspects in their action.

A detailed view on the assessment results stresses the importance of the concrete content and the place value of the modules within the programme in general. All modules from the learning area 1 "Tasks and concepts in geriatric nursing" have great importance in the qualification. It can be predicated that they are the core modules in geriatric nursing programme. These modules focus the basic knowledge, skills and competences for the profession. The value of the total MLI in these modules is between 6.38 and 5.72. In the core module "Caring for elderly in a personally appropriate and situation-based manner" the learning outcome emphasizes "critical understanding" (6.1), "problem solving" (6.77), "interdisciplinary" (6.6), "practice orientation" (6.57), "autonomy" (7.12), "consideration of social and ethical issues" (6.77) and "communicative competence" (6.45) (Figures 9-13).

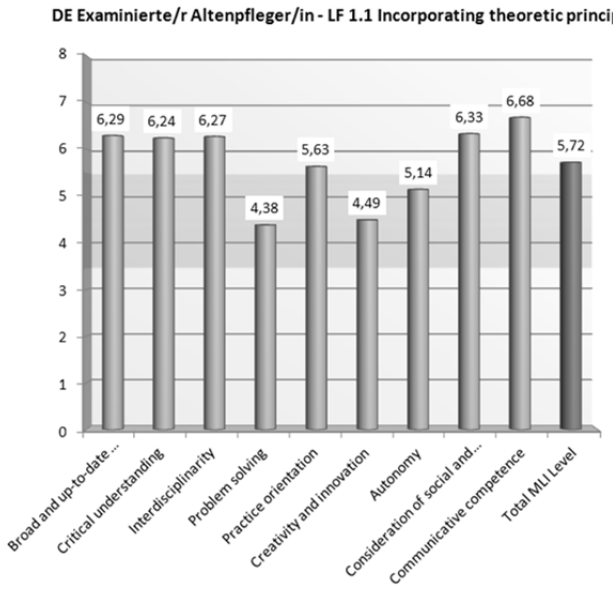


Fig. 9: MLI results for module 1.1

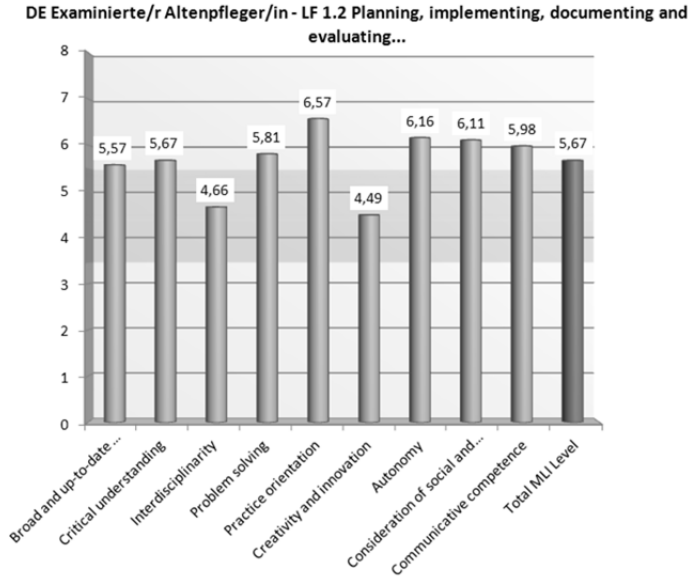


Fig. 10: MLI results for module 1.2

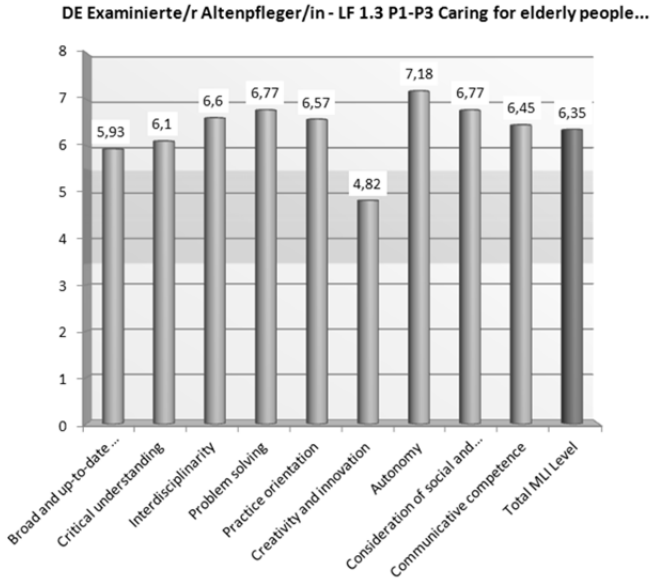


Fig. 11: MLI results for module 1.3

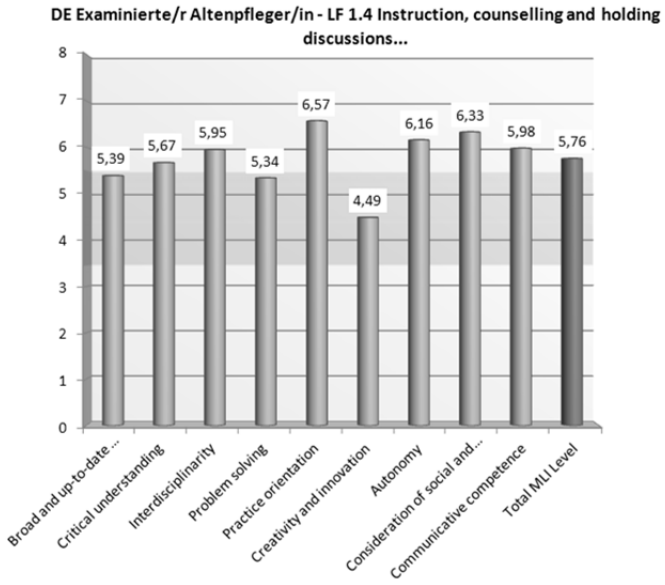


Fig. 12: MLI results for module 1.4

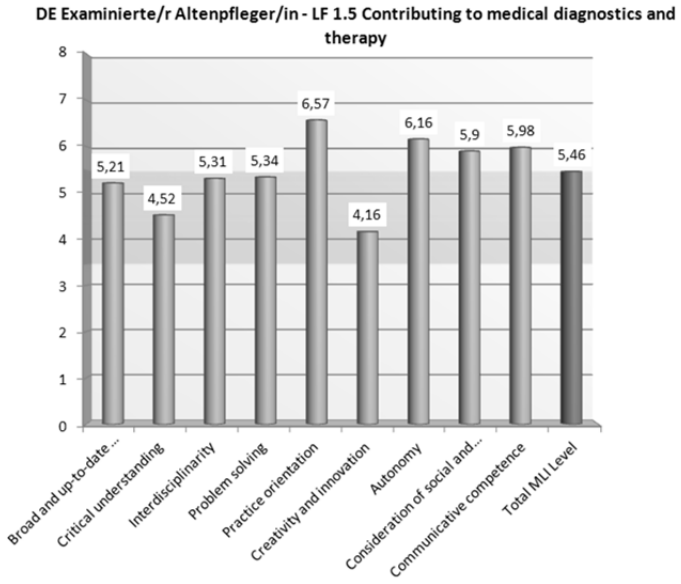


Fig. 13: MLI results for module 1.5

Also the modules in learning area 2 "Support of elderly in designing their lives" have scores higher than 5. They are closely connected to practical training and focus professional requirements in supporting elderly in designing their daily live and self organised activities. Contents in these modules are based on social science: "Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities", "Supporting elderly people in designing their housing and their residential environment", "Supporting elderly people in designing their day and in self-organised activities". Particularly in the module "Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities" one finds high figures in the items "broad and up-to-date knowledge" (6.46), "critical understanding" (6.82), "interdisciplinary" (6.6), "consideration of social and ethical issues" (6,55) and "communicative competence" (6.68). These results make evident that geriatric nurses have to cope with requirements of social services, besides the medical-nursing-oriented tasks. They have to consider the elderly as a person in his/her individuality and living environment (Figures 14-16).

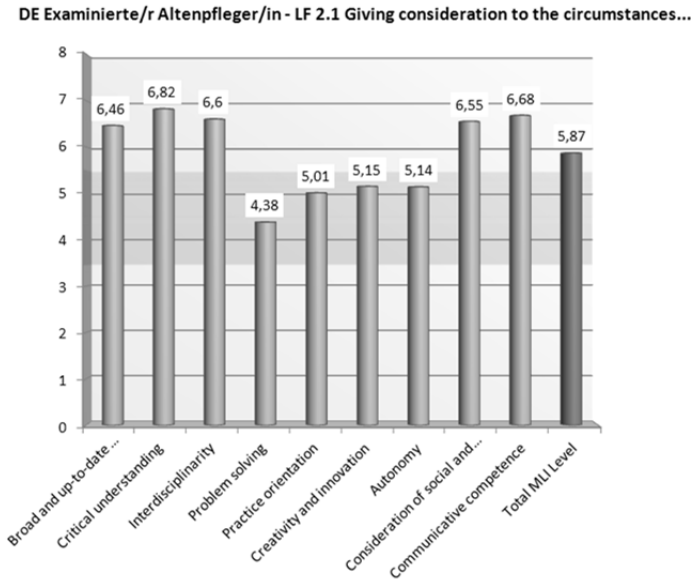


Fig. 14: MLI results for module 2.1

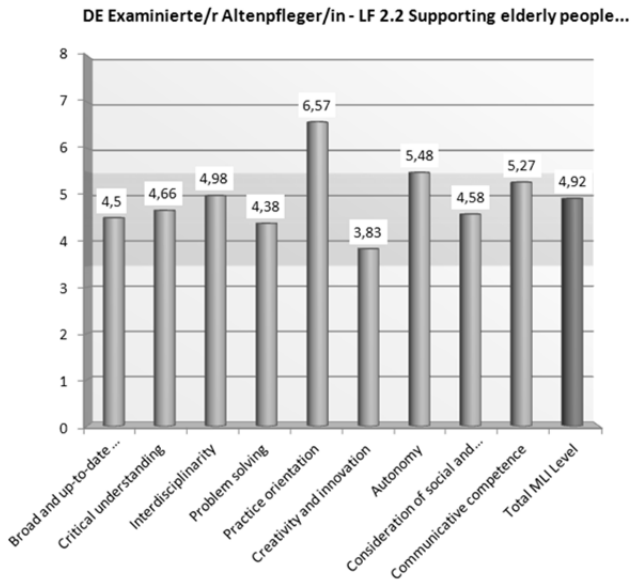


Fig. 15: MLI results for module 2.2

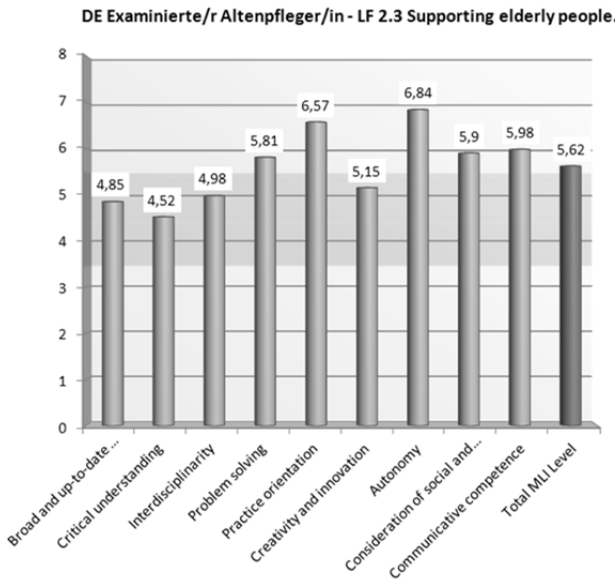


Fig. 16: MLI results for module 2.3

The two modules in learning area 3 "Legal and institutional framework conditions of geriatric nursing work" deal with contents from the disciplines nature of profession and law. The total MLI results have value of 5.43 and 4.8. The learning outcomes of the module "Giving consideration to institutional and legal framework conditions in geriatric nursing" activities" focusses knowledge, skills and competences of "consideration of social and ethical issues" (6.55) and ""communicative competence" (6.45) (Figures 17 and 18).

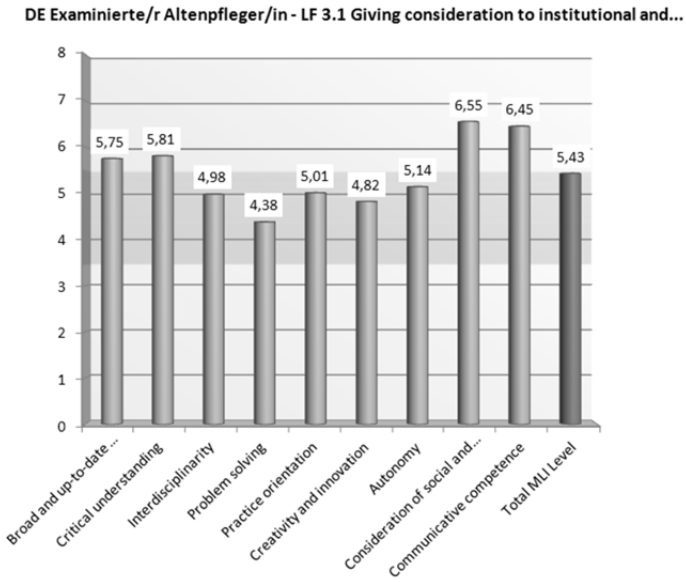


Fig. 17: MLI results for module 3.1

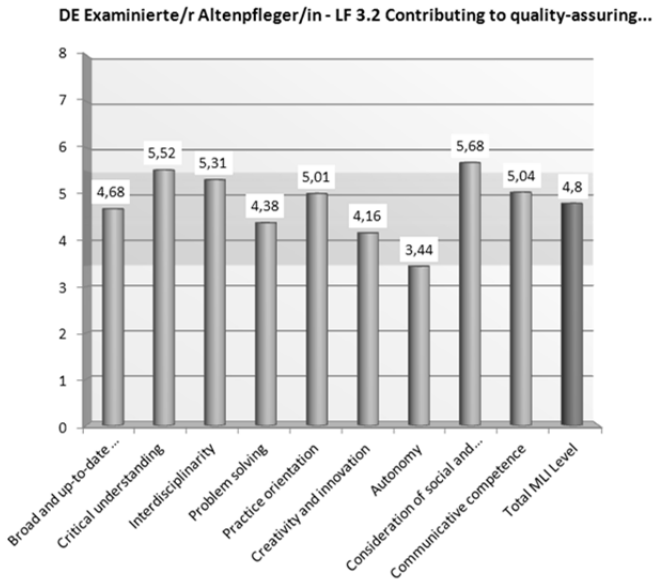


Fig. 18: MLI results for module 3.2

The modules in learning area 4 "Geriatric nursing as an occupation" have generally lower total MLI values (4.8 to 3.97). Main learning outcomes are "consideration of social and ethical issues" (6.55), "interdisciplinary" (5.63) and "communicative competence" (5.71) (Figures 19-21).

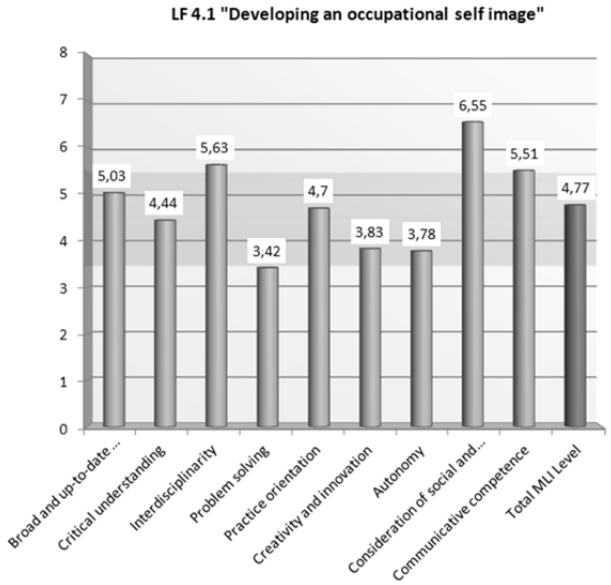


Fig. 19: MLI results for module 4.1

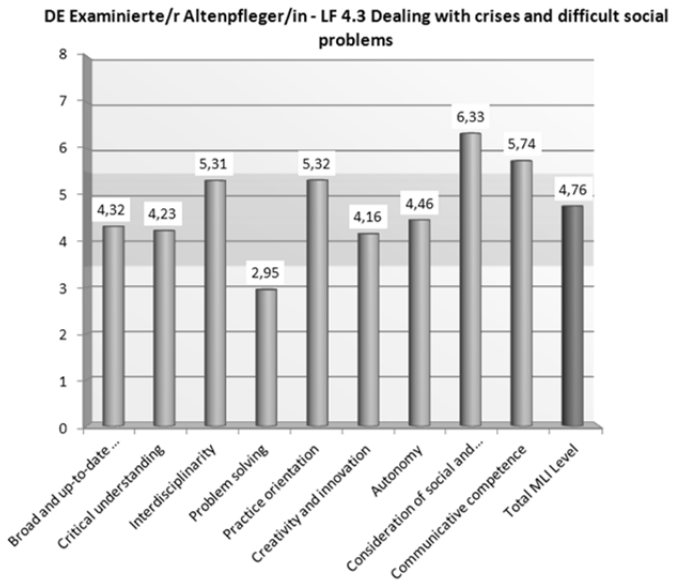


Fig. 20: MLI results for module 4.3

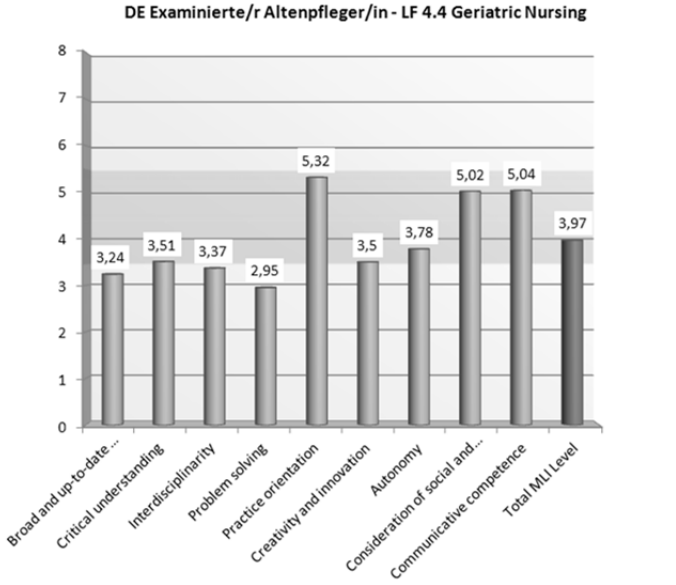


Fig. 21: MLI results for module 4.4

To sum up the notable findings of the MLI assessment on geriatric nursing programme it has to be emphasized that the results are closely connected to the professional profile of nursing in the national German context. The learning outcomes put clear emphasis on autonomy, critical understanding, consideration of social and ethical issues and on communicative competences. It can be expected that the knowledge, skills and competences of geriatric nursing VET programme in Germany are comparable with other European qualifications in nursing.

References

Act on Occupations in Geriatric Nursing (Geriatric Nursing Act – AltPflG) of 25 August 2003.

Bericht – Situation und Perspektiven der Pflege in Bremen und Bremerhaven, hrsg. Die Senatorin für Arbeit, Frauen, Gesundheit, Jugend und Soziales. Abteilung Gesundheit. Bremen 2009

Bundesministerium für Familie, Senioren, Frauen und Jugend/BMFSFJ (Hg.) (2008): Pflegeausbildung in Bewegung. Ein Modellvorhaben zur Weiterentwicklung der Pflegeberufe. Schlussbericht der wissenschafltichen Begleitung. Berlin.

Deutscher Berufsverband für Pflegeberufe e.V.: Pflegeberufe im DQR falsch platziert. Pressemitteilung des DBfK vom 02. Februar 2012.

Deutscher Bildungsrat für Pflegeberufe (Hg.) (2009): Pflegebildung offensive. München, Jena.

Deutsches Institut für angewandte Pflegeforschung e.V.: Pflegeausbildung in Europa. "Deutschland auf Geisterfahrt!". Presseerklärung vom 03. Januar 2012.

DGB Arbeitsmarktaktuell Nr. 01/Januar 2011

Görres, S., Stöver, M., Bomball, J., Schwanke, A. & Schmitt, S. (2009). Imagekampagne für Pflegeberufe auf der Grundlage empirisch gesicherter Daten. In IPP-Info 08, S. 14, Institut für Public Health und Pflegeforschung (IPP), Universität Bremen.

Kompetenzstandards in der beruflichen Aus- und Weiterbildung im Sektor Altenpflege. Leonardo da Vinci Projekt pro-care (DE/09/LLP-LdV/TOI/147 242).

Oelke, Uta / Menke, Marion (2002): Gemeinsame Pflegeausbildung. Modellversuch und Curriculum für die theoretische Ausbildung in der Alten-, Kranken- und Kinderkrankenpflege, hrsg. vom DiCV, Bern.

Stöver, M./Görres, S. (2009): Qualitätskriterien für Best Practice in der Pflegeausbildung – Synopseevaluierter Modellprojekte. Abschließender Projektbericht. Universität Bremen.

The German Qualifications Framework for Lifelong Learning, Status 22 March 2011

Vocational Training and Examination regulations for the Occupation of geriatric Nurse (Geriatric Nursing Vocational Training and Examination Regulations – AltPflAPrV) of 26 November 2002.

ZEIT online 2.8.2011: Experten warnen vor Notstand in der Altenpflege.

VET and professional education in health care and nursing in Ireland

Justin Rami, Tara Shortt

1 Introduction

The aim of this report, by the Irish partners within the project (Dublin City University), is to give a comprehensive overview of VET[1] and professional education in relation to Nurse Training Programmes currently operating within the Irish national context, thus contributing to the overall CREDICARE European macro context. Additionally this porports to explore the entry requirements from both formal (university) and informal (access courses) perspectives as illustrated in the National Framework Qualifications (NFQ) system and to draw overall comparison with the European Qualification Framework (EQF). Furthermore this report examines the roles and responsibilities of the various stakeholders involved in relation to pre and post registration[2] nurse training programmes available nationwide as well as outlining the role of and discussing An Bord Altranais (the regulatory board), The Nursing Careers Centre, entry requirements, programmes available, employment structure, and other relevant issues relating to the nursing education system in Ireland.

To this end, the Irish partners of this research project (Dublin City University) have proposed one nursing programme at pre-registration honours degree level from two Dublin Universities at EQF level 6 (NFQ 8). A formal questionnaire has been compiled based on the structural recommendations initiated for this project and this has been dessiminated to agreed parties to complete taking into consideration all the necessary requirements primarily outlined for exploration.

Subsequently from this, the Irish research partners provided the relevant appropriate information to explore the 'equivalence' process using the MLI tool and open up further valuable discussion and recommendations about transfer and progression through qualifications systems on a pan-European basis.Thus, ultimately attempting to harmonise the progress for learners to move freely between borders/countries for study/further education and work related purposes.

2 Background

2.1 Structure of vocational/professional education in nursing and health care

In parallel alignment, much reform in the overall educational structure in Ireland within the VET system has greatly influenced the way in which nursing has progressed paving the way to a multitute of routes into nursing studies by the significant national and international developments in terms of higher and further education. The Qualifications (Education and Training) Act 1999, led to the establishment of the National Qualifications Authority Ireland (NQAI), the Higher Education and Training Awards Council (HETAC), and the Further Education and Training Awards Council (FETAC). This learning framework relates all education and training awards to each

[1] In Ireland Vocational Educational and Training is also referred to as further and continuing education (FE/CE) as well as adult education.

[2] Pre-registration relates to the period of time spent in nurse education and training by the learner prior to qualifying and gaining registration with An Bord Altranais (The Irish Nursing Regulatory Board). Post-registration refers to all nurse education and training programmes at a post graduate level.

other. It brings coherence to the awards system. It establishes clearly defined standards about what a learner can be expected to achieve for each award. It introduces a new approach to the meaning of an award that will recognise learning outcomes, what a person with an award knows, can do and understands rather than time spent on the programme (An Bord Altranais, 2010). Of note, the amalagation of FETAC, HETAC, NQAI into a new institution - Qualifications and Quality Assurance Ireland – is underway which is an important step in consolidating the governance structure for implementation of comprehensive NFQ (Department of Education, 2011).

The Irish situation relating to Vocational Education and Training (VET) and the progression issues relating to higher education are, on the surface, not entirely seamless. In Ireland, Vocational Education & Training (VET) embraces education and training which occurs primarily after second-level schooling and mainly in further and continuing education sector. VET also occurs in some tertiary educational environments. Appendix 1 - illustrates the Irish education system.

In Ireland a dinstinctive feature of further and vocational education generally is its diversity and breadth of provision and its linkages with other services such as employment, training, area partnership welfare, youth, school, juvenile liaison, justice and community and voluntary sector interests. Coincidently, a wide range of Government Departments, statutory agencies and voluntary and community based organisations provide services in this area which adds a greater complexity to the educational system in a whole. Vocational education and training in Ireland is not only about employability, it also espouses the key concepts of life-long learning.

It is seen both in policy and structural terms as being one of the main pillars essential to the building and maintaining of a highly skilled work force operating within a knowledge society (Harper & Fox, 2003).

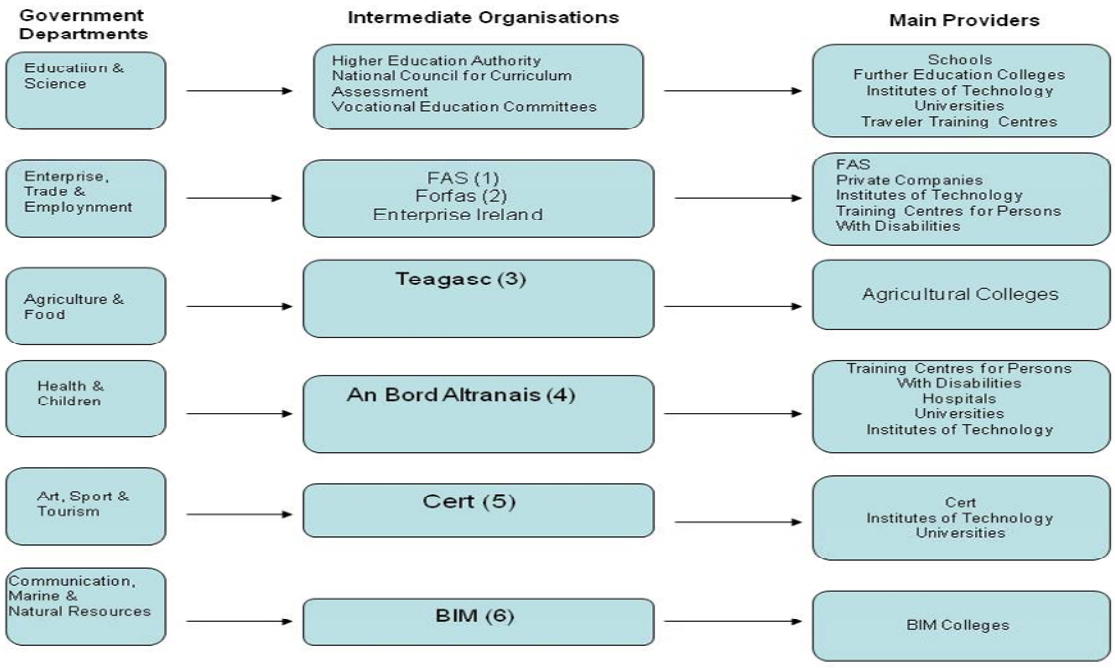


Fig. 1: Vocational education and training: administrative structure (source: Harper & Fox, 2003)

Legend:
(1) The Training & Employment Authority
(2) The National Policy Board for Enterprise, Trade, Science, Technology and Innovation.

(3) Agriculture and Food Development Authority
(4) The Nursing Board
(5) Council for Education, Recruitment, Training (Hotels, Catering and Tourism industry), now Failte Ireland.
(6) The Sea Fisheries.

2.2 The National Framework of Qualifications

The National Framework of Qualifications has been developed and maintained by the National Qualifications Authority of Ireland, which was set up in 2001 by the Department of Education and Science and the Department of Enterprise, Trade and Employment and governed by the Health Education Authority (HEA, 2005). The clearest way to explain the framework is through examining a visual representation of the Irish National Framework of Qualifications.

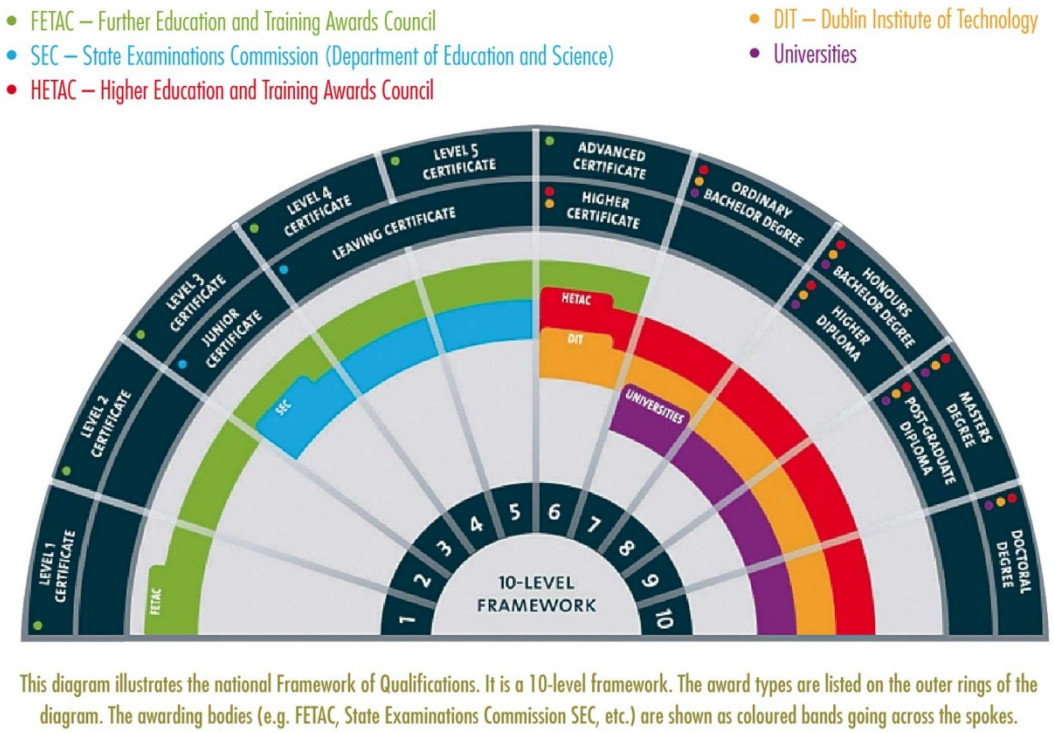


Fig. 2: Irish National Framework of Qualifications (source: NQAI 2004).

The NFQ sets the overall standards of the awards of FETAC and HETAC as well as accommodating the awards of the Universities. The Framework is the single, nationally and internationally accepted entity, through which all learning achievements may be measured and related to each other, and which defines the relationship between all education and training awards. The Framework of Qualifications comprises 10 levels, award types, level indicators (expressed as learning outcomes) and related policies on access, transfer and progression, including the Recognition of Prior Learning and Credit and is designed to facilitate the development of a credit accumulation and transfer system based on learning units (FETAC, 2007). It is also worth highlighting how the various Awarding bodies award qualifications within the various sectors from VET (FE/CE) through to HE. This is important as there is a crossover of awarding bodies at NFQ level 6 (EQF level 5).

The framework is based on learning outcomes that are determined by standards of knowledge, skill and competence. The higher education and training awards are at levels 6 to 10. Vocational Education and Training is not explicitly described within the Framework and this can straddle Levels 4 to 8 (EQF 4-6). Within the Nurse Education spectrum, this applies to Health Care Studies & Pre Nursing Courses level 5 (EQF 4) specifically and is designed to provide a foundation in the theory and practice of Health Science for graduates. Graduates who have successfully completed the Nursing Studies Course are eligible for consideration for academic progression routes in Nursing and related Health Studies in Universities and Institutes of Technology in Ireland. Combined with an award as stated above and a written examination in some instances affords the candidate the opportunity to progress to pre-registration Nursing in third level institutions. Furthermore, in order to gain employment as a health care assistant, FETAC 5 accomplishment is a strong recommendation by The Health Information and Quality Authority (HIQA) to practice in a health care setting. "All newly recruited care staff and those in post less than one year commence training to FETAC level 5 or equivalent within 2 years of taking up employment" (HIQA, 2009).

Nursing and Midwifery is located solely in higher education. Registration programmes are placed at level 8 on the NQAI framework of qualifications. An Bord Altranais recognises that Registered Nurses and Midwives as competent professionals practice at level 8 (EQF 6). Registered Nurses and Midwives teach, supervise, assess and support pre-registration students to achieve competence at level 8 at the point of registration (An Bord Altranais, 2010). Pre-registration into these courses commences at NFQ 6 (EQF 5). The post registration educational standards for clinical nurse specialists and advanced nurse practice posts have been set at levels 8 & 9 respectively (EQF 6 & 7). Additionally, level 10 (EQF 8) is concerned with The Nursing Doctorate programmes available. The frameworks for clinical specialists and advanced practice posts have been effective in streamlining the approval process and making it transparent from an awards viewpoint. This has been achieved through leadership from the National Council for the Professional Development of Nurses and Midwives, the establishment of the National Framework of Qualifications, investment by The Department of Health & Children and effective collaboration between Health Service and the academic education providers.

Higher education within Ireland is a broad system that encompasses the University sector, the colleges of education, the institutes of technology, and private, independent colleges. The Universities, Institutes of Technology and Colleges of Education are largely funded by the state through the HEA (Higher Education Authority), while others are funded and managed by a range of private bodies, including religious orders. The focus of this report is on the Universities that provide bachelor degrees of Science in Nursing. From a national objective, there is an impetus to move towards a 'lifelong learning society' in which learners can avail of learning opportunities at various stages throughout their lives and within the nursing context this is clearly visible.

Developing and enhancing a culture of educational excellence, lifelong learning and procedures to implement access, transfer and progression are key features of recent legislative instruments in the education sector internationally (An Bord Altranais, 2010). Ireland's higher education system has played a major role in the development of irish society and the economy, and has an even more critical role to play in the coming

decades as we seek to rebuild an innovative knowledge-based economy that will provide sustainable employment opportunities and good standards of living for all our citizens. Its role in enabling every citizen to realise their full potential and in generating new ideas through education and research area will be the foundation for wider developments in society (Department of Education, 2011).

Ireland was the first EU member state to reference its national framework of qualifications to the EQF. The final report referencing report was adopted by the National Qualifications Authority of Ireland in May 2009. Below is the referencing framework devised and highlighed within are the levels that Nursing crosses over.

(NFQ) Irish National Qualification Framework Levels	(EQF) European Qualification Framework levels
10	8
9	7
8	6
7	6
6	5
5	4
4	3
3	2
2	1
1	1

Level 6/7/8 – Undergraduate Nurse Training Programmes.
Level 8/9/10 – Postgraduate Courses up to Doctorate Level 10.

Tab. 1: Referencing from Irish NFQ to the EQF (source: NQAI 2009, p. 41)

2.3 The history of nursing in Ireland

The Education and Training of nurses and midwives in Ireland has undergone fundamental change over the last twenty years. Historically, nursing education was very much aligned with individual hospitals and in the early 1990's Centre's for Nurse Education were organised as such. Training was frequently imbued with the distinctive culture of the individual hospitals and consisted, in effect, of an apprenticeship scheme where a large number of young trainee nurses learned their skills from a small number of senior nurses while being an integral part of the workforce, undertaking all aspects of care within the hospital ward.

Many of these student nurses were working in religious controlled hospitals where the regimen and restrictions imposed by their superiors originated from the religious community. Three years of hospital duty rosters combined with blocks of class work in between (usually six weeks per year), and a final exam yielded a certificate in nursing studies i.e. A Registered General Nurse (RGN). From 1996, nursing moved to diploma based courses and became alligned with associated third level universities and VET's. Following the recommendation of a Comission on Nursing (Goverment of Ireland 1998) nursing and midewifery became the first country in Europe to adopt graduate

entry into the profession. As a result a since 2002 entry into the profession requires students to complete a 4 year fulltime Honours degree (NQF 8).

In order to practice nursing as a profession, every nurse must register with the nursing regulatory board, An Bord Altrainis and continue to remain on a live register of nurses with yearly subscriptions.

An Bord Altranais (The board) established in June 1951, as the sole statutory regulatory body for nursing up to this point, began making revolutionary changes to work in alliance with newly found stakeholders to ensure that the nursing profession gained academic accolades and recognition within the Irish education system at large.

2.4 Nursing in Ireland in the twenty-first century

In response to the Commission on Nursing Report (1998) and the Health Service Reform Programme – Quality and Fairness – A Health Service for you (2001), today pre-registration nursing and midwifery education is firmly embedded in third level institutions. Pre-registration nursing and midwifery education now consists of a four year BSC programme in recognised third level institutions. Further programmes include:

- Higher diplomas
- Post graduate diplomas
- Masters Degrees
- Doctoral Degrees

The development of a graduate education structure for registration has greatly changed the expectations of nursing in relation to academic awards and recognition for education undertaken (An Bord Altranais, 2010). Pre-Registration nursing and midwifery education has undergone considerable evolution since the late 1990's.

Additionally access courses into nursing studies and care assistance programmes still remain at large within the VET structure and private institutions. These provide a platform for a diversity of learners to gain the knowledge/skills & competence to persue further education or indeed to simply upskill within their particular current working environment.

The National Council for the Professional Development of Nursing and Midwifery in Ireland (The National Council) was established in 2001 following the report on the Commission on Nursing to devise & implement an educational strategy for the professional development of nurses and midwives so that nurses could continue to contribute significantly to the positive health of the nation. Their mission statement being to "promote and develop the professional role of nurses and midwifery care to patients/clients in a changing healthcare environment" (National Council, 2003). In conjunction with the National Qualifications Authority of Ireland (NQAI) & national stakeholders, this has been achieved through the implementation of the National Qualifications Framework (NQF).

2.5 An Bord Altranais

In order gain a clear understanding of nurse training programmes within the overall context of professional health education in Ireland, An Bord Altranais must be considered as having played a significant role regards nurse education. This body has been integral to addressing items such as nurse registration, regulation, structural and work changes, segmentation of grades, training & education requirements, promotional

opportunities and general assistance with the evolving profession of nursing particularily in the last decade.

An Bord Altranais (the board) is the statutory regulatory body for nursing and midwifery in Ireland. The primary function of the board is to promote the highest standards of professional educational conduct among nurses and widwifes. Part IV 36 (1) (d) of the Nurses Act, 1985 states that "The board shall, from time to time as occasion may require but, in any event, not less thn once every five years, satisfy itself as to the adequacy and suitability of post registration courses for nurses provided by bodies recognised by the board for that purpose".

Roles and responsibilites include:

- To provide for the education and training of nurses and student nurses.
- The Board has statutory responsibility to approve providers and Health Care Institutions in respect of post registration nursing and midwifery education programmes/units of learning.
- To establish and maintain a register of nurses nationally.
- To inquire into the conduct of a registered nurse on the grounds of alleged professional misconduct or alleged unfitness to engage in such practice by reason of physical of mental disability.
- To give guidance to the profession.
- To manage the Nursing Careers Centre, which was set up in 1998 to facilitate a centralised system of processing and selection of applicants wishing to enter nursing and market nursing as a career; provide career information to registered nurses and midwives.

The present board was established under the Nurses Act, 1985. It consists of twenty-nine members, seventeen of whom are nurses and midwifes elected by the nursing profession and the remainder, appointed by the Minister for Health, are respresentative of the Department of Health, The Medical Profession, The Management of the Health Services, educational interests and the general public.

Upon successful completion of an education programme, a student nurse/midwife may apply to be added to the appropriate part of the register maintained by An Bord Altranais. The attention of the applicant is drawn to the provision of Section 28 (5) of the Nurses Act, 1985 whereby:

> "Nothing in this section shall operate to prevent the Board from refusing to register the name of any person, who is otherwise entitled to be registered, on the grounds of the unfitness of that person to engage in the practice of nursing".

At a National Level the Board has established alliances with:

- The National Qualifications Authority of Ireland
- The Higher Education and Training Awards Council
- The Further Education and Training Awards Council
- The National University of Ireland and the Constituent colleges
- University of Dublin Trinity College
- University College Dublin
- Dublin City University
- University of Limerick

- The Institutes of Technology
- The Department of Education and Science and
- The Department of Health and Children.
- Vocational Education Communities
- Private Educational Institutions
- Academic Teaching Hospitals
- Private Nursing Homes
- The Higher Education Authority

2.6 Employment structure

Around 226,000 individuals work in the health sector in Ireland (HSE, 2009). Most of these, 130,000 work in the health service. Approximately 70% of these are made up of the nursing profession. This is illustrated in table 2 below where it can be seen that there are currently 67,130 nurses on the active live register with An Board.

Nurses Registered					
	Active	**Inactive**	**Female**	**Male**	**Total**
Number of Nurses	66,888	25,838	85,525	7,201	**92,726**
Qualifications Registered					
	Female	**Male**	**Active**	**Inactive**	**Total**
Adv Midwife Practitioner	4	0	4	0	**4**
Adv Nurse Practitioner	91	21	109	3	**112**
Children's	5,441	88	4,220	1,309	**5,529**
General	73,308	3,639	55,433	21,514	**76,947**
Intellectual Disability	5,094	584	4,727	951	**5,678**
Midwives	18,052	27	11,850	6,229	**18,079**
Nurse Prescriber	526	6	481	51	**532**
Psychiatric	9,717	3,870	9,223	4,364	**13,587**
Public Health	3,303	9	2,402	910	**3,312**
Tutors'	695	126	604	217	**821**
Other	553	25	154	424	**578**
Total	**116,784**	**8,395**	**89,207**	**35,972**	**125,179**
Number of Newly Registered Qualifications					
	Ireland	**EU**	**Others**	**Total**	
Adv Midwife Practitioner	0	0	0	**0**	
Adv Nurse Practitioner	15	0	0	**15**	
Children's	147	3	0	**150**	
General	1,002	315	95	**1,412**	
Intellectual Disability	189	5	0	**194**	
Midwives	253	17	0	**270**	
Nurse Prescriber	145	0	0	**145**	
Psychiatric	273	27	0	**300**	
Public Health	73	0	0	**73**	
Tutors'	24	1	0	**25**	
Total	**2,121**	**368**	**95**	**2,584**	

Verification Requests		
	2012	**2011**
United Kingdom	727	725
Other EU	28	62
Australia	770	1,214
Canada	136	173
United States of America	77	111
Other non-EU	127	98
Total Requests	**1,865**	**2,383**
Total Nurses	**1,591**	**2,059**
Inactive File		
	2012	**2011**
Retired	11,218	10,472
Unemployed	1,052	1,013
Career Break	2,251	2,227
Working Abroad	6,945	6,513
Other	4372	4,345
Total	**25,838**	**24,570**

Tab. 2: An Bord Altranais – Register of Nursing Statistics 2012

Peak employment levels in the Irish Health service were seen in 2007 and since then, staffing levels have reduced by over 8,700. With current budgetary constraints, the european economic downturn and the current 'moritorium' on staffing levels within the Irish Health Service, we will continue to see significant reductions in frontline nursing professionals – approx 1,612 staff this year alone (HSE, 2012).

The Public Service Agreement (2010 – 2014) is the framework for delivering significant change across the public sector. Within the health service, it provides the framework to transform, modernise and minimise reductions in the health services by facilitating a reduction in staff numbers, increasing efficiency and productivity, reducing cost and improving quality and assisting Government's change agenda and reforms (HSE, 2012). As a result work force planning and a strategy for sustainability of same has been an imperative of the HSE (Health Service Executive) given the current economic climate. The overall goal of this strategy is to ensure that strategic and operational planning processes are established as key activities in the health service (HSE 2009/2012). It provides the framework for workforce planning decisions that will lead to better outcomes. Furthermore, it highlights that workforce planning must be integrated with service and financial planning and outlines the principles for guiding beter workforce planning decisions.

2.7 The Nursing Careers Centre and nursing programmes

Set up under the management of An Bord Altranais in November 1998, the Nursing Careers Centre (NCC) is responsible for:

1. The processing of mature code applications to the Pre-Registration Honours Degree Programmes.
2. The Promotion and Marketing of Nursing and Midwifery.
3. The Provision of information to Registered Nurses and Midwifes (NCC 1998).

	Title	Duration	Leading to Registration
1	Children's & General Nursing (integrated)	4.5 years	Registered Children's Nurse (RCN) & Registered General Nurse (RGN)
2	General Nursing	4 years	Registered General Nurse (RGN)
3	Intellectual Disability Nursing	4 years	Registered Nurse Intellectual Disability (RNID)
4	Midwifery	4 years	Registered Midwife (RM)
5	Psychiatric Nursing	4 years	Registered Psychiatric Nurse (RPN)

Tab. 3: Programmes leading to registration with An Bord Altranais

As illustrated above there are five programmes leading to registration maintained with An Bord Altranais. All of these programmes are at level 8 Honours Bachelor Degree (NQAI, 2004) and representing the entry level into the profession in Ireland. The academic award is Bachelor of Science (BSc). In addition the Board provides for registration in 6 areas on a post-registration basis (i.e. candidates must hold one of the registrations outlined above already). These are

1. Post registration Children's Nursing/ Post registration Midwifery
2. Registration as a Clinical Nurse Specialist
3. Registered Nurse Tutor
4. Registration as a Public Health Nursing
5. Registerd Nurse Prescriber
6. Advanced Nurse Practitioner /Advanced Midwife Practitioner

2.8 Number of programmes and places nationally yearly

All of the above programmes take place in 13 HEI's (Higher Education Institutes) in association with 57 main Healthcare Agencies (Hospitals/Clinical Sites).
There are 44 programmes with a total of 1570 places in nursing and Midwifery at pre-registration level:

Programmes	Description
Children's & General Nursing (integrated)	4 Programmes, with a total of 100 places, in 4 HEI's in association with 4 main Healthcare Agencies
General Nursing	14 Programmes, with a total of 860 places, in 13 HEI's in association with 22 main Healthcare Agencies
Intellectual Disability Nursing	8 Programmes, with a total of 180 places, in 8 HEI's in association with 10 main Healthcare Agencies
Midwifery	6 Programmes, with a total of 140 places, in 6 HEI's in association with 7 main Healthcare Agencies
Psychiatric Nursing	12 Programmes, with a total of 290 places, in 12 HEI's in association with 14 main Healthcare Agencies

Tab. 4: Description of Nursing Programmes

All applications into pre-registration nursing in Ireland are made through the Central Applications Office (CAO) (www.cao.ie).

2.9 An Bord Altranais education entry requirements

The Nurses Rules, 2010, 6.1 provide that:
Before admission to a programme leading to Registration in the Register of Nurses the applicant must:

(a) have obtained in the leaving certificate examination a minimum grade of C3 in two higher level papers and a minimum grade of D3 in four ordinary of higher level papers in the following subjects:

- Irish or English
- Mathematics
- A Laboratory Science subject (Biology, Physics, Chemistry, Physics & Chemistry of Agricultural Science)
- Three other subjects

OR

(b) have achieved the equivalent minimum educational attainments to the foregoing, such equivalent attainments to be adjudicated upon by the Higher Education Authority established under the Higher Education Act, 1971 (No. 22 of 1971).

OR

(c) meet the minimum educational requirements specified by the third level institution concerned for entry to the course provided that such requirements are not a lower standard than those set out in sub-paragraph (a) above (NCC, 2012).

Additional requirements may be specified by individual Universities or IOTs.

3 Description of selected qualification

3.1 General overview

For the purpose of this research a Degree of Bachelor of Science (Nursing) Hons has been selected and this qualification equates to NQF level 8 (240 ECTS) and/or level 6 on the European Framework.

3.2 Knowledge, skills and competencies

The graduates are expected to possess the following knowledge, skills and competencies at the end of the programme:

- To educate and train the student to degree-level knowledge and practice competence.
- To develop in the student a range of competencies in pre-specified domains of competence.
- To provide a professional education for the student within the statutory framework of the professional regulatory body.
- To develop in the student the capacities for the performance of a professional nursing role.
- To develop the student as a knowledgeable, skilled and caring professional practitioner of nursing, capable of acting independently in the provision of nursing service.
- To develop the students of professional awareness and professional responsibility and accountability.
- To develop in the student the capacities for critical thinking and critical self appraisal.
- To enable the student to value learning as a continuous and a necessary process in the context of his/her professional role.

- To develop the student as a clinical leader.
- To contribute to the personal growth and development of the student.

3.3 Typical work tasks and areas of responsibility of the graduates

The Degree of Bachelor of Science (Nursing) provides a professional education within the relevant regulatory and academic framework to degree-level knowledge and practice competency. In so doing, the programme aims to prepare professional registered practitioners with the capacities for the performance of a professional nursing role, who are capable of acting independently in the provision of nursing service, and who have a strong professional and academic orientation. Graduates will typically be employed as registered general nurses in the public and private health care systems in Ireland and further afield.

Year 1	Scientific Principles for Healthcare	5 ECTS
	Structure and function of the Human Body, Part A	5 ECTS
	Psychology & Interpersonal Skills	5 ECTS
	Foundations of General Nursing, Part A	5 ECTS
	(Elective #1) Elective of student's choosing	5 ECTS
	(Elective #2) Elective of student's choosing	5 ECTS
	Structure and function of the Human Body, Part B	5 ECTS
	Social Science for Healthcare	5 ECTS
	Perspectives on Nursing	5 ECTS
	Foundations of General Nursing, Part B	5 ECTS
	Clinical Placement Induction 1	5 ECTS
	Clinical Placement Induction 11	5 ECTS
Year 2	Patient Safety, Microbiology, Infection Control Pharmacology	5 ECTS
	General Nursing (medical-surgical nursing 1)	5 ECTS
	Specialist Services	5 ECTS
	(Elective #1) Elective of student's choosing	5 ECTS
	(Elective #2) Elevtive of student's choosing	5 ECTS
	Clinical Placement Accident & Emergency	5 ECTS
	Clinical Placement Child Care & Paediatrics	5 ECTS
	Clinical Placement Care of Older Persons	5 ECTS
	Clinical Placement Mental Health	5 ECTS
	Clinical Placement Maternity Care	5 ECTS
	Clinical Placement Nursing Home	5 ECTS

Year 3	Clinical Placement Operating Theatres	5 ECTS
	Clinical Placment Out patients Department	5 ECTS
	Clinical Placement High Dependency	5 ECTS
	Clinical Placement Medical-surgical 1	5 ECTS
	Clinical Placement Medical-surgical 2	5 ECTS
	Clinical Placement Medical-surgical 3	5 ECTS
	General Nursing (Medical-surgical 2)	5 ECTS
	General Nursing (Medical-surgical 3)	5 ECTS
	Applied Social Science for Healthcare	5 ECTS
	Biopsychosocial Approaches	5 ECTS
	(Elective #1) Elective of student's choosing	5 ECTS
	(Elective #2) Elective of student's choosing	5 ECTS
Year 4	Nursing in Diverse Settings	5 ECTS
	Medical/Surgical 1V	5 ECTS
	Teaching and Accessing in Practicum	5 ECTS
	Promoting Health	5 ECTS
	Management and Quality Improvements	5 ECTS
	Evidence Based Practice	10 ECTS
	Clinical Placement, Part 4A (internship)	5 ECTS
	Clinical Placement, Part 4B (internship)	5 ECTS
	Clinical Placement, Part 4C (internship)	5 ECTS
	Clinical Placement, Part 4D (internship)	5 ECTS
	Clinical Placement, Part 4E (internship)	5 ECTS
		240 ECTS

Total Hours of instruction 4,472 hours.

Tab. 5: Organisation of the educational programme including modules and ECTS points

3.4 Teaching and learning methods

It is acknowledged that there is a relationship between teaching styles and approaches and the learning styles and approaches of the learner, including the learner's orientation to learning, and the learner's perceptions of the learning situation and the learning task. A variety of learning experiences are provided, including modified lectures, tutorials, and seminars and these are complemented by a range of student-centred methods, such as student-led workshops and discussions. In order to promote learning through reflection on experience, guided reflection in the practicum and critical incident technique are deployed. Student learning is supported by a range of web-based resources. The focus of clinical instruction is the development of competencies, through the application of knowledge and the learning of specific clinical skills, generally for use in the practicum. Teaching-learning strategies for facilitating the development of clinical competencies employ a combination of supervised practice in the practicum and instruction in the clinical skills labotatory, using a variety of methods, such as stimulation exercises, role play and team teaching. Each student is expected to assume responsibility for his/her own learning, with academic and clinical personnel

acting as facilitators of learning. The teaching-learning process emphasised student engagement, meaningful immersion in subject content and independent learning, and students are supported in making conceptual links between subjects and across theoretical and practice-based modules.

3.5 Assessment and certification

Learning takes place in almost equal measures between clinical instruction in health service providers (hospitals, community settings etc) and university based lectures, classes, tutorials and library based activity.

There are a multitude of methods used for the assessment of the learners' knowledge, skills and competencies. These include:

- Exams (Essay form & Multiple Choice Questions),
- Group Project work,
- Clinical skills assessment,
- Poster presentation,
- Oral Presentation,
- Clinical Competence assessment,
- Online Assessment,
- Assignments.

Each module must be passed in order to be eligible for the final award. There is therefore no final summative exam. Continuous assessment forms part of this ongoing process of evaluation also. In allignment with this, grade point averages is a standardised grading system used that takes an average from results gleaned over a specified period of time.

Trusting that all the above is on order, each student is awarded a certificate in Bachelor of Science (BSc) Nursing and becomes a Registered General Nurse on paying an annual registration fee to An Bord Altranais. It is a mandatory requirement for every practising nurse to register prior to taking a nursing post/contract.

3.6 Transition points and perspectives

All potential candidates must apply through the Central Applications Office (CAO) Ireland to access this nurse training programme with the minimum requirements as set out by the regulatory body of An Bord Altranais. Additionally, following graduation from this degree programme there are multiple opportunities for transition to further education, e.g medicine or other nurse specialisms.

Obviously, nursing graduates are eligible to apply for further study in nursing (many progress to level 9 courses such as MSc of Graduate Diplomas). There are opportunites to participate in the relatively newly devised 'Practice Nurse Practicianer' training programmes that affords roles and responsiibilites similiar that of a juniour doctor. Similarly all graduates can apply to other courses and degrees in various university settings in accordance with their level 8 status.

Many graduates do end up working abroad but they work as nurses in broadly similar roles. Within the EU, they are eligible for registration as nurses in all other states under the mutual recognition arrangements.

3.7 Summary

This report clearly illustrates how the integration of nurse training programmes into higher education has come to be firmly embedded in the Irish educational structure. It outlines how the National Framework of Qualifications operates and carefully monitors the levels applicable within nursing practice plus potential to further learning opportunities from both a formal & informal entry point. Further, It highlights how An Bord Altranais has a pivotal role to play concerning education, regulations and standards and how this Board works across a multitude of sectors in this ongoing endeavour.

This report also emphasises the uniqueness of the irish system of transfer, progression and ongoing developments within the nursing healthcare system as it permeates successfully between a somewhat parallel education system (VET & Universities). Moreover this shared ownership illustrates how the system continues to work to improve standards both nationally and internationally to provide the highest quality, sustainable education for undergraduates, adult learners and post-graduate healthcare professionals alike.

4 Results of MLI assessments in health care and nursing in Ireland

The final section of this document describes in detail the potential case study for the equivalence check (meso level). It concerns one nurse training programme at pre-registration honours degree level NFQ 8 (EQF level 6) chosen from an Irish University and information gleaned from a questionaire devised in cognisance of the stuctural recommendations set out initially within this overall project context.

4.1 Implemenentation of the MLI procedure

The designed equivalence check i.e. the Learning Outcome Matrix (LOM) and the Module Level Indicator (MLI) toolkit was utilized to analyse and evaluate learning outcomes in the field of Health Care, in particular focusing on a BSc General Nursing Studies programme. The implementation of the MLI toolkit was for the most part carried out by a field expert accompanied by interviews and a questionnaire completed by a University Lecturer responsible for delivering this cirriculum within the Bs.c Programme. Additionally information was gleaned from the extensive online information available. Further clarification where necessary was sought from the initial Credicare MLI-FAQ sheet supplied, which provided supplementary information regarding how to accurately and effectively apply the MLI tool.

4.2 Selection of modules

As aforementioned, there are 31 modules (units of learning) including 8 practical/clinical placements ranging from 5 – 30 ects (240 ects in total). The duration consists of a 4 year fulltime undergraduate training programme. Arguably in comparison to some other partner countries, the volume of modules there within is significantly higher.

4.3 Results of the MLI procedure

The qualitative analysis illustrates overall a very high MLI level – an average of 7.1 across all 31 modules. Infact 22 modules score an MLI greater than 7 with only nine

module MLI's scoring in the high 6's. This would appear to mitigate against the assumption that this BSc Irish Nursing programme is pitched at EQF level 6.

4.3.1 The top three highest MLI score findings

- 7.86 – Across 20 modules, all in 'Consideration of Social and Ethical Issues'.
- 7.73 – Across 23 modules, all in 'Problem solving'.
- 7.39 – Across 30 modules, all in 'Communicative Competence'.

Notably, there are consistently high scores evidenced in areas such as 'consideration of Social and Ethical Issues', 'Problem Solving' and 'Communicative Competence'.

In particular, the clinical learning/placements modules in hospital glean very high results regarding all three competencies. Figures 3 and 4 illustrate this clearly.

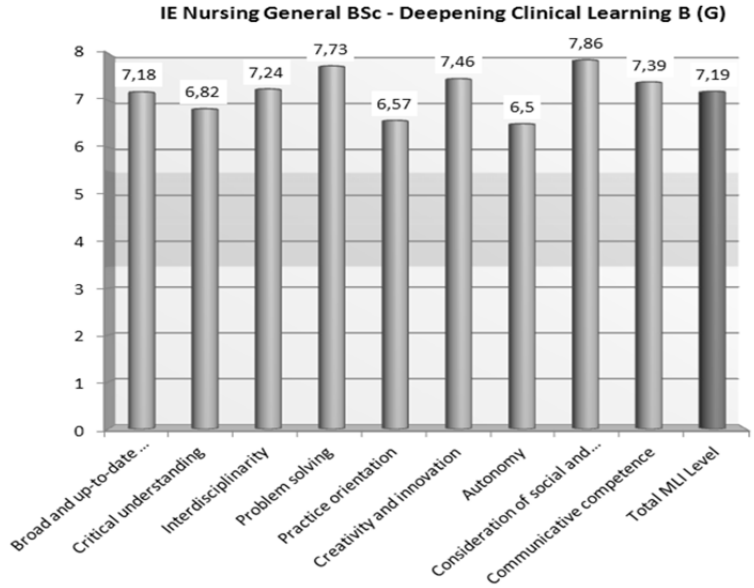


Fig. 3: IE Nursing General BSc – Deepening clinical learning B (G)

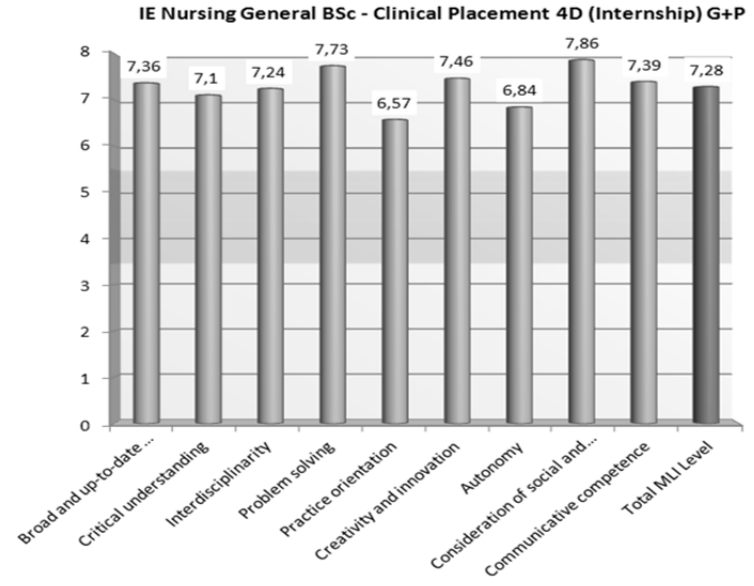


Fig. 4: IE Nursing General BSc – Clinical Placeement 4D (Internship) G&P

These particular competencies would indeed confirm the professional profile and nature of Nursing and support the ongoing developments within Healthcare & Nursing in Ireland particularily considering the close interconnectivity between ethical/social issues and problem solving. On a day to day basis, it is assumed that the professional nurse is challenged by these fundamental competencies at ward level and moreover underpinned by effective communication with the patient/family and the Multidiscplinary Team alike. A further explanation for the high MLI scores is the high level of teaching practice across all Universities. Lecturers are at very least expected to have a MS.c in Nursing Studies or equivalent and preferably a PHD. In general they focus on one particular module/subject and specialise in this area imparting the latest research and up to date knowledge in their chosen field. Additional as evidenced in Figure 5 – Teaching and accessing in the practicum, this module aims to deepen students understanding of teaching and learning in nursing and midwifery practice and prepare them for their role as practice educators.

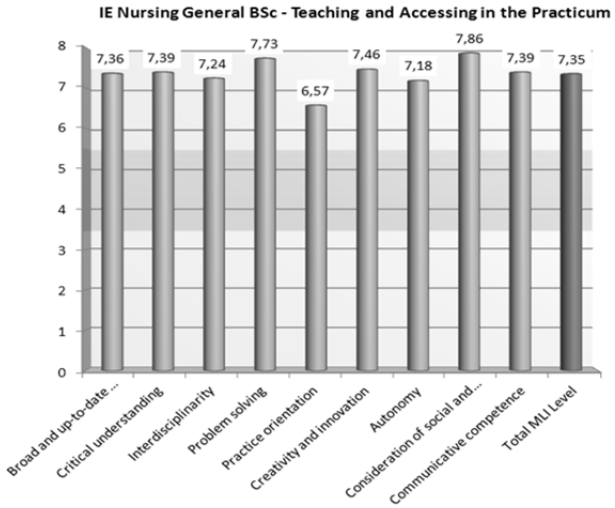


Fig. 5: IE Nursing General BSc – Teaching and Assessing in the Practicum

4.3.2 The lowest three MLI score findings

- 5.01 – Social Science for Healthcare in 'Practice Orientation'.
- 5.48 – Patient Safety, Microbiology & Infection in 'Creativity & Innovation'.
- 5.48 - Deepening Clinical Learning A (G) in 'Autonomy'.

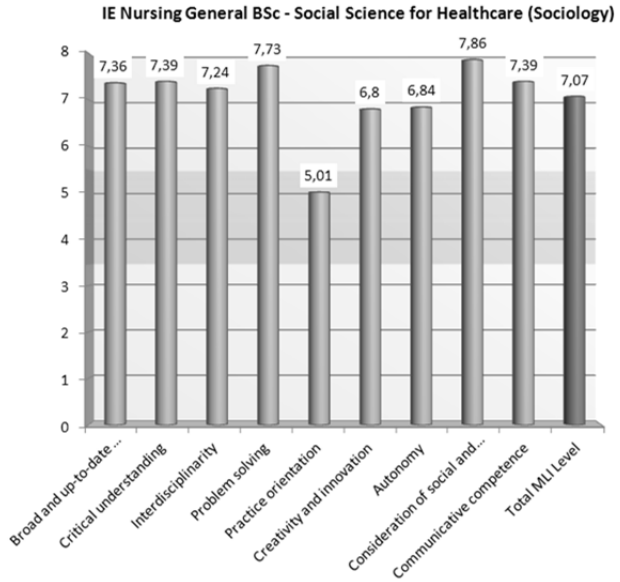


Fig. 6: IE Nursing General BSc – Social Science for Healthcare (Sociology)

The lowest MLI findings are in respect of IE Social Science for Healthcare (Sociology), figure 6 regarding 'Practice Orientation'. Considering that this module is an introduction to Social Science, and although the newly introduced theories and models can be discussed and learned at classroom level, skills are not immediately transferrable to practical situations but they are practiced by the student over time and with experience the student becomes proficient and competent dealing with these sociological aspects when providing nursing care.

Equally, when considering the module Patient Safety, Microbiology and Infection, figure 7 below 'creativity and innovation' does not feature highly with regards learning competencies as this is very much a knowledge based subject with text book learning thus little room for variation.

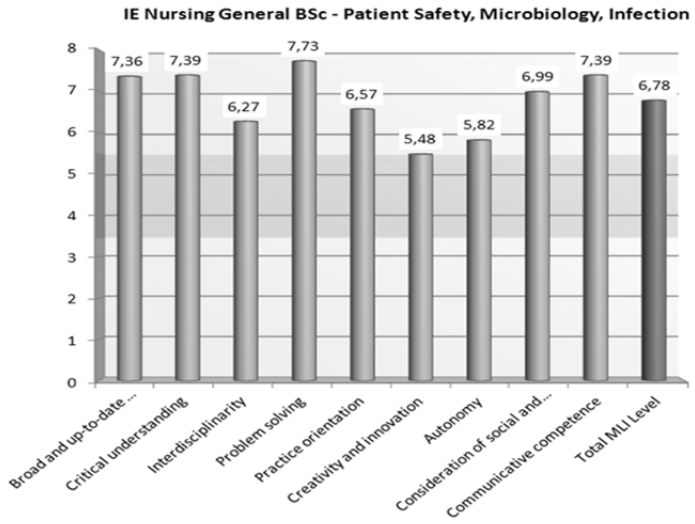


Fig. 7: IE Nursing General BSc – Patient safety,microbiology & infection

Finally, as evidenced below in figure 8, 'Autonomy' does not score highly in relation to the 'Deepening Clinical Learning' module. One theory behind this may be as follows; as the Student Nurse is working in an acute busy hospital environment, she must be

supervised closely by a Registered General Nurse (RGN) at all times whilst carrying out her daily nursing duties. All decisions relating to individual patient care must be discussed and agreed with the RGN therefore although the student nurse is taking responsibility as required ongoing, she cannot act independently and design solutions autonomously.

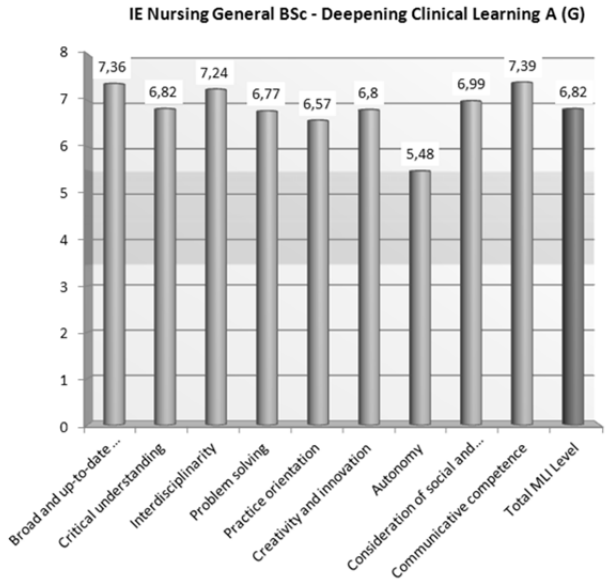


Fig. 8: IE Nursing General BSc – Deepening clinical learning A (G)

4.4 Conclusion

On reflection of the MLI results and the very high level scoring attained (average of 7.1 across all modules) using this toolkit, this unequivocally highlights the clearly balanced and controlled standardisation of practice in the Irish nursing cirriculum. Notably this differs from the established EQF level 6 however either way, gives rise ultimately to a very high quality of sustained nursing care.

This curriculum entails the theory and practice of nursing in a fully integrated manner, establishing a strong foundation for a future career within the Healthcare setting. Lectures, workshops, library, tutorials and project group learning are all delivered on college grounds, while "hands on" practice/clinical placements that enhance learning and development of nursing skills take place locally in a designated Dublin Academic Teaching Hospital (DATH's) and a variety of other Health Care Settings. The diversity of learning methods evidenced within this cirriculum duly mirrors the high level results gleaned for the equivalence check i.e. the Learning Outcome Matrix (LOM) and the Module Level Indicator (MLI) tools.

The MLI is a useful tool to begin to explore comparisons on a transnational basis between units of learning and or modules, however it should not be the used as the only basis of comparison. The pedagogical and constructivist approaches to learning within the Irish Nursing Programme may differ greatly in practice to the other partners. Often the stated learning outcomes can also mask the hidden curriculum which operates by default in practice, Nuances within the assessment tools and strategies can also vastly alter the level and depth and complexity of a unit of learning and not reflect broadly the desired stated learning outcomes. The MLI analysis of the Irish modules reflects how these units are written and are intended operate in practice but other

qualitative means should also be used to gain a true and authentic picture of the programme and the 'level' it represents.

References

Central Application Office [Online] Available from: <http://www.cao.ie/ > [Accessed April 2013].

Department of Education and Science (1999) Qualifications (Education and Training) Act. Dublin: Department of Education and Science.

Department of Health and Children (2001) The Health Service Reform Programme Quality and Fairness , A Health System for you. Dublin: Department of Health and Children.

Further Education and Training Awards Council FETAC (2005) Placing FETAC Awards on the National Framework of qualifications. Dublin FETAC, East Point Business Park, Dublin 3.

Government of Ireland, (1998) The Report of The Commission on Nursing [Online]. Available from: <http://www.dohc.ie/publications/report_of_the_commission_on_nursing.html > [Accessed 29 March 2013].

Department of Education 2011. National Strategy for Higher Education to 2030 – Report of the Strategy Group [Online]. Available from: <http://www.hea.ie/files/files/DES_Higher_Ed_Main_Report.pdf> [Accessed 30 March 2013].

The Department of Health and Children 2009-2012. An Integrated Workforce Planning Strategy For The Health Services, Health Service Executive [Online] Available from: <http://www.dohc.ie/publications/workforce_planning_strategy.html> [Accessed 2 April 2013].

Harper, D and Fox, R. 2003, Description of Vocational Education and Training in Ireland. [Online] Available from: <http://www.fas.ie/en/pubdocs/DescriptionVocationalEducationTraining.pdf> [Accessed 30 March 2013].

The Department of Health and Children 2012. The National Service Plan, Health Service Executive. Dublin: Stationery Office.

The Health and Quality Authority 2009. National Standards for Residential Care for Older people in Ireland, Health Service Executive [Online] Available from: <http://www.hiqa.ie/publications?page=1> [Accessed 10 April 2013].

Higher Education Authority (2005) Achieving Equality of Access to Higher Education in Ireland. The Higher Education Authority Dublin.

The National Council for the Professional Development of Nurses and Midwifery. Agenda for the Future Professional Development of Nursing and Midwifery May 2003 [Online] Available from: <http://www.ncnm.ie/items/1369/85/5876941049%5CAgenda%20for%20the%20future%20prof%20dev%20nursing%20and%20midwifery.pdf> [Accessed 26 March 2013].

The Nurses Act Ireland, 1985 [Online] Available from: <http://www.irishstatutebook.ie/1985/en/act/pub/0018/index.html> [Accessed 25 March 2013].

The Nursing Careers Council Ireland [Online] Available from: <http://www.nursingboard.ie/en/careers.aspx> [Accessed 25 March 2013].

Nursing/Midwifery – a career for you, pre-registration honours degree programmes 2012 Nursing Career Centre, An Bord Altranais [Online]. Available from: <http://www.nursingboard.ie/en/careers.aspx> [Accessed 2 April 2013].

NQAI (2003) The National Framework for Qualifications: An overview, National Qualifications Authority of Ireland. Dublin: Stationery Office.

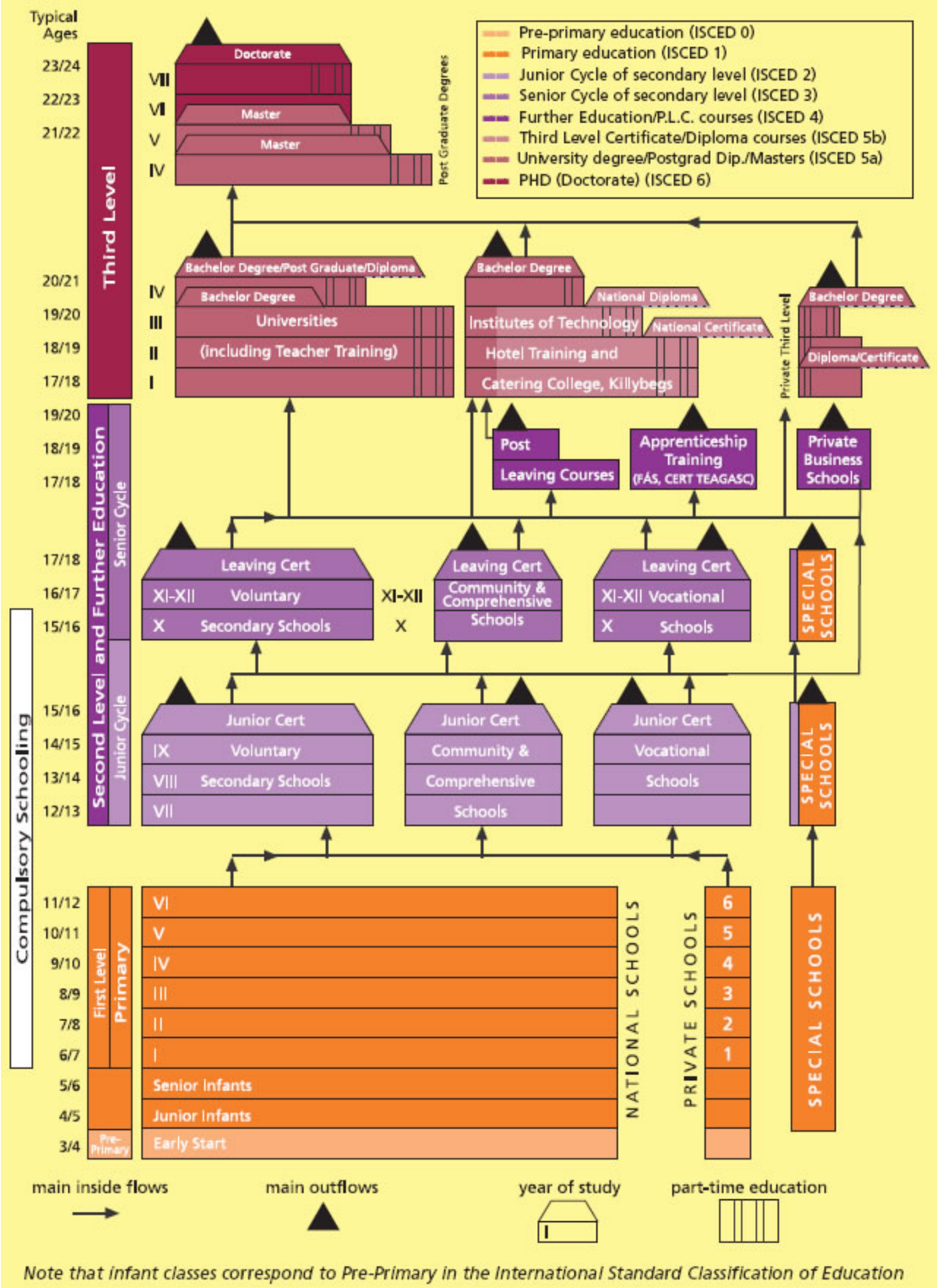
NQAI (2004) National Framework of Qualifications [Online] Available from: <http://www.nfq.ie/nfq/en/> [Accessed 2 April 2013].

NQAI (2009) Referencing of the Irish National Framework of Qualifications (NFQ) to the European qualifications Framework (EQF) for Lifelong Learning, National Qualifications Authority of Ireland, Dublin.

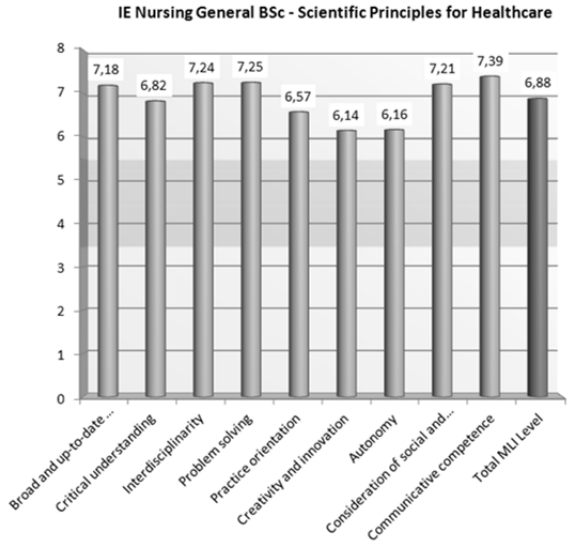
Public Service Agreement 2010-2014 (Croke Park Agreement), Government Publications, Dublin, 2010.

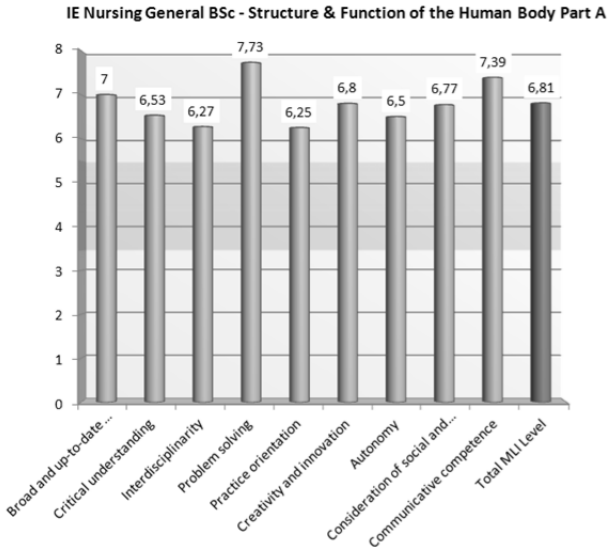
Requirements and standards for Post-Registration Nursing and Midwifery Education Programmes – Incorporating the National Framework of Qualifications (An Bord Altranais) June 2010 [Online] Available from: <http://www.lenus.ie/hse/bitstream/10147/107350/1/Requirments_and_Standards_for_Post-Registration_Nursing_and_Midwifery_Education_Programmes_2010.pdf> [Accessed 2 April 2013].

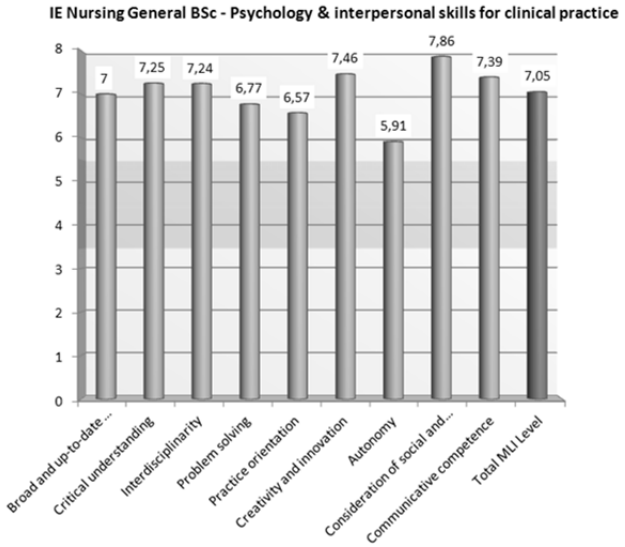
Appendix 1: Irish Education system diagram (source: DES (2006)

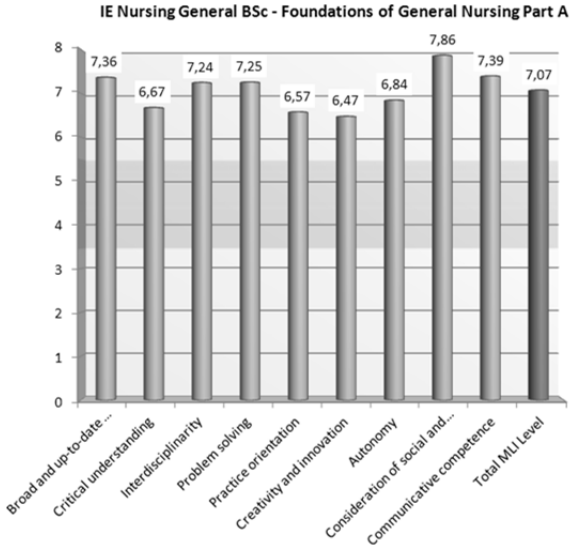


Appendix 2: MLI results





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Broad and up-to-date ...
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Problem solving
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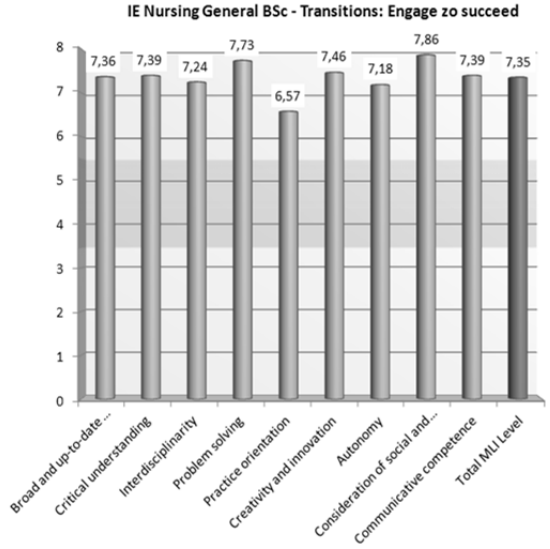
Creativity and innovation
Autonomy
Consideration of social and...
Communicative competence
Total MLI Level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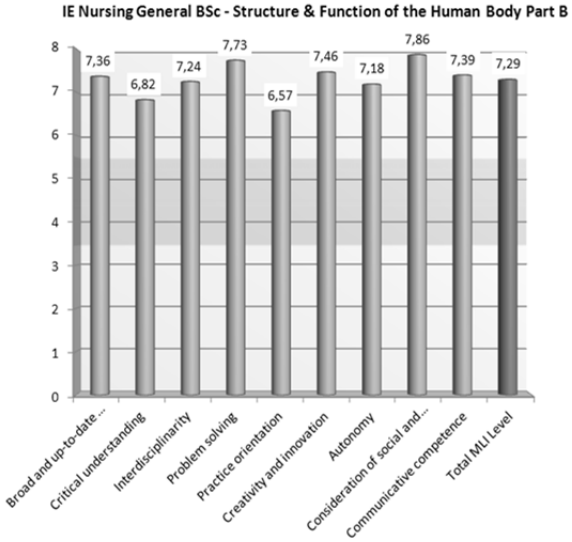
Problem solving
Practice orientation
Creativity and innovation
Autonomy
Consideration of social and...
Communicative competence
Total MLI Level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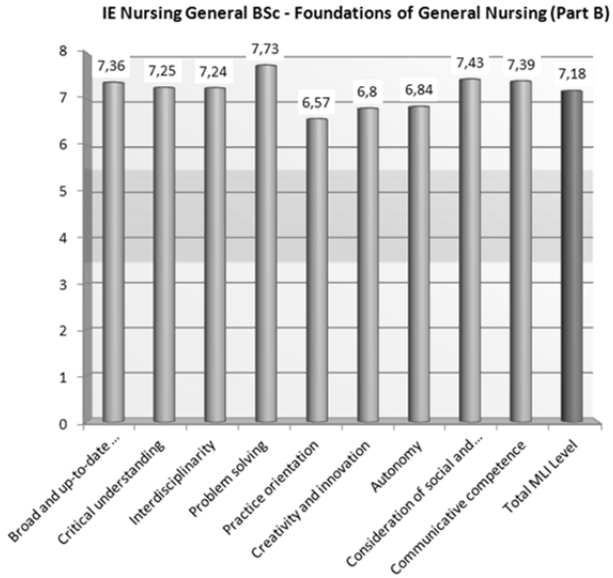
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Creativity and innovation
Autonomy
Consideration of social and...
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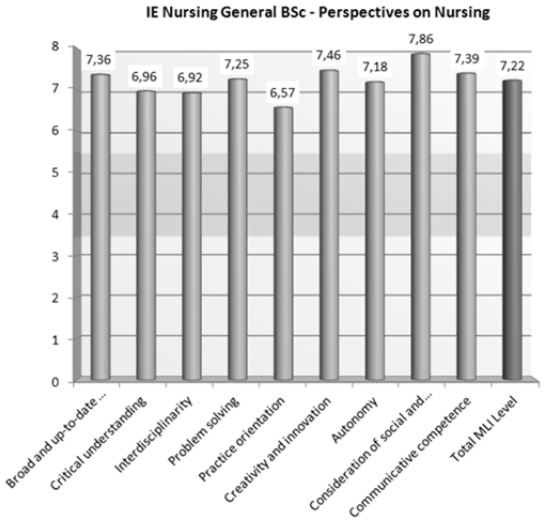
Total MLI Level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Creativity and innovation
Autonomy
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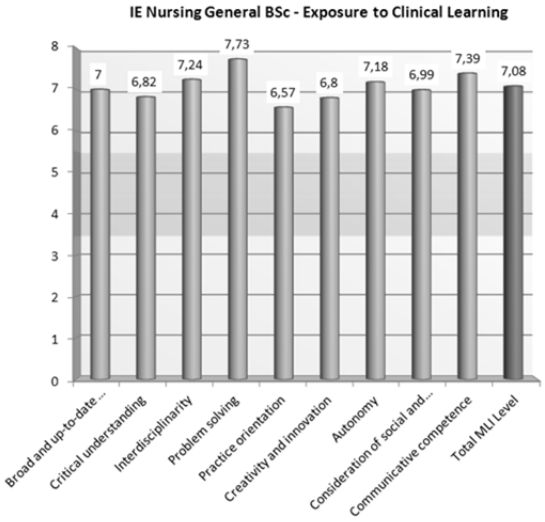
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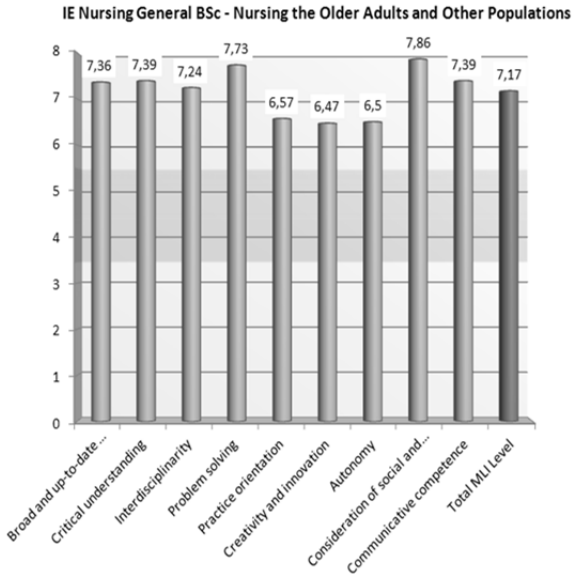
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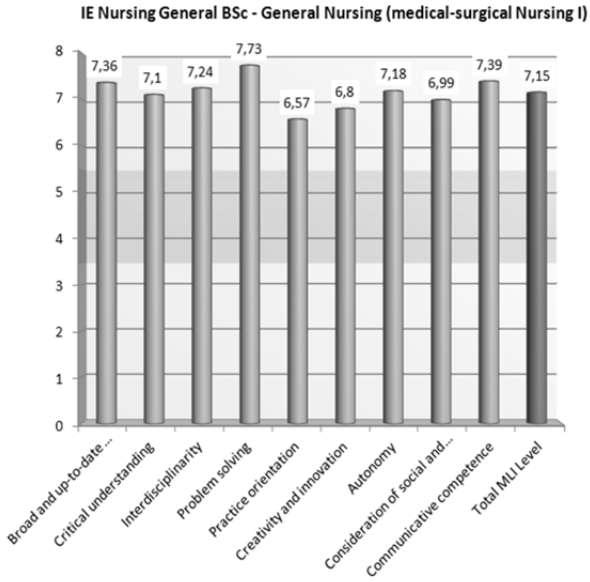
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Problem solving
Practice orientation
Creativity and innovation
Autonomy
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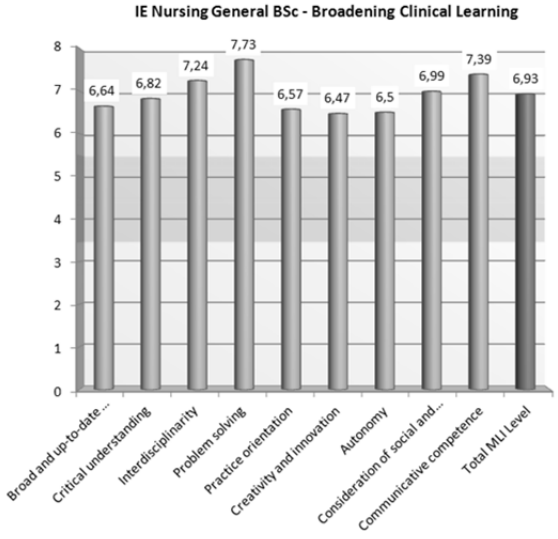
Total MLI Level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Problem solving
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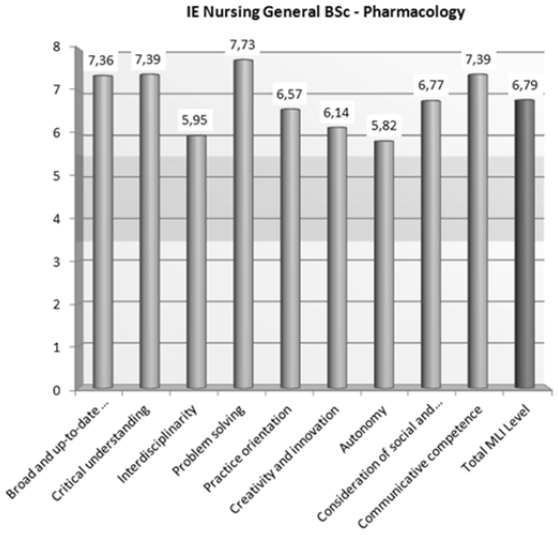
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Problem solving
Practice orientation
Creativity and innovation
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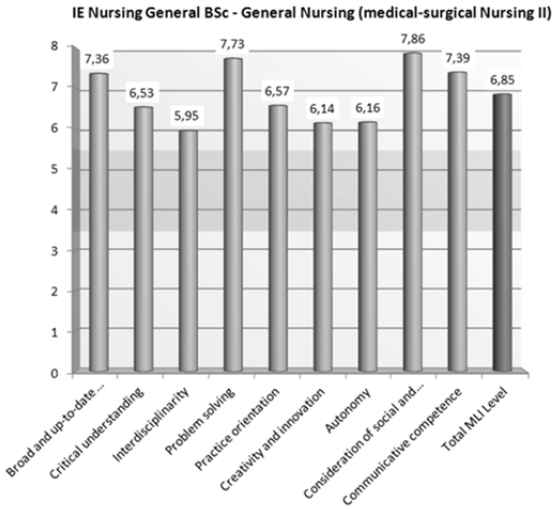
Communicative competence
Total MLI Level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Problem solving
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Communicative competence
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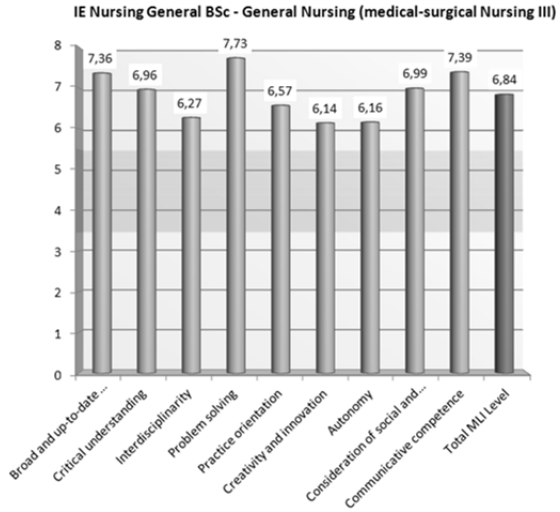
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Consideration of social and...
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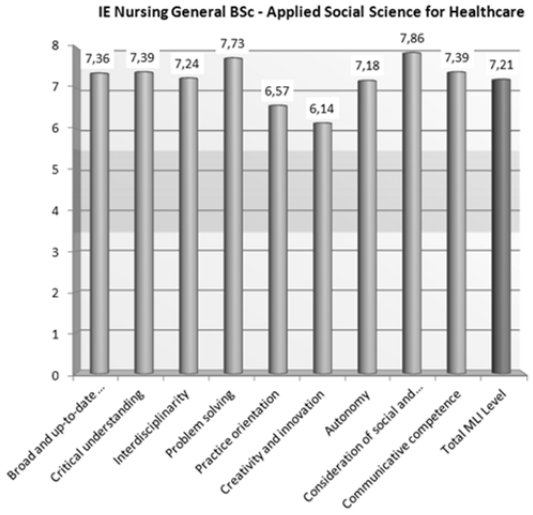
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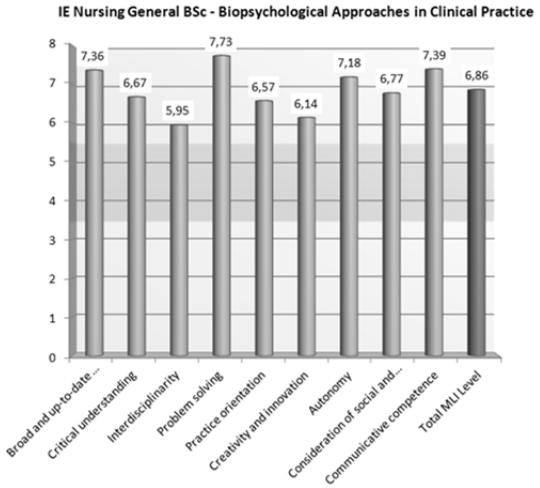
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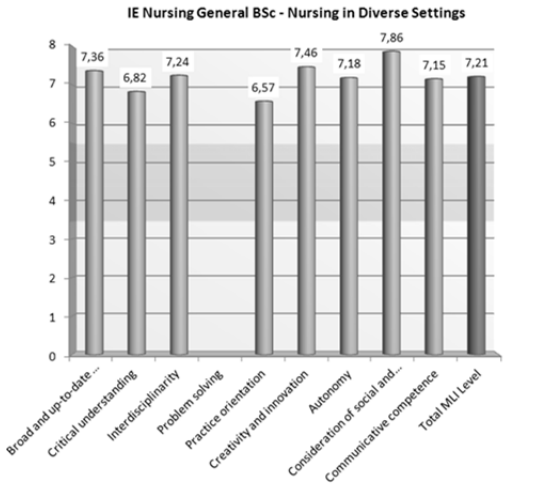
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Problem solving
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Creativity and innovation
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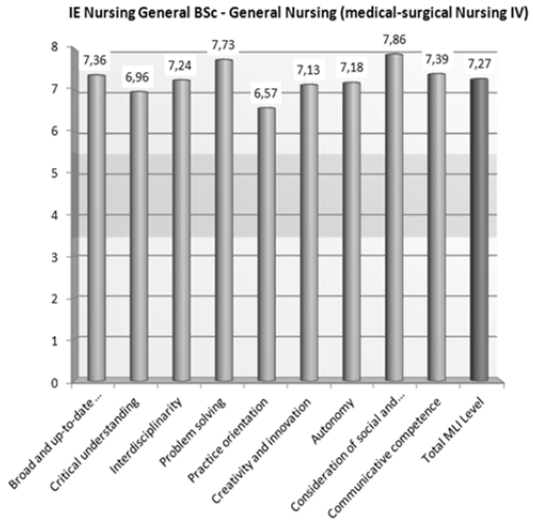
Consideration of social and...
Communicative competence
Total MLI Level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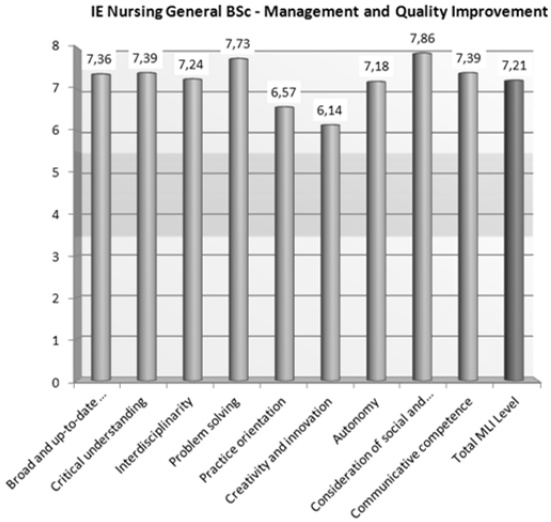
Problem solving
Practice orientation
Creativity and innovation
Autonomy
Consideration of social and...
Communicative competence
Total MLI Level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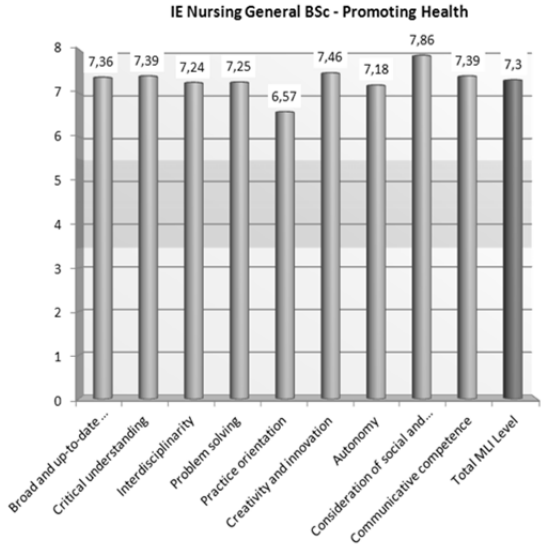
Interdisciplinarity
Problem solving
Practice orientation
Creativity and innovation
Autonomy
Consideration of social and...
Communicative competence
Total MLI Level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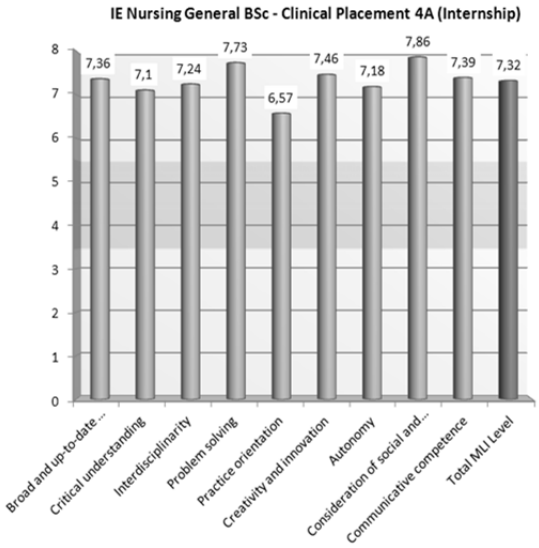
Problem solving
Practice orientation
Creativity and innovation
Autonomy
Consideration of social and...
Communicative competence
Total MLI Level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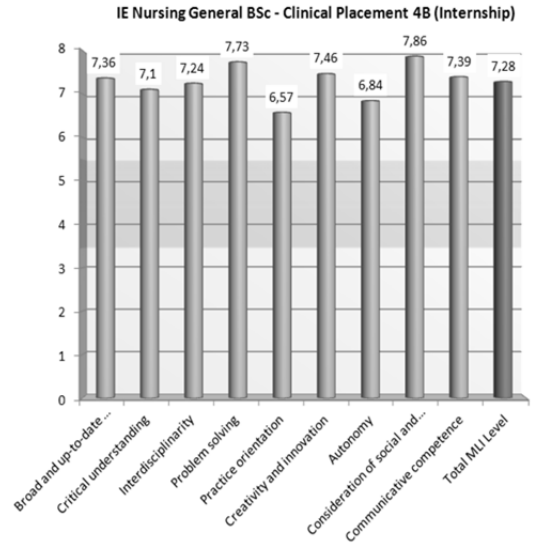
Broad and up-to-date ...
Critical understanding
Interdisciplinarity
Problem solving
Practice orientation
Creativity and innovation
Autonomy
Consideration of social and...
Communicative competence
Total MLI Level


IE Nursing General BSc - Clinical Placement 4B (Internship)
7,36
7,1
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6,57
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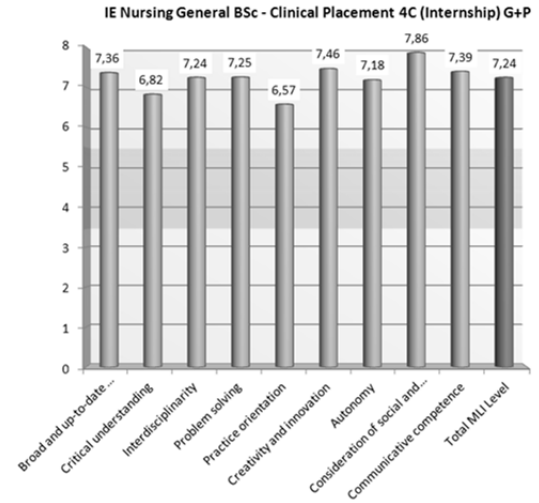
Broad and up-to-date ...
Critical understanding
Interdisciplinarity
Problem solving
Practice orientation
Creativity and innovation
Autonomy
Consideration of social and...
Communicative competence
Total MLI Level


IE Nursing General BSc - Clinical Placement 4C (Internship) G+P
7,36
6,82
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7,18
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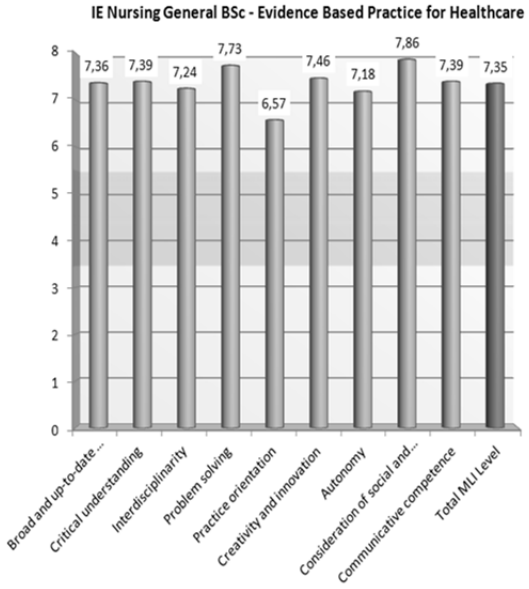
Broad and up-to-date ...
Critical understanding
Interdisciplinarity
Problem solving
Practice orientation
Creativity and innovation
Autonomy
Consideration of social and...
Communicative competence
Total MLI Level


IE Nursing General BSc - Evidence Based Practice for Healthcare
8
7
6
5
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3
2
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7,18
7,86
7,39
7,35
Broad and up-to-date ...
Critical understanding
Interdisciplinarity
Problem solving
Practice orientation
Creativity and innovation
Autonomy
Consideration of social and...
Communicative competence
Total MLI Level

Health care and nursing occupations in Europe: a comparative perspective

Roland Tutschner, Wolfgang Wittig

The level assessment reports essentially have two functions in the CrediCare project. First, they describe the health care and nursing qualifications that the project is concerned with and situate them in the context of the national education and training systems. The subject-matter of the study consists of two VET programmes (practical nurse in Finland and geriatric nursing in Germany) and three higher education programmes in the nursing sector (the State Diploma in Nursing in France, higher professional education in basic nursing in Estonia, and the Bachelor (Hons) degree in Ireland). Second, the level assessment reports present the results of the assessment of the modules and learning fields, and hence of the qualifications as a whole, that were carried out with the help of the MLI.

In order to standardise the process of learning outcome oriented level assessment of modules and learning fields to the fullest possible extent, the core instrument of the project, the MLI tool, was discussed in detail and tested with selected modules in the initial project phase. The experience of these tests and the following discussions have been documented in the MLI User Guide (Müskens et al., 2013). This publication presents the MLI in detail and describes its application. The MLI User Guide is meant to be a reference document for users and practitioners, which includes a detailed commentary to the 9 scales of the MLI as well as annotations to the 51 items in the MLI questionnaire.

After this testing phase, national experts (teachers, trainers etc.) in the five partner countries, collaborating with the project partners, reviewed the modules or learning fields of the education and training programmes in question with the help of the MLI questionnaire. The completed MLI questionnaires were analysed by the project partners at the University of Oldenburg.

In the following we will discuss the most important messages of the national chapters included in this volume, especially the results of the level assessments. The characteristics of the national health care and nursing qualifications are briefly recapitulated while the focus will be on the discussion of the MLI results. Tables and figures with the results of the level assessments will facilitate the analysis and interpretation. In the concluding section the results are critically examined, and recommendations are made with regard to future level assessments.

1 Germany

The qualification selected in Germany is the three-year upper secondary VET programme in geriatric nursing, which is officially assigned to level 4 of the German Qualifications Framework and accordingly to EQF level 4. The entire workload of this training programme is 4,600 to 4,900 hours. One particular feature of the curriculum in geriatric nursing in Germany is the strong practice orientation or, more precisely, the close connection of theoretical instruction and professional practice. This is reflected by the large workload related to the practical part, which amounts to 2,500 hours. Another distinctive feature of the training programme consists in the 14 interdisciplinary "learning fields" instead of traditional subjects. However, the individual learning fields show considerable differences in their workloads. For instance, the largest

learning field 1.3 "Caring for elderly in a personally appropriate and situation based manner" has a workload of 700 hours while the workoad of learning field 3.2 "Contributing to quality-assuring measures in geriatric nursing" is 45 hours. For the purposes of the MLI assessment the learning field 1.3 was split into three smaller modules. The general module 4.2 "Learning to learn" was not included in the MLI assessment because it does not relate specifically to the occupational profile.

MLI Results Germany Geriatric Nursing (EQF Level 4)	**MLI scaling results**									
MLI scaling dimensions / Learning areas/ Learning fields (Modules)	Broad up-to date knowledge	Critical understanding	Interdisciplinarity	Problem solving	Practice orientation	Creativity and innovation	Autonomy	Consideration of social & ethical issues	Communicative competence	**Total MLI average**
Learning Area 1: Tasks and concepts in geriatric nursing										
LF 1.1. Incorporating theoretical principles in geriatric nursing activities	6.3	6.2	6.3	4.4	5.6	4,5	5.1	6.3	6.7	**5.7**
LF 1.2. Planning, implementing, documenting and evaluating the care of elderly people	5.6	5.7	4.7	5.8	6.6	4.5	6.2	6.1	6.0	**5.7**
LF 1.3. Caring for elderly people in personally appropriate and situation-based manner	5.9	6.1	6.6	6.8	6.6	4.8	7.2	6.8	6.5	**6.4**
LF 1.4. Instructing, counselling and holding discussions	5.4	5.7	6.0	5.3	6.6	4.5	6.2	6.3	6.0	**5.8**
LF 1.5. Contributing to medical diagnonstics and therapy	5.2	4.5	5.3	5.3	6.6	4.2	6.2	5.9	6.0	**5.5**
Learning Area 2: Support of elderly people in designing their lives										
LF 2.1. Giving consideration the circumstances and social networks of the elderly in geriatric nursing activities	6.5	6.8	6.6	4.4	5.0	5.2	5,1	6.6	6.7	**5.9**
LF 2.2. Supporting elderly people in designing their housing and their residential environment	4.5	4.7	5.0	4.4	6.6	3.8	5.5	4.6	5.3	**4.9**
LF 2.3. Supporting elderly people in designing their day and self-organised activities	4.9	4.5	5.0	4.4	6.6	3.8	5.5	4.6	5.3	**4.9**

Learning Area 3: Legal and institutional framework conditions of geriatric nursing work										
LF 3.1. Giving consideration to institutional and legal framework conditions in geriatric nursing activities	5.8	5.8	5.0	4.4	5.0	4.8	5.1	6.6	6.5	**5.4**
LF 3.2. Contributing to quality-assuring measures in geriatric nursing	4.7	5.5	5.3	4.4	5.0	4.2	3.4	5.7	5.0	**4.8**
Learning Area 4: Geriatric nursing as an occupation										
LF 4.1. Developing an occupational self-image	5.0	4.4	5.6	3.4	4.7	3.8	3.8	6.6	5.5	**4.8**
LF 4.2 Learning to learn										
LF 4.3: Dealing with crises and difficult social situations	4.3	4.2	5.3	3.0	5.3	4.2	4.5	6.3	5.7	**4.8**
LF 4.4: Maintaining and promoting personal health	3.2	3.5	3.4	3.0	5.3	3.5	3.8	5.0	5.0	**4.0**
Mean of MLI Scales Scores	**5.3**	**5.4**	**5.5**	**4.9**	**5.7**	**4.4**	**5.7**	**6.0**	**5.9**	**5.4**

Tab. 1: MLI results geriatric care (Germany)

In Germany the project member herself carried out the MLI review as an expert because of her long time experience as headmaster of geriatric nursing schools and her expertise in curriculum development. By guidance of the project partner at Oldenburg University the expert was introduced into MLI instrument and procedure. The implementation of the MLI procedure was carried out in close cooperation with the geriatric nursing school of ibs e.V. (Institut für Berufs- und Sozialpädagogik) in Bremen.

The MLI results show that the learning outcomes of the German VET programme in geriatric nursing score high especially on the MLI scales "autonomy", "practice orientation", "critical understanding", "consideration of social and ethical issues" and "communicative competence". Especially on the scale "practice orientation" there are high scores across all learning fields (in the following the term "module" instead of "learning field" will be used). The scales "problem solving" and "creativity and innovation", on the other hand, tend to show lower scores. These dimensions, however, are not in the centre of the training programme.

All modules of learning area 1 "Tasks and concepts in geriatric nursing" play a central part in geriatric nursing training in Germany. These modules impart the fundamental knowledge, skills and competences of this vocational qualification. The MLI scores range between 5.7 and 6.4. In the core module 1.3 "Caring for elderly in a personally appropriate and situation-based manner" the scores even range between 6.1 and 7.1.

In the learning area 2 "Support of elderly in organising their lives" the average MLI scores are above 5 as well. This learning area is closely connected with the practical training and concerns the tasks and challenges related to the support of elderly people

in managing their daily life and self-organised activities. In the module 2.1 "Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities", in particular, the MLI scores have an average of 5.9. This result makes plaint that geriatric nurses, apart from their medically oriented nursing responsibilities, need to meet high standards of social services as well.

The two modules of learning area 3 "Legal and institutional framework conditions of geriatric nursing work" relate to contents of the subjects "nature of profession" and law. Here the MLI scores lower and range between 4.8 and 5.4.

The modules of the learning area 4 "Geriatric nursing as an occupation" also have low MLI averages (4.0 to 4.8). But here, too, the MLI results for the scales "consideration of social and ethical issues" (6.6), "interdisciplinarity" (5.6) and "communicative competence" (5.7) are relatively high.

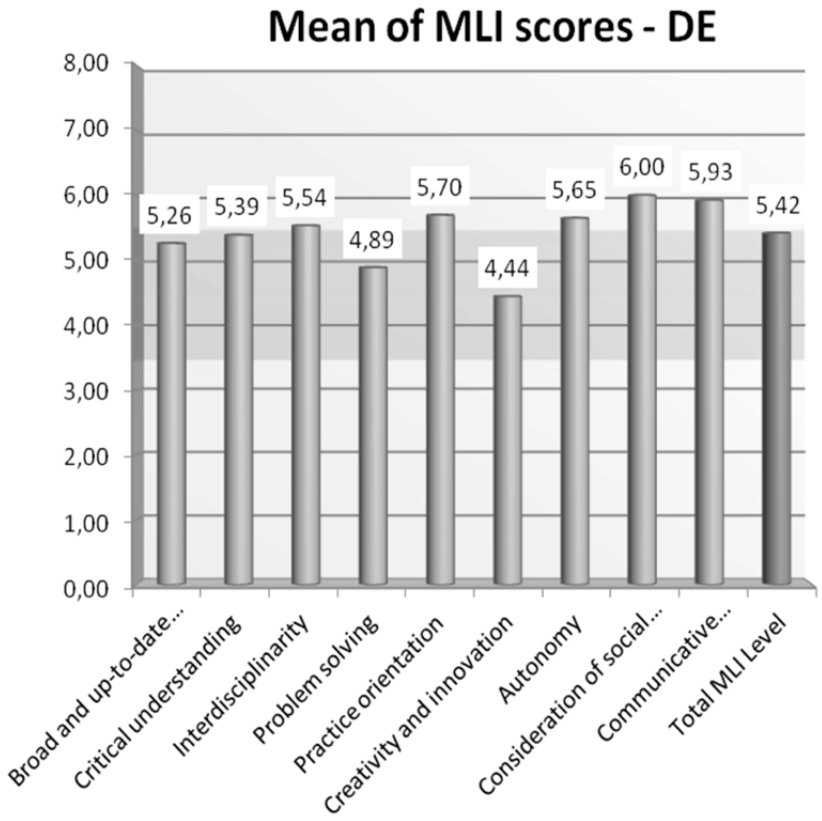

Fig. 1: Average of MLI scores in Germany

It can be observed that the results for the different MLI scales reflect the priorities within the occupational profile of geriatric nursing in Germany. Accordingly the highest scores can be found in the scales "autonomy", "critical understanding", "consideration of social and ethical issues" and "communicative competence". Moreover, the MLI scores for the scales "broad and up-to-date knowledge" and "interdisciplinarity" are a testimony to the interdisciplinary approach of learning field orientation.

What is striking, however, is the relatively low averages in the scales "creativity and innovation" and "problem solving". The average result on the "creativity and innovation" scale is 4.4 and thus remarkably lower than the mean of 5.4 across all scales and modules. This can be attributed to the fact that many activities in geriatric nursing

involve the observation of strict rules, which are often grounded in medical requirements, so that there is only limited space for creativity and innovation.

The MLI results for the German VET programme in geriatric nursing support the position of those experts who criticise the assignment of this qualification to level 4 of the DQR as too low. The results show that the average level of 5.4 is considerably higher than the official DQR position. Especially the results for the important module 1.3, which has a total MLI score of 6.4, support the critics of the official level assignment.

2 Finland

Vocational schools in Finland offer a total of 119 training programmes that lead to 53 different vocational qualifications. Vocational education and training can take place in three different versions. These include, first, full-time school-based VET, second, company-based training (apprenticeship) and third, competence-based qualification (accreditation on the basis of skills demonstrations). Vocational education and training in schools is the dominant type in Finland.

There are several qualifications in the area of social services, health and sport. One of these is the qualification "Vocational Qualification in Social and Health Care, Practical Nurse", which is features a total of eight specialisations. For the CrediCare project the specialisation "Care for the Elderly" was selected, which is offered at Jyväskylä College.

The three-year vocational qualification has a volume of 120 credit points with one year of training comprising 40 CP and one CP being equivalent to 40 hours of study. This means that the VET programme has a total workload of 4,800 hours. Of these, 1,200 hours (30 CP) are assigned to on-the-job learning, i.e. learning by professional practice.

The training programme for practical nurses is organised in 6 modules. At Jyväskylä College the students in social and health care undergo five different phases of on-the-job learning of six weeks each, which are distributed over three years. During these work-based modules the students learn practical skills that are part of the qualification.

At certain points of the training process the students have to demonstrate their newly acquired skills in tests that are carried out as real-life work situations or as practical assignments. These so-called skills demonstrations are a practice-oriented way to assess whether and to what extent the student has developed the competences required in the labour market. In the vocational skills demonstrations the teacher responsible for the module examines the student in collaboration with the on-the-job instructor or workplace tutor. A special feature of this type of assessment is that the student is also asked to evaluate his or her own performance.

MLI Results Finland **Practical Nurse (EQF Level 4)**	**MLI scaling results**									
MLI scaling dimensions / Modules	Broad up-to date knowledge	Critical understanding	Interdisciplinarity	Problem solving	Practice orientation	Creativity and innovation	Autonomy	Consideration of social & ethical issues	Communicative competence	**Total MLI average**
Compulsory vocational modules (50 cp)										
Support and guidance of growth (Part 1)	5.4	3.9	5.3	4.9	6.6	5.5	4.8	7.0	4.1	**5.3**
Support and guidance of growth (Part 2)	5.6	4.7	5.6	4.9	6.6	5.2	5.8	6.8	4.6	5.5
Support and guidance of growth (Part 3)	5.4	3.7	5.6	4.9	6.6	5.2	5.8	6.8	5.7	5.5
Nursing and care (Part 1)	4.5	4.7	4.7	3.4	6.6	3.5	3.8	7.0	4.8	**4.8**
Nursing and care (Part 2)	4.0	4.8	4.7	4.4	6.6	4.2	4.1	7.2	5.0	**5.0**
Nursing and care (Part 3)	4.5	4.8	4.3	4.4	6.6	4.5	4.5	7.6	5.7	**5.2**
Rehabilitation and support (Part 1-3)	4.1	4.2	6.0	6.8	6.6	6.8	6.2	7.4	6.0	**6.0**
Specialisation modules (30 cp)										
Care for the elderly (Part 1-3)	5.9	5.4	7.2	7.7	6.6	7.5	7.2	7.9	7.4	**7.0**
Working as an employee and entrepreneurship	5.9	5.5	6.6	6.8	5.9	5.8	6.2	7.4	4.6	**6.1**
Optional modules (10 cp)										
Home care and nursing of the elderly (Part 1-2)	4.0	4.8	4.3	5.8	6.6	4.2	5.8	7.9	4.8	**5.4**

Compulsory core subjects (16 cp)										
Health education (1 cp)	5.6	5.7	5.0	6.3	6.3	5.2	5.5	7.0	5.3	**5.7**
Mean of MLI Scales Scores	**4.9**	**4.8**	**5.6**	**5.9**	**6.5**	**5.6**	**5.8**	**7.4**	**5.6**	**5.7**

Tab. 2: MLI results for practical nurses (Finland)

In Finland the MLI assessments were carried out by means of expert interviews. The interviewers were the core partners from the Finnish Institute for Educational Research. The experts interviewed were the teachers of the reviewed modules. The ratings were discussed in group work sessions.

For the purposes of the MLI assessment the qualification of practical nurse, which is composed of 6 comprehensive moudules, was transformed into 15 smaller modules. In the MLI assessment, 11 out of these 15 modules were ultimately taken into account.

In the MLI scales "practice orientation" and "consideration of social and ethical issues", which relate to the core elements of the training programme for practical nurses, all modules reach high level scores. The average MLI score is 6.5 for "practice orientation" and 7.4 for "consideration of social and ethical issues".

The optional (elective) module "Home Care and Nursing of the Elderly" emphasises independent and autonomous activity at a high level. Accordingly the MLI scores for this module in the dimensions "autonomy" and "problem solving" are 5.8 each. In the national basic VET curriculum, autonomy is one of the key factors, especially with regard to the assessment method of skills demonstrations.

In the specialisation module "Care for the Elderly", whose workload of 13.5 CP is the highest of all modules, specialist knowledge about nursing and geriatric care takes centre stage, and acccordingly this module has a high score of 5.9 on the scale "broad and up-to-date knowledge".

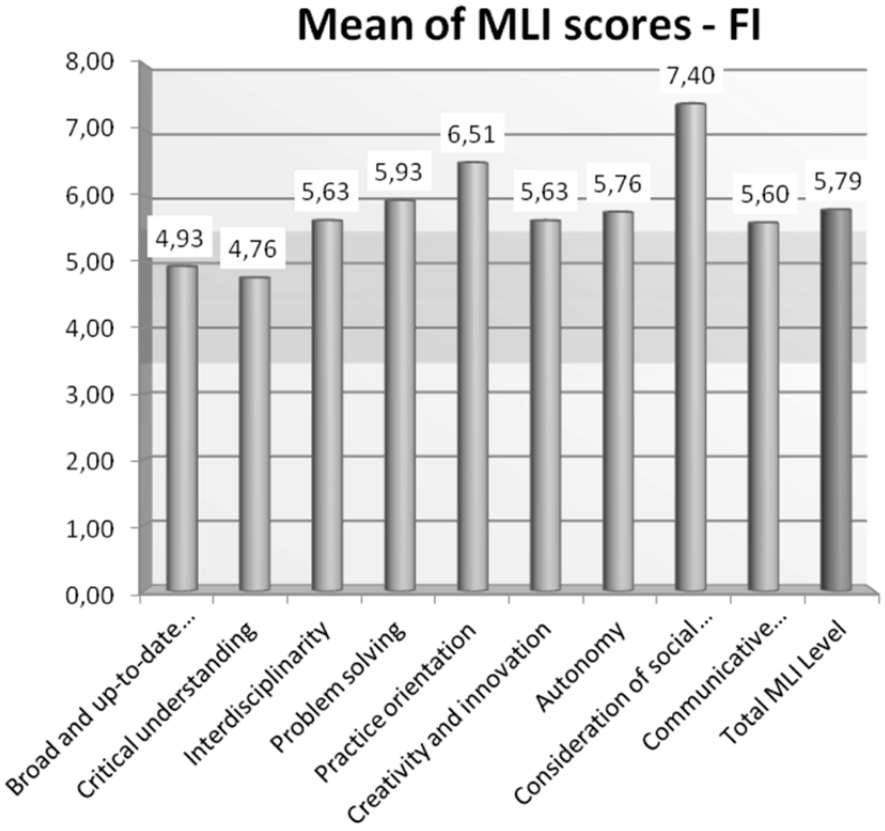

Fig. 2: Average MLI scores for Finland

It can be observed that the profile of the vocational qualification of practical nurses implies a high level in the MLI dimensions "practice orientation" and "consideration of social and ethical issues". As practical nurses are expected to work as independent actors in teams, the independent acquisition of knowledge, critical reflection and problem solving also play a fundamental role. VET in Finland has a constructivist and universalist orientation. This background is reflected in the high scores on the MLI scale "autonomy". The element of skills demonstrations leads to high scores on the MLI scale "practice orientation".

As in the German case, the total result of the Finnish MLI assessment with its average score of 5.7 differs significantly from the official level assignment (EQF level 4). This means that according to the review carried out in the CrediCare project, the administrative and political decisions do not reflect the real levels of the learning outcomes.

3 France

In France there are basically three qualifications for auxiliary nurses and general nurses. On the one hand there are two qualifications for auxiliary nurses in general nursing and pediatric nursing. These two qualifications are located at EQF level 3. On the other hand there is the State Diploma in (general) Nursing.

The State Diploma in Nursing, which was selected for the French MLI study, is a qualification at EQF level 6 and hence at the bachelor level. Nurses are educated at accredited training institutes. After completion of their training they work in several

professional areas: in public and private hospitals, in the social care of people at home, in nursing at schools etc.

In total, the education and training of nurses includes 37 modules (study units) that belong to five interrelated areas of nursing (see table).

The training programme for the State Diploma in Nursing includes practical components in four areas with a total volume of 60 weeks or 60 ECTS. The total workload of the State Diploma in Nursing is 180 ECTS, which have to be demonstated for the award of the qualification. It has to be emphasised that the State Diploma in Nursing can be attained as well through a recognition of prior informal learning, i.e. by means of the VAE (validation des acquis de l'expérience) procedure.

MLI Results France **State Diploma Nursing (EQF Level 6)**	**MLI scaling results**									
MLI scaling dimensions / Modules	Broad up-to date knowledge	Critical understanding	Interdisciplinarity	Practice orientation	Problem solving	Creativity and innovation	Autonomy	Communicative competence	Consideration of social & ethical issues	Total MLI average
F1- Humanities, social sciences and law:										**5.5**
UE 1.1. Psychology, sociology, anthropology:	5.6	5.7	6.0	5.0	4.9	4.2	3.1	3.9	6.3	**5.0**
UE 1.2. Public health and health economics:	6.5	6.2	6.9	5.3	5.3	4.8	5.8	5.5	6.8	**5.9**
UE 1.3. Legislation, ethics and deontology:	5.2	5.7	6.6	6.3	6.8	3.8	4.8	4.8	7.6	**5.7**
F2- Biological and medical sciences:										**5.0**
UE 2.1. Basic biology :	5.9	4.4	5.6	6.6	3.9	3.5	4.5	3.2	3.5	**4.6**
UE 2.2. Cycles of life and major functions :	5.0	3.4	7.2	5.6	3.0	2.2	2.4	4.3	3.9	**4.1**
UE 2.3. Health, illness, disability and accidents of life:	4.9	4.8	7.2	5.9	4.4	2.2	4.1	6.0	6.8	**5.1**
UE 2.4. Traumatic processes:	4.7	4.8	5.3	6.6	7.7	6.1	5.5	3.9	6.8	**5.7**
UE 2.5. Inflammatory and infectious processes:	6.5	4.7	6.0	6.3	5.3	3.2	3.1	3.4	4.6	**4.8**

UE 2.6. Psychopathological processes:	5.4	5.2	6.3	6.3	4.9	4.5	3.8	4.8	7.0	**5.3**
UE 2.7. Organic failures and degenerative processes:	6.8	5.2	6.3	6.6	5.8	2.2	5.1	4.3	5.2	**5.3**
UE 2.8.Obstructive processes:	5.2	4.2	6.6	5.3	6.8	4.2	6.2	5.7	6.6	**5.6**
UE 2.9. Tumour processes:	6.6	5.4	6.3	5.3	4.4	3.5	3.4	5.5	6.8	**5.3**
UE 2.10. Infectiousness, hygiene:	6.8	5.0	6.3	5.3	4.9	3.5	4.8	4.6	5.5	**5.2**
UE 2.11. Pharmacology and therapeutics:	4.1	2.8	5.6	5.6	4.9	2.8	2.4	2.9	4.4	**4.0**
F3- Sciences and techniques in nursing: fundamentals and methods:										**5.9**
UE 3.1. Reasoning and clinical approaches in nursing:	7.2	4.1	7.2	6.6	5.3	4.5	6.8	6.9	6.3	**6.1**
UE 3.2. Project in nursing care:	6.8	3.9	7.2	6.6	5.3	3.5	5.8	6.9	6.3	**5.8**
UE 3.3. Nursing roles, work organisation and inter-professionalism:	5.4	5.8	7.2	4.7	6.3	5.5	6.5	5.7	6.6	**6.0**
UE 3.4. Introduction to the research approach in nursing:	4.5	5.8	7.2	4.4	4.4	5.2	5.1	5.5	5.9	**5.3**
UE 3.5. Supervision of healthcare professionals:	5.4	6.0	7.2	4.7	7.3	7.5	6.5	6.9	6.8	**6.5**
F4- Sciences, techniques and nursing interventions:										**5.7**
UE.4.1.Comfort and well-being care:	7.0	5.8	7.2	6.3	5.8	4.8	6.8	6.2	7.0	**6.3**
UE.4.2.Relationship care:	6.6	6.2	6.9	6.3	2.5	2.2	4.1	3.9	6.1	**5.0**
UE.4.3. Emergency care:	6.3	4.2	5.3	6.6	5.8	3.5	6.5	4.6	5.7	**5.4**
UE.4.4. Therapeutics and contribution to medical diagnosis:	7.2	5.1	5.0	6.6	5.3	2.2	4.8	3.2	4.4	**4.9**
UE.4.5.Nursing care and risk management:	7.0	5.8	7.2	6.3	4.4	4.8	6.8	4.8	6.6	**5.9**
UE.4.6.Educational and preventative care:	6.1	6.8	7.2	6.6	7.7	7.5	7.2	6.5	7.4	**7.0**
UE.4.7.Palliative and end of life care:	5.9	5.2	5.6	3.5	4.4	5.2	3.8	4.1	7.6	**5.0**

UE.4.8.Quality of care assessment practices:	6.8	6.1	7.2	6.3	4.9	5.5	6.8	5.0	6.6	**6.1**
F5- Integration of knowledge and situated professional postures in nursing:										**6.2**
UE 5.1.Accompaniment in achieving daily healthcare:	6.1	5.7	7.2	6.6	6.8	5.8	5.1	6.0	7.2	**6.3**
UE 5.2.Assessment of a clinical situation:	7.0	2.8	7.2	6.6	6.8	4.5	6.8	6.9	6.3	**6.1**
UE 5.3. Communication, project management:	6.5	4.4	7.2	6.6	5.3	4.5	6.2	6.7	6.8	**6.0**
UE 5.4.Educational care, training of professionals and trainees:	6,0	7,0	7,2	6,6	7,7	7,5	7,2	6,9	7,0	**7,0**
UE 5.5. Implementation of therapeutics and care coordination:	6.1	6.8	6.6	6.6	5.3	5.5	7.2	5.3	6.1	**6.2**
UE 5.6. Quality analysis and processing of scientific and professional data:	4.5	6.0	7.2	4.4	4.4	5.2	5.1	5.5	5.9	**5.4**
UE 5.7.Optional UE:	5.8	5.5	5.3	2.8	4.9	4.2	6.5	6.7	5.9	**5.3**
UE 5.8. S1 to S6 Traineeships (2100 hours).	7.4	7.1	7.2	6.6	7.7	6.8	7.2	7.4	7.9	**7.3**
F6- Work methods:										**4.0**
UE.6.1. Work methods and ICT	3.2	4.2	5.6	4.1	2.0	3.8	2.8	5.0	4.2	**3.9**
UE.6.2. S1 to S6 English in nursing	4.0	3.4	6.3	5.3	3.9	4.8	2.4	2.9	3.7	**4.1**
Mean of MLI Scales Scores	**5.9**	**5.2**	**6.6**	**5.8**	**5.3**	**4.5**	**5.2**	**5.2**	**6.1**	**5.5**

Tab. 3: MLI results for the State Diploma in Nursing (France)

The MLI assessment in France was carried out in cooperation with the training institute of Strasbourg hospitals (IFSI). The French core partner collaborated with two experts from the nursing sector. Three workshops with the core partner, the IFSI and the two experts were carried out. All 37 study units were reviewed with the help of the MLI questionnaire.

The French partners analysed the modules according to their relevance for the training programme and grouped them in four categories, namely contributory units (UE 1.1. to UE 2.11 – 42 ECTS), constitutive units (UE 3.1 to UE 4.8 – 40 ECTS), integrative units (UE 5.1 to UE 5.8 – 86 ECTS) and transversal units (UE 6.1 and UE 6.2 S1 to UE S6 – 12 ECTS).

The contributory units represent the development and appropriation of the basic knowledge of nurses. The integrative units represent different types of knowledge and competences that are acquired and developend by situated and work-based learning. The transversal units relate to working methods and enable the nursing students to develop their transversal knowledge and competences.

Among these four categories the group of "integrative units" has the highest MLI average, which is 6.2. The unit with the highest MLI score is unit 5.8 "Traineeships", which has an average of 7.3. The scores for this unit are particularly high on the scales "consideration of social and ethical issues" (7.9) and "problem solving" (7.7).

The "constitutive units" relate to the subjects "sciences and techniques in nursing: fundamentals and methods" and "sciences, techniques and nursing interventions" and include a total of 13 units. Their average MLI score of 5.8 is the second highest result among the four classes of units. Particularly high scores can be found in unit 3.5 "Supervision of health care professionals" where the MLI average is 6.5. The highest MLI scores for this unit are in the scales "creativity and innovation" (7.5), "problem solving" (7.3) and "interdisciplinarity" (7.2). The lowest scores show up in unit 4.4 "Therapeutics and contribution to medical diagnostics" with a total score of 4.9. The lowest scoring scales are "creativity and innovation" (2.2) and "communicative competence" (3.2).

The "contributory units" relate to the domains "humanities, social sciences, law" and "biological and medical sciences" and comprise 14 study units. They reach an average MLI score of 5.1. The highest MLI results can be found in unit 1.2 "Public health and health economics", especially on the scales "intersiciplinarity" (6.9), "consideration of social and ethical issues" (6.8) and "broad and up-to-date knowledge" (6.5). The lowest MLI average was achieved in unit 2.11 "pharmacology and therapeutics" (4.0). The low figure is due to the low scores on the scales "autonomy" (2.4), "creativity and innovation" (2.8) and "communicative competence" (2.9).

The "transversal units" consist of unit 6.1 "Work methods and ICT" and unit 6.2 "English in nursing". They have an average MLI score of 4.0 and thus the lowest of all four groups.

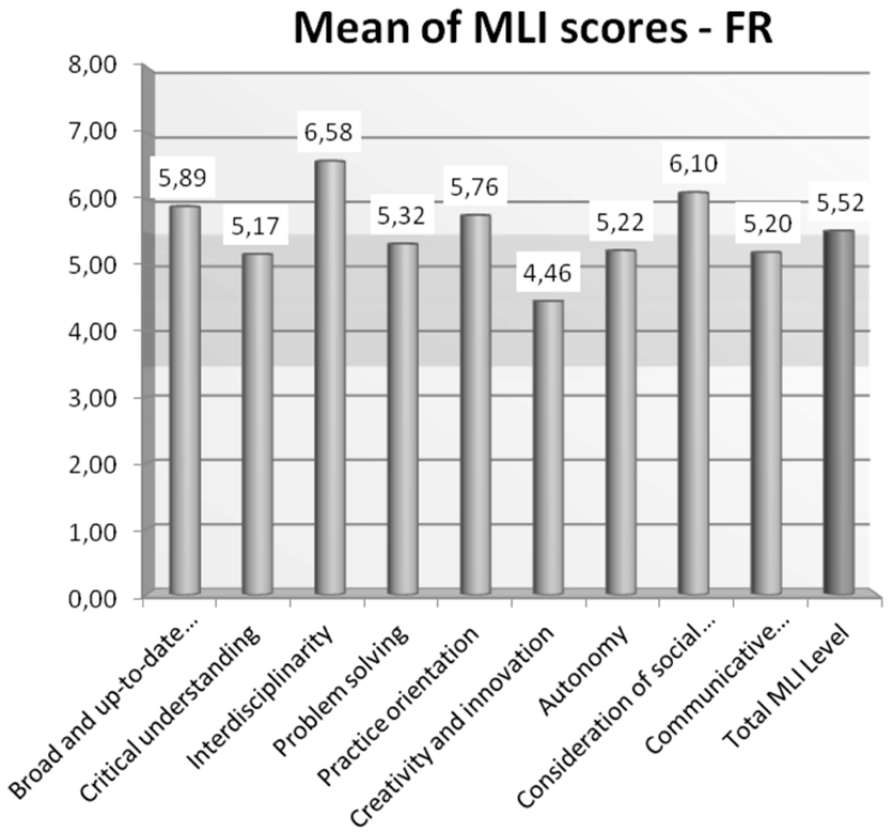

Fig. 3: Average MLI scores for France

Taking into consideration all 37 modules (units), the results of the level assessment for the State Diploma in Nursing range from 3.9 in the transversal unit "Work methods and ICT" to 7.3 in the integrative unit "Traineeship".

On the whole, only the MLI averages for the "constitutive units" and the "integrative units" reach the bachelor level of 6.0. The low MLI scores for the scales "creativity and innovation" (4.5), "critical understanding" (5.2) and "communicative competence" (5.2) are the main reason why the qualification as a whole ends up with a total MLI score of 5.5, falling short of the bachelor's level by a small margin. What is remarkable, however, is the high MLI average of 6.6 on the "interdisciplinarity" scale. The high score of 6.1 on the scale "consideration of social and ethical issues", on the other hand, is a quite ordinary figure for the nursing qualifications reviewed here.

4 Estonia

In the Estonian health care and nursing sector only the vocational qualifications of social care workers, massagers and emergency medical technicians are trained within the system of initial vocational education and training. Most of the approximately 3,000 nurse assistants working in Estonian hospitals do not have any medical training and are not recognised as medical professionals by the law. Three nursing schools offer basic training for care nurses. After the training, about 43% of the graduates work abroad due to the low wages and the poor working conditions in Estonia.

All other qualifications in health care and social care are supplied by the higher education system. Degree programmes exist for the following professions: Health Promotion, Occupational Therapist, Basic Nursing Education, Nursing Education

Specialisation, Midwife, Dental Technician and Assistant Pharmacist. Since 1996, nursing can be studied in Estonia at the level of higher professional education.

For the Estonian part of the CrediCare project the programme of Basic Nursing Education (EQF level 6) was selected, which is offered at Tallin Health Care College. Tallinn Health Care College is one of two colleges of this type in Estonia.

The Basic Nursing programme takes 3.5 years and comprises 120 credit points of theoretical instruction and 90 CP of work-based learning in hospitals and health centres. The theoretical part also includes 276 hours of practical studies in which the students carry out essential practical tasks in simulated environments before they start working at real workplaces.

The Basic Nursing programme consists of 12 modules. The programme is a full-time course with a total volume of 210 credits as specified above with one credit point being equivalent to a workload of 26 hours. A total of 60 credits can be accumulated during one academic year.

After completion of the studies in Basic Nursing there is the opportunity to continue the studies in various specialised programmmes. Three-year master programmes are offered at the University of Tartu.

MLI Results Estonia **Basic Nursing Education (Diploma)** **(EQF Level 6)**	**MLI scaling results**									
MLI scaling dimensions / Modules	Broad up-to date knowledge	Critical understanding	Interdisciplinarity	Problem solving	Practice orientation	Creativity and innovation	Autonomy	Consideration of social & ethical issues	Communicative competence	**Total MLI average**
Basics of Nursing	5.8	6.1	6.6	6.8	6.6	3.5	4.5	6.6	5.0	**5.7**
Teaching of Human anatomy and vital Functions	6.6	4.5	6.0	5.3	6.6	3.8	4.5	5.2	6.5	**5.4**
Pharmacology	5.8	5.7	4.7	6.3	5.3	3.5	6.5	6.1	5.7	**5.5**
Health Nursing	5.9	4.8	5.6	4.9	6.3	5.2	5.1	5.9	6.0	**5.5**
Clinical Nursing	5.6	3.8	6.0	5.8	6.6	2.2	7.2	6.1	6.5	**5.5**
Intensive Nursing	5.0	4.4	5.3	5.8	6.6	2.2	7.2	6.6	6.5	**5.5**
Pediatric Nursing	5.6	6.7	6.6	6.8	6.6	4.2	4.8	6.1	5.5	**5.9**

Mental Health Nursing	7.0	6.1	6.9	6.3	6.6	7.1	6.5	7.0	7.2	**6.7**
Personal and Professional Development of the Nurse	7.0	7.1	6.6	5.8	5.9	5.5	4.8	7.4	6.2	**6.3**
Research and Development work Methodology	7.4	5.2	6.6	4.9	6.6	4.8	6.8	5.2	6.7	**6.0**
Mean of MLI Scales Scores	**6.2**	**5.4**	**6.1**	**5.9**	**6.4**	**4.2**	**5.8**	**6.2**	**6.2**	**5.8**

Tab. 4: MLI results for basic nursing (Estonia)

In Estonia the MLI review was carried out by a group of six experts. The teachers responsible for the modules were interviewed by the Estonian CrediCare partner on the basis of the MLI questionnaire.

The workload of the twelve modules ranges from 5 to 45 ECTS points. Two of the modules, namely the elective subject and the thesis/final examination, were not included in the review, i.e. a total of ten MLI questionnaires was completed in collaboration with the responsible teachers. It was not necessary in Estonia to split or transform modules for the analysis.

The total average level of the Basic Nursing programme according to the MLI assessment is 5.8 and thus only slightly lower than the official reference level 6, which means that the programme reaches the bachelor's level. The lowest scores are found in the medically and clinically oriented modules, whose MLI levels range between 5.4 and 5.5. These are the modules "Teaching of Human Anatomy and Vital Functions", "Pharmacology", "Clinical Nursing" and "Intensive Nursing".

Most of the modules exhibit low scores on the MLI scale "creativity and innovation". The lowest score of 3.5 is shown by the modules "Basics of Nursing" and "Pharmacology". This is due to the fact that in most of the modules creativity is not given priority as in many nursing situations the observation of rules and instructions is determining the professional activities.

What is also remarkable is the fact that the average MLI level on the scale "critical understanding" is 5.4 and thus considerably below the bachelor level.

Similar to the results observed for other nursing qualifications in this study, the average MLI level on the scale "consideration of social and ethical issues" is one of the highest (6.2). The highest score of 7.4 is reached in the module "Personal and Professional Development of the Nurse". This can be attributed to the fact that learning outcomes of subjects taught in the module – Psychology, Management and Teamwork, Social and Health Care Policy – require students to focus on social and ethical aspects.

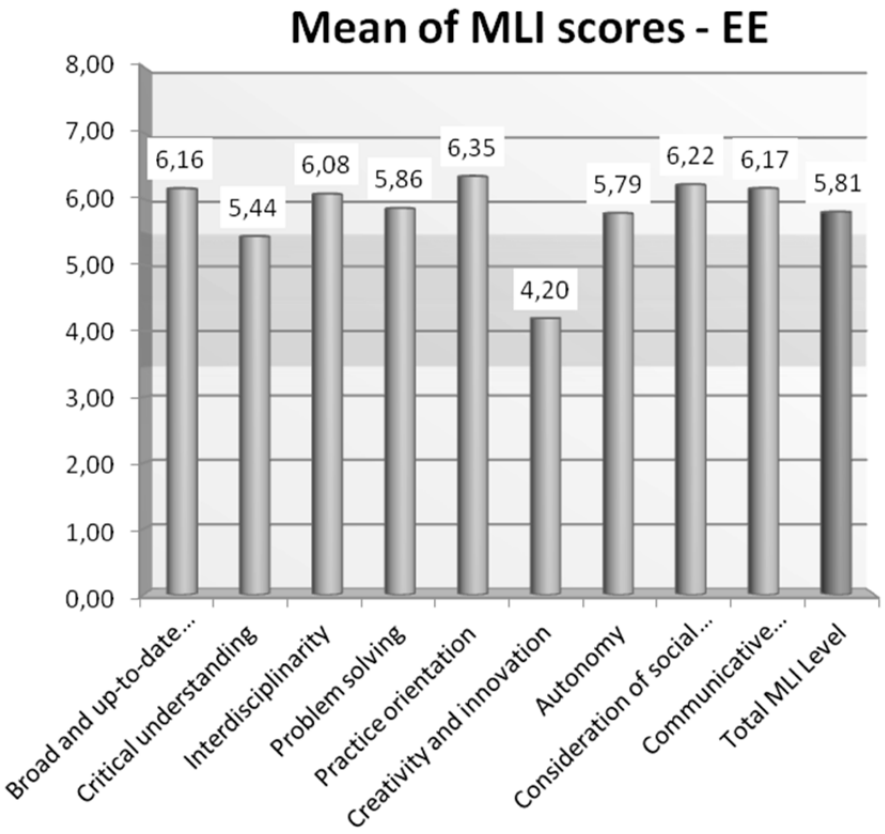

Fig. 4: Average MLI scores for Estonia

It can be summarised that the "Basic Nursing" programme falls short of the bachelor's level, albeit by a small margin, because the scores on the MLI scale "creativity and innovation" are significantly low. The results for this scale are low in almost all of the qualifications analysed here, which can be explained by the small room for manoeuvre and the strict safety regulations in the nursing sector. However, the scores for the nursing-specific scales "consideration of social and ethical issues" and "communicative competences", but also for the scales "practice orientation" and "broad and up-to-date knowledge" are clearly at the bachelor's level.

5 Ireland

In Ireland, vocational education takes place predominantly in the sector of further and continuing education, i.e. in several settings of tertiary education (third level institutions). Vocational education and training for the Irish health care and nursing sector includes the EQF levels 4 to 6. Graduates of pre nursing courses (EQF level 6) have the opportunity to work as health care assistants. Courses that give access to nursing studies and care assistance programmes are largely offered in the VET system and at private institutions.

Since 2002 the courses in general nursing and midwifery are organised as programmes of professional education that require for years of study. The two programmes in question are classified as higher education (HE). They are registered by the accreditation body An Bord Altranais and assigned to EQF level 6. An Bord Altranais also defines the specific education entry requirements. In order to work as a

nurse one has to register with An Bord Altranais and to renew this registration every year.

The curriculum completely integrates theory and practice of nursing. Lectures, workshops, library-based activities, tutorials and work groups take place at the college while practical learning at Dublin Academic Teaching Hospital and in other areas of health care supports the development of nursing skills.

For the CrediCare project the HE programme leading to the Bachelor of Science (Nursing) Hons was selected. The programme lasts four years and has a voluem of 240 ECTS points with 4,472 hours of instruction. The qualification is officially assigned to EQF level 6. In total, five study programmes in the nursing sector, all of which are completed with an EQF level 6 Bachelor (Hons) degree, qualify for registration with An Bord Altranais, namely Childrens's & General Nursing, General Nursing, Intellectual Disability Nursing, Midwifery and Psychiatric Nursing.

The qualification in General Nursing is offered in 14 programmes with 860 study places at 13 HE institutes in cooperation with 22 health care agencies.

	MLI scaling results									
MLI scaling dimensions / Learning areas/ Learning fields (Modules)	Broad up-to date knowledge	Critical understanding	Interdisciplinarity	Problem solving	Practice orientation	Creativity and innovation	Autonomy	Consideration of social & ethical issues	Communicative competence	**Total MLI average**
Scientific Principles for Healthcare	7.2	6.8	7.2	7.3	6.6	6.1	6.2	7.2	7.4	**6.9**
Structure & Function of the Human Body Part A	7.0	6,5	6,3	7,7	6,3	6,8	6,5	6,8	7,4	**6.8**
Psychology & Interpersonal skills for clinical practice	7,0	7.3	7.7	6.8	6.6	7.5	5.9	7.9	7.4	**7.1**
Foundations of General Nursing Part A	7.4	6.7	7.2	7.3	6.6	6.5	6.8	7.9	7.4	**7.1**
Transitions: Engage to succed	7.4	7.4	7.2	7.7	6.6	7.5	7.2	7.9	7.4	**7.4**
Structure & Function of the Human Body Part B	7.4	6.8	7.2	7.7	6.6	7.5	7.2	7.9	7.4	**7.3**
Social Science for Healthcare (Sociology)	7.4	7.4	7.2	7.7	5.0	6.8	6.8	7.9	7.4	**7.1**

Foundations of General Nursing Part B	7.4	7.3	7.2	7.7	6.6	6.8	6.8	7.4	7.4	**7.2**
Perspectives of Nursing	7.4	7.0	6.9	7.3	6.6	7.5	7.2	7.9	7.4	**7.2**
Exposure to Clinical Learning	7.0	6.8	7.2	7.7	6.6	6.8	7.2	7.0	7.4	**7.1**
Nursing of older Adults and other Populantions	7.4	7.4	7.3	7.7	6.6	6.5	6.5	7.9	7.4	**7.2**
General Nursing (medical-surgical Nursing I)	7.4	7.1	7.2	7.7	6.6	6.8	7.2	7.0	7.4	**7.2**
Patient Safety, Microbiology, Infection	7.4	7.4	6.3	7.7	6.6	5.5	5.8	7.0	7.4	**6.8**
Broadening Clinical Learning	6.6	6.8	7.2	7.7	6.6	6.5	6.5	7.0	7.4	**6.9**
Pharmacology	7.4	7.4	6.0	7.7	6.6	6.1	5.8	6.8	7.4	**6.8**
Deepening Clinical Learning	7.4	6.8	7.2	6.8	6.6	6.8	5.5	7.0	7.4	**6.8**
General Nursing (medical-surgical Nursing II)	7.4	6.5	6.0	7.7	6.6	6.1	6.2	7.9	7.4	**6.9**
General Nursing (medical-surgical Nursing III)	7.4	7.0	6.3	7.7	6.6	6.1	6.2	7.0	7.4	**6.8**
Applied Social Science for Healthcare	7.4	7.4	7.2	7.7	6.6	6.1	7.2	7.9	7.4	**7.2**
Biopsychological Approaches in Clinical Practice	7.4	6.7	6.0	7.7	6.6	6.1	7.2	6.8	7.4	**6.9**
Deepening Clinical Learning B	7.2	6.8	7.2	7.7	6.6	7.5	6.5	7.9	7.4	**7.2**
Nursing in Diverse Settings	7.4	6.8	7.2	X	6.6	7.5	7.2	7.9	7.2	**7.2**
General Nursing (medical-surgical Nursing IV)	7.4	7.0	7.2	7.7	6.6	7.1	7.2	7.9	7.4	**7.3**
Teaching and Accessing in the Practicum	7.4	7.4	7.2	7.7	6.6	7.5	7.2	7.9	7.4	**7.4**
Management and Quality Improvement	7.4	7.4	7.2	7.7	6.6	6.1	7.2	7.9	7.4	**7.2**
Promoting Health	7.4	7.4	7.2	7.3	6.6	7.5	7.2	7.9	7.4	**7.3**
Clinical Placement 4 A (Internship)	7.4	7.1	7.2	7.7	6.6	7.5	7.2	7.9	7.4	**7.3**
Clinical Placement 4 B (Internship)	7.4	7,1	7,2	7,7	6,6	7,5	6,8	7,9	7,4	**7,3**
Clinical Placement 4 C (Internship)	7,4	6.8	7.2	7.3	6.6	7.5	7.2	7.9	7.4	**7.2**
Clinical Placement 4 D (Internship)	7.4	7.1	7.2	7.7	6.6	7.5	6.8	7.9	7.4	**7.3**
Evidence Based Practice for Healthcare	7.4	7.4	7.2	7.7	6.6	7.5	7.2	7.9	7.4	**7.4**
Mean of MLI Scales Scores	7.2	6.9	7.1	7.3	6.5	6.9	6.5	7.5	7.4	**7.0**

Tab. 5: MLI results for the B.Sc. (Hons) in Nursing (Ireland)

The MLI assessment refers to a B.Sc. programme in General Nursing at an Irish university. The assessment was carried out by the Irish core partner in cooperation with an expert from the nursing sector. The interviews were carried out with a lecturer of the nursing programme who was responsible for the preparation of the B.Sc. curriculum.

All of the 31 modules of the nursing training programme were covered by the MLI assessment, including 8 practical/clinical internships with a workload from 5 to 30 ECTS points. The analysis of the MLI results shows an average of 7.1 for all 31 modules. In a total of 22 modules the MLI scores are above 7.0 while the other 9 modules are at level 6.

The highest MLI averages can be found in the scales "consideration of social and ethical issues" (7.5), "problem solving" (7.3) and "communicative competence" (7.4). The competences represented by these scales confirm the professional profile and character of nursing, especially when the close relationship between "ethical and social issues" and "problem solving" is taken into consideration. The high MLI scores can also be explained by the high level of teaching, which is completely carried out by university graduates.

The lowest average MLI scores for single modules can be found in the module "Social Science for Health Care", which has a score of 5.0 on the scale "practice orientation", the module "Patient Safety, Microbiology, Infection" with a score of 5.5 on the scale "creativity and innovation", and the module "Deepening Clinical Learning" with a score of 5.5 in "autonomy".

The low score for the module "Patient Safety, Microbiology, Infection" with regard to creativity and innovation can be attributed to the strong knowledge orientation of this module in combination with small room for manoeuvre for the students.

In the case of the module "Deepening Clinical Learning" the total MLI score of 6.8 is below the average of the programme, too. This can be explained by the fact that during their work in clinics, students are supervised by a registered nurse and have to discuss all decisions with their supervisor. This is especially a considerable limitation of their autonomy.

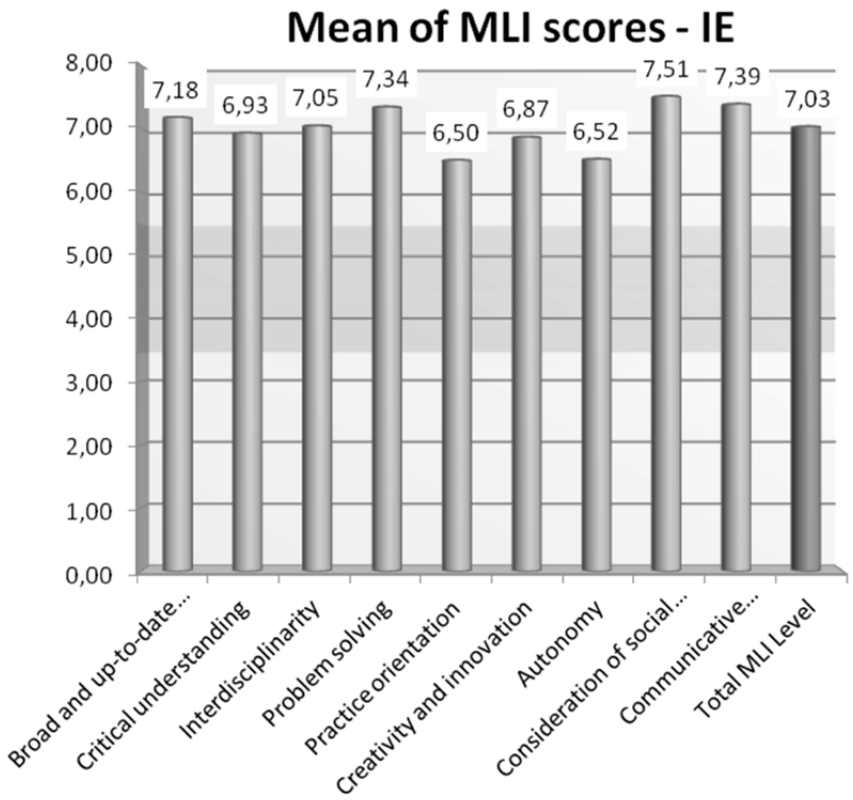

Fig. 5: Average MLI scores for Ireland

In the view of the Irish partners, the MLI results with their high average figures confirm the balanced and controlled standardisation of the Irish nursing curriculum. According to the result of the MLI assessment, the total MLI level of 7.0 for the entire qualification is one level higher than the official assignment of this qualification to EQF level 6. This outcome documents the high quality of this training programme.

Like the other nursing qualifications analysed in this study, the Irish qualification has particularly high MLI results in the dimensions "consideration of social and ethical issues", "communicative competence" and "problem solving". The high score for "problem solving", in particular, demonstrates the close coordination of theory and practice that was mentioned above.

6 Concluding remarks

The results of the MLI assessments show that in all of the reviewed health care and nursing qualifications the performance on the scale "consideration of social and ethical issues" is considerably above average. This focus of training plays an important part especially in the programme for practical nurses in Finland.

The second MLI dimension in which all qualifications – except the Irish one – reach particularly high scores is "practice orientation". Here, again, the result for the Finnish training programme is outstanding.

The third dimension in which all qualifications perform above average is "interdisciplinarity". In this dimension it is especially the French State Diploma in Nursing which shows strong results while the scores were below average in the case of the Finnish programme for practical nurses.

The MLI scores are below average above all on the scale "creativity and innovation". The clearest result is the one for the Basic Nursing programme in Estonia. The results for the French and German qualifications in this dimension are also considerably lower than the average of MLI scores. The other dimension in which all qualifications, except geriatric nursing in Germany, score below the average is "critical understanding".

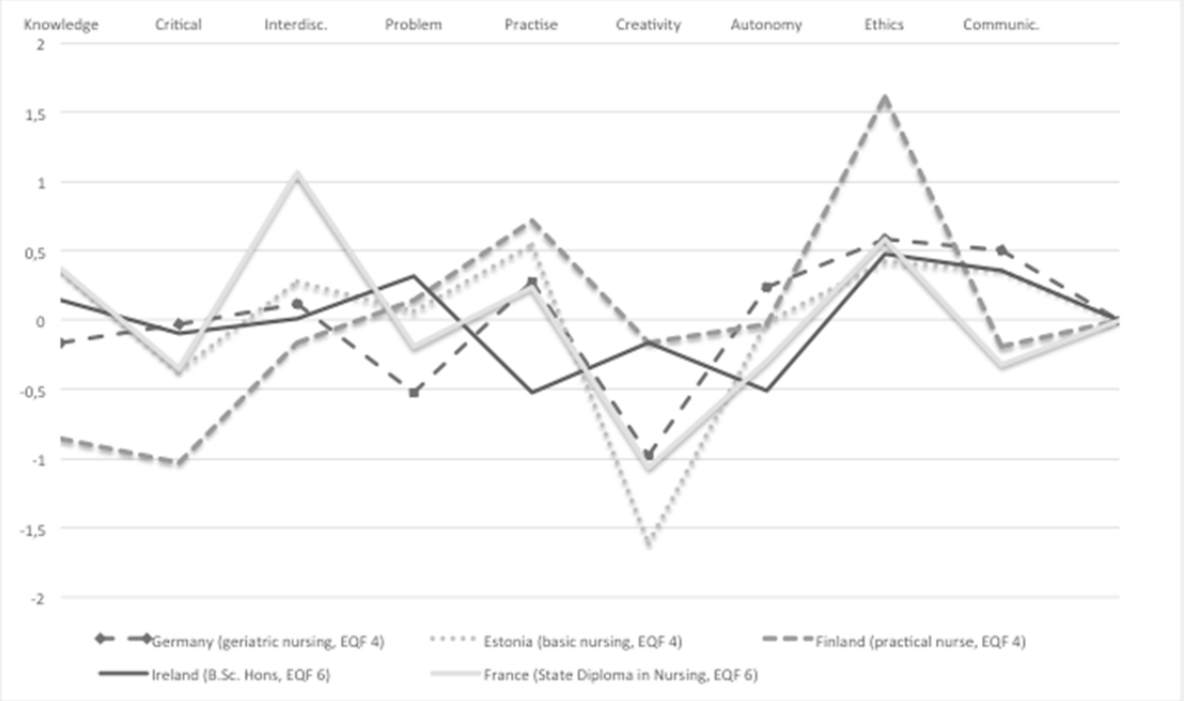

Fig. 6: Comparative MLI profiles of the five qualifications

When one looks at the different national nursing qualifications in figure 6, the following characteristic profiles can be identified.

Geriatric Nursing (DE): A striking contrast to the other qualifications is the exceptionally low score in the dimension "problem solving". However, the most obvious deviation from the mean in terms of low performance is the result in the dimension "creativity and innovation".

Practical Nurse (FI): The profile of the Finnish nursing qualification on the comparative scale differs significantly from the other qualifications. Results below the average are found in the dimensions "broad and up-to-date knowledge" and "critical reflection" while the performance is above average in the dimensions "practice orientation" and "consideration of social and ethical issues". This reflects the specific focus of the Finnish training programme on the professional practice, which is accompanied by the practice-oriented assessment method of skills demonstrations. Another factor is the strong emphasis on social and ethical issues in the curriculum.

State Diploma in Nursing (FR): The profile of the French nursing qualification is characterised by a very positive score on the scale "interdisciplinarity". On the other hand, the performance in the dimension "creativity and innovation" is considerably below the mean. This result can also be observed in some of the other qualifications.

Basic Nursing (EE): The Estonian programme has the lowest score of all qualifications on the MLI scale "creativity and innovation". This result suggests that the

programme is strongly emphasising the observation of medical and nursing standards and thus leaves only little room for students to develop their own ideas. A positive performance above the average, on the other hand, can be observed in the dimensions "broad and up-to-date knowledge" and "practice orientation".

B.Sc. Hons in Nursing (IE): The Irish training programme as a whole attains an MLI average of 7.0, which is equivalent to the master's level. The profile of the qualification is strongest on the MLI scale "consideration of social and ethical issues" while its weakest points are "practice orientation" and "autonomy".

It needs to be observed that the results of the MLI assessments are not reliable yet and that the statements made so far have to be qualified as there was no standardised procedure for the implementation of the assessments in the different countries. Not all MLI assessments involved independent experts, and it was only occasionally that results were reflected in expert groups.

In order to improve the validity and reliability of results, future assessment procedures should include a review and reflection of the results in national expert groups. Apart from the interviewers and the teachers responsible for the modules in question, independent experts (i.e. experts without any affiliation to the training institution concerned) should participate in these groups.

In spite of these methodological qualifications and shortcomings the available MLI results concerning the Finnish and German cases indicate that the official assignment of these programmes to EQF level 4 might be too low and deserve some further consideration and re-examination. In such a process, a standardised MLI assessment procedure could be one way to arrive at level assignments with a sound theoretical and empirical basis.

References

Müskens, W.; Wittig, W.; Tutschner, R.; Eilers-Schoof, A. (eds) (2013): *MLI User Guide: Assessment of the Level of Competence Orientation.* Bremen: Institut Technik und Bildung (ITB), Universität Bremen.