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Roland Tutschner, Wolfgang Müskens,
Wolfgang Wittig (eds.)

Level assessments and bilateral comparisons in the European health care sector

Learning outcomes as a basis for comparing qualifications in Europe

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Contents

Introduction 5
Roland Tutschner, Wolfgang Müskens, Wolfgang Wittig

Methodology of level assessments and bilateral comparisons 10
Wolfgang Müskens, Anja Eilers-Schoof

Bilateral comparison between the Finnish Practical Nurse qualification and the German Geriatric Nursing qualification 26
Marja-Leena Stenström, Mira Väisänen, Pirjo-Liisa Laakkonen, Seija Rossinen, Rea Tuominen

VET in the German health care sector: the case of Geriatric Nursing 49
Dagmar Koch-Zadi

Comparing professional higher education and dual VET: Estonia and Germany 79
Marii Haak, Krista Loogma

The Bachelor of Science (Hons) Nursing in Ireland 98
Justin Rami, Tara Shortt

The French State Diploma in Nursing 128
M'Hamed Dif

Level assessment and bilateral comparison of nursing qualifications on the basis of learning outcomes 172
Roland Tutschner, Wolfgang Müskens, Wolfgang Wittig

Introduction

Roland Tutschner, Wolfgang Müskens, Wolfgang Wittig

Improving the mobility of workers and students is one of the top priorities among policy initiatives in the European Union. This is indicated, for instance, by the Bologna Process (1999), the Copenhagen Process (Copenhagen Declaration 2002) and the Maastricht Communiqué (2004). Whereas the Bologna Process with its introduction of an European Higher Education Area and its common structure of bachelor's and master's degrees is concerned with improving the mobility of students and the comparability of qualifications in higher education (HE), the Copenhagen Process and the Maastricht Communiqué also address the area of vocational education and training (VET). The Copenhagen Declaration formulated general policy objectives such as promoting mobility, establishing transparency, recognition of qualifications and competences, and the development of shared criteria and principles for quality in VET. The Maastricht Communiqué advocated the development of common European instruments and tools to promote the establishment of a European area for VET, in particular, the development of the European Qualifications Framework for lifelong learning (EQF) and the European Credit System for VET (ECVET).

The EQF, whose aim is to support national and transnational mobility and permeability in education and training, was adopted by the European Parliament and the Council in 2008. The EQF is an eight-level reference framework on the basis of learning outcomes and aims to enable the description of qualifications in vocational and higher education on the basis of learning outcomes as well as to improve the vertical and lateral 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 nursing, 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 LEONARDO DA VINCI Transfer of Innovation project CrediCare ('Quality-oriented Accreditation of Vocational Learning Outcomes in Health Care and Nursing'), which was carried out between 2011 and 2013 by a consortium involving partners from five European countries and coordinated by the Institut Technik und Bildung (ITB, Institute Techology and Education) at the University of Bremen, Germany, aimed to contribute to improving the transnational transparency of nursing qualifications and thus to promoting the mobility in the European health care sector. The comparison of nursing qualifications within this project was carried out in two steps. The first step was based on the Module Level Indicator (MLI), an instrument that was developed at the University of Oldenburg on the basis of the EQF during the national German ANKOM initiative (2005-2007) and tested in a series of equivalence checks and accreditation procedures with VET and higher education programmes (cf. Gierke and Müskens, 2009; Müskens and Eilers-Schoof, 2013). Nursing qualifications from the five partner countries (Estonia, Finland, France, Germany and Ireland) were assessed by means of the MLI, and the level of learning outcomes in terms of EQF reference levels was determined. In the second step, bilateral comparisons were carried out between nursing qualifications from different partner countries in order to identify commonalities as well as differences and thus to estimate the potentials for recognition and accreditation. The bilateral comparisons were based on the descriptions of modules in terms of learning outcomes.

The Module Level Indicator operationalises the EQF descriptors in 51 items or criteria (see Müskens, in this volume). This instrument makes it possible to assign the learning outcomes associated with modules, learning fields and qualifications to the reference levels of the EQF. Accordingly, the MLI was used to assess the learning units of the nursing qualifications in the partner countries and to establish the levels of the learning outcomes. The level-oriented assessment of the learning outcomes was also the starting point for the bilateral equivalence checks between national health care and nursing qualifications in the second phase of the project.

Before the level assessments of the national health care qualifications by means of the MLI could start, a decision had to be made by the project partners as to which qualifications or educational programmes should be addressed by the project activities. The following programmes from VET and higher education were selected by the partners.

Table 1

Selected training and study programmes – overview

	Estonia	Finland	France	Germany	Ireland
Programme type	Professional HE study programme (EQF 6)	Upper secondary VET (EQF 4)	Professional HE study programme (EQF 6)	Upper secondary VET (EQF 4)	HE study programme (EQF 6)
Qualification	Basic Nursing	Practical Nurse	State Diploma in Nursing	Geriatric Nursing	B.Sc. (Hons) General Nursing
Duration (years)	3.5	3	3	3	4
Curriculum	Outcome based	Outcome based	Outcome based	Input based	Outcome based
Modules/ units	11 modules	6 (15) modules	35 units	14 learning fields	31 modules
Workload (hours)	5,460	4,800	5,100	4,900	4,472
Credits	210	120	180	(170)	240

Source: own work

In the first phase of the project 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 51 items of the MLI questionnaire were discussed by the project partners and national sector experts. Questions concerning the items were addressed by the partners from the University of Oldenburg in a detailed 'Frequently Asked Questions' (FAQ) document. These annotations are documented in the MLI User Guide (cf. Müskens et al., 2013).

In the next step the project partners and the national experts carried out the level assessment of the modules, learning fields or subjects by means of the MLI questionnaire. The completed MLI sheets were analysed at the University of Oldenburg and the results were presented by means of tables that describe the scores for the modules and learning fields according to the nine scales

of the MLI. The tables with the results of these MLI level assessments are included in the country chapters in this volume. A more detailed description of the level assessments can be found in the Level Assessment Report, which was published earlier in the course of the CrediCare project (cf. Tutschner and Wittig, 2013).

In the second phase of the project bilateral comparisons between the different qualifications were carried out on the basis of the learning outcome descriptions of the modules concerned. More specifically, comparisons took place between the qualification in Geriatric Nursing in Germany and the qualification of Practical Nurse in Finland, between the State Diploma in Nursing in France and the B.Sc. (Hons) General Nursing in Ireland, and between the qualification in General Nursing in Germany and the professional HE qualification in Basic Nursing in Estonia. The outcomes of these bilateral comparisons are presented in the national chapters of this volume, as are the results of the level assessments.

The first contribution to this volume presents the MLI instrument used for the level assessments and explains the methodology of the bilateral comparisons. In the following chapters the national health care and nursing qualifications that were the subject-matter of the project activities are presented in detail in the form of country reports. The structure, organisation, modules, workload etc. of the qualifications are described. The country reports also present the results of the level assessments and the key findings of the bilateral comparisons. In the concluding chapter the findings presented in the national reports are synthesised and discussed under a comparative and integrative perspective that explores the potentials for mutual recognition of learning outcomes in the European health care sector.

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Methodology of level assessments and bilateral comparisons

Wolfgang Müskens, Anja Eilers-Schoof

1. Equivalence checks

The term ‘equivalence check’ means a systematic comparison of two (formal) qualifications with the goal of determining equivalent learning outcomes or learning units. In particular equivalence checks are performed in the context of accreditation of prior learning. The aim of an equivalence check mostly is the implementation of a so called ‘blanket recognition’, which means an exemption of modules of the programme for all alumni of a certain prior qualification.

The methodology of equivalence checks that was utilized in the CrediCare project has been developed since 2005 in the APL department (‘Kompetenzbereich Anrechnung’) at the University of Oldenburg in Germany. The starting point of the development was the project ‘Network of Qualifications North/West’ that was part of the ANKOM initiative (‘Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge’ – accreditation of prior vocational learning in higher education). ANKOM was funded by the German Federal Ministry of Education from 2005 to 2008. Part of this project was the development of methods of accreditation of competences, which were acquired in continuing vocational trainings, to higher education programmes. By means of an equivalence check between a commercial training (e.g. senior industrial clerk) and a business sciences higher education bachelor programme it was intended to find out which modules of the bachelor programme should be exempted to vocationally qualified students, who had already completed a commercial vocational training.

The basic idea of accreditation of vocational learning is that it should be possible to achieve equivalent learning outcomes in different ways of learning. So, the comparison of individual learning units or complete qualifications is not based on identical learning objectives but on equivalent learning outcomes (cf. Müskens, Gierke and Hanft 2008).

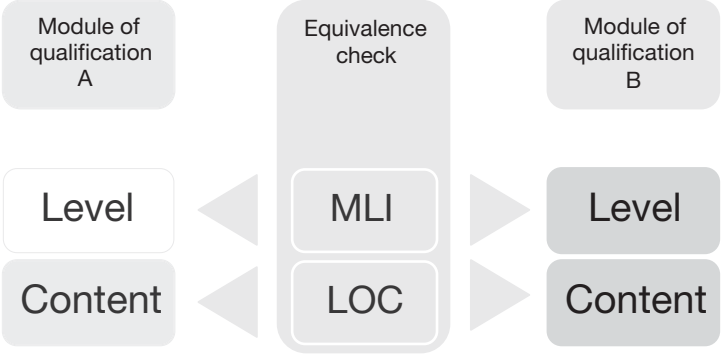
In the CrediCare project the methodology of equivalence checks is used to find matches or equivalences between nursing qualifications from five different countries.

Equivalence checks usually include separate comparisons of content and level (Fig. 1). Comparisons of content are qualitative comparisons of the learning outcomes of two qualifications. As these comparisons are limited to two qualifications, a number of separate bilateral comparisons (each between two partner countries) had to be carried out in the CrediCare project. These comparisons were performed by means of an instrument called 'Learning Outcome Chart' (LOC), also referred to as 'Learning Outcome Matrix' (LOM).

In addition to the qualitative comparisons of content also quantitative comparisons of level between the qualifications from the partner countries were performed. By means of an instrument termed 'Module Level Indicator' (MLI) the level of the learning units from all of the five qualifications was estimated.

Figure 1

Equivalence check



Source: own work

2. Level assessments by means of the Module Level Indicator (MLI)

The Module Level Indicator (MLI) (cf. Müskens et al 2013) is a quantitative (psychometric) instrument for determining the level of learning units from different educational sectors.

This instrument was initially developed with the aim to compare the level of learning units from vocational and higher education in the context of accreditation of vocational learning on higher education. 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.

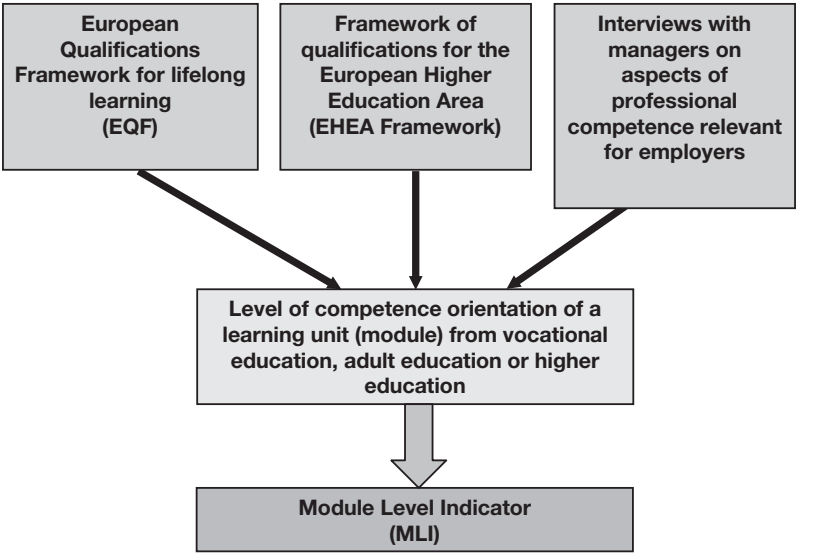
The development of the MLI addressed several objectives:

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 2005 draft of the European Qualifications Framework for lifelong learning (EQF) (cf. EU 2007),
  - the framework of qualifications for the European Higher Education Area (EHEA Framework) (cf. EHEA 2005) and
  - interviews with managers of German enterprises on relevant aspects of professional competence.

Figure 2

Sources of the MLI items



Source: own work

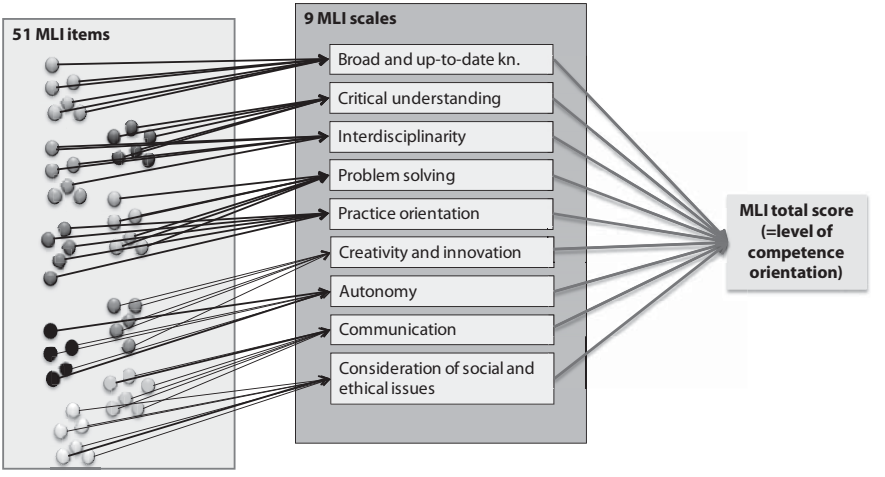
In 2006 a preliminary version of the MLI (version 1) was published. The instrument was revised on the basis of an analysis of items. The current version 2 of the instrument was subsequently released on 4 July 2007.

3. Structure of the MLI

The MLI 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 (e.g. examinations).

Figure 3

Structure of the MLI



Source: own work

The 51 items for one particular learning unit are being merged into 9 test-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' (also referred to as 'autonomy') 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.

Table 1

Scales of the MLI version 2.1 with sample items

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 (autonomy)	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 issues	When resolving a problem, the students demonstrate consideration of others and solidarity with people who might be affected by their actions

Source: own work

4. Quality criteria of the MLI version 2

→ *Reliability*

In order to determine the reliability of the MLI scales, the internal consistencies of the scales (Cronbach's alpha) were calculated. On the basis of N=84 module assessments, predominantly in the area of economics and business, medium to high scale reliabilities between α=.76 and α=.95 were achieved. Only the 'problem solving' scale had an unsatisfactory internal consistency of α=.62 (see Müskens and Gierke 2009).

→ *Validity*

One of the objectives of the MLI construction was to achieve a high correspondence between the MLI score and a direct positioning of the module in question within the European Qualifications Framework for lifelong learning (EQF).

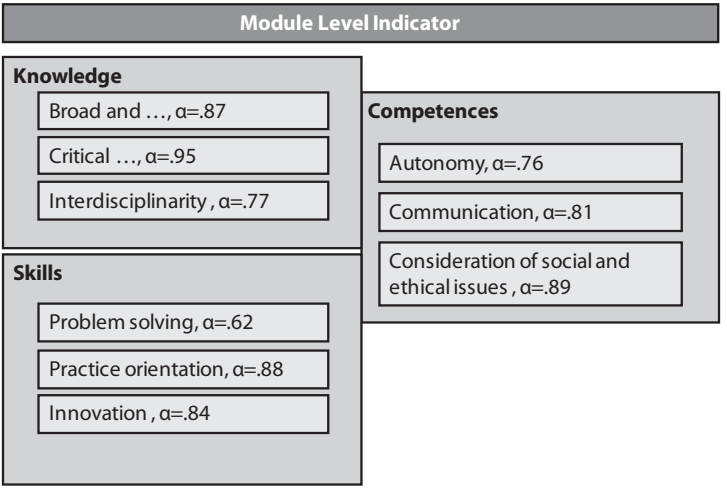
Accordingly, the correlation between the total MLI scores and the EQF levels of learning units can be interpreted as the construct validity of the MLI.

In order to determine this correlation, ratings of the EQF levels of the learning units was carried out in addition to each of the MLI assessments conducted until now. These ratings were carried out by the expert evaluators subsequently to the MLI assessments. The experts were asked to rate the learning units with

regard to the three EQF descriptors (knowledge, skills and competences). The arithmetic mean of these three ratings was interpreted as a direct EQF rating.

Figure 4

Internal consistencies of the MLI



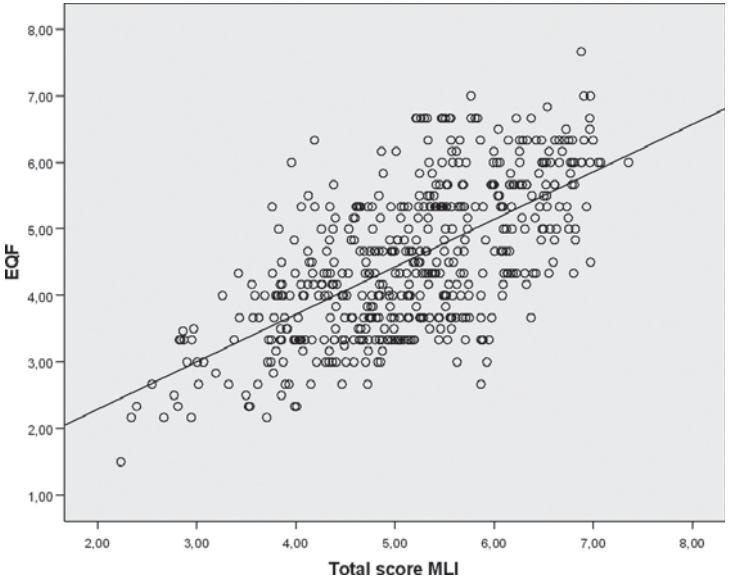
Source: own work

Based on N=546 assessments, the result was a Pearson correlation of r=.64 between the total MLI scores and the direct EQF ratings (see Fig. 5).

With regard to the EQF descriptor ‘knowledge’ and the total MLI score a correlation of r=.51 was identified. The correlation between the descriptor ‘skills’ and the total MLI score was r=.59. The strongest linear relationship was the one between the descriptor ‘competences’ and the MLI score (r=.62). All correlations were found to be highly significant.

Figure 5

Linear regression of EQF ratings on total MLI scores



Source: own work

5. Completion of the MLI

The MLI should be filled in by one or more specialists who have gained a comprehensive overview of the qualification that shall be evaluated. Usually this evaluation is carried out on the basis of extensive documents regarding

- what is taught and learned in the evaluated learning units,
- how (with which methods) is taught and learned in the evaluated learning units,
- which learning outcomes are examined or assessed and
- which methods of learning outcome assessments are used.

For comprehensive qualifications every learning unit should be assessed by means of an MLI sheet by the specialist. Because the items are related to the learning process as well as to the learning outcome assessments, in a prelimi-

nary step the relevant learning units and learning success controls have to be determined.

Because the text books and learning outcome assessments of the qualifications, which were evaluated in the CrediCare project, were only available in the partner country's languages, the MLI assessments had to be carried out by specialists in the different partner countries.

These specialists mostly were employed by the training providers or were closely related to them. The independence of the specialists, which is usually demanded, thus could not be realised in this project.

6. The Learning Outcome Chart (LOC)

The second pillar of the equivalence check besides the level assessment is the comparison of contents. In the CrediCare project, the 'Learning Outcome Chart' (LOC) tool was used to compare the learning outcomes of the different qualifications in qualitative terms.

Each LOC refers to one learning unit within a specific programme or qualification. When two qualifications are compared, one LOC should be completed for each learning unit of each of the two qualifications in order to identify the mutual coverage of the learning outcomes.

The LOC makes it possible to determine, with regard to a given learning unit, to what extent its learning outcomes are covered by learning outcomes from another qualification. In the CrediCare project, for instance, it was used to investigate how strongly the learning outcomes of a unit within the German VET programme in Geriatric Nursing were covered by corresponding learning outcomes of the 'Practical Nurse' qualification in Finland.

The degree to which learning outcomes of a learning unit are covered by another qualification is highly important when it comes to transnational mobility. If the Finnish nurse in our example comes to Germany, the above-mentioned degree of coverage indicates to what extent this nurse is in possession of the learning outcomes that are mandatory in Germany for the unit in question.

The LOC tool for the comparison of contents is a spreadsheet whose first column needs to be filled in the beginning with the learning outcomes of one module (Fig. 6). In the CrediCare project some of these learning outcomes first had to be identified and made explicit by the sector experts on the basis of the available documents. The LOC is designed to accommodate ca. 5 to 15 learning outcomes per unit or module.

The second column gives the opportunity to weight these learning outcomes according to their relevance within the module. The LOC allows for the entry of any weighting factor. If all learning outcomes have the same relevance, they each have a weighting factor of 1. A learning outcome that is twice as important has the factor 2, a learning outcome whose importance is three times as big has the factor 3, etc.

Figure 6

Learning Outcome Chart part 1

Module / Learning Unit	
FI: Module 5.1.8 Health education	
Learning Outcomes	**Weighting Factor**
Knows how to use student- and other healthcare services, engage in health enhancing physical activity and understands their significance to maintaining his/her own ability to function	1
recognizes the factors that influence his/her endurance and knows how to work to promote it	3
knows about the health differences of the population and the risk factors of the most common national diseases and how to prevent them	1,5

Source: own work

By means of the LOC, a learning unit or module can be compared with up to 7 units or modules of another qualification. It is supposed that the learning outcomes of a given unit can be distributed across several different units (comparative modules) in another qualification from another country. The header of

the LOC offers the opportunity to enter the names of the comparative modules whose contents overlap with at least one learning outcome from the first column.

In the main body of the LOC (Fig. 7) the estimated degree of coverage by a comparative module can be entered for each single learning outcome. For each row a maximum coverage of 100% is possible. A learning outcome is covered to 100% if it is covered completely by one or more than one comparative module.

Figure 7

Learning Outcome Chart part 2

Module / Learning Unit		*Comparative Module 1*		*Comparative Module 2*		*Comparative Module 3*	
FI: Module 5.1.8 Health education		M 4.4		M 1.1		M 1.3	
Learning Outcomes	**Weighting Factor**	**Coverage LOs by Module 1**	**Total Coverage of Learn. Outcomes**	**Coverage LOs by Module 2**	**Total Coverage of Learn. Outcomes**	**Coverage LOs by Module 3**	**Total Coverage of Learn. Outcomes**
Knows how to use student- and other healthcare services, engage in health enhancing physical activity and understands their significance to maintaining his/her own ability to function	1	80%	3,40%	20%	0,85%	0%	0,00%
recognizes the factors that influence his/her endurance and knows how to work to promote it	3	80%	10,21%	20%	2,55%	0%	0,00%
knows about the health differences of the population and the risk factors of the most common national diseases and how to prevent them	1,5	0%	0,00%	80%	5,11%	20%	1,28%

Source: own work

Figure 8

Learning Outcome Chart part 3

Sum of weights	23,5	
Coverage of LOs by Module 1		63,83%
Coverage of LOs by Module 2		32,34%
Coverage of LOs by Module 3		3,83%
Total Coverage of LOs of Module	**100,00%**	********

Source: own work

The LOC is a useful tool to identify comparable contents and to calculate the degree of overlap. On the basis of the individual estimates entered for each learning outcome, the LOC form calculates the total coverage of the module by the comparative modules (Fig. 8).

The application of this instrument makes it possible to identify comparable learning outcomes even when the qualifications are structured differently, and to give a clear representation of the degree of overlap.

7. The bilateral comparisons

In the first phase of the CrediCare project the task of the national partners was to complete a descriptive matrix for each unit of the selected qualifications. Apart from several other items, the learning outcomes of the module or unit had to be entered into this matrix.

In the following phase these learning outcomes of the national qualifications were transferred, separately for each learning unit, into LOC forms. The sector experts who collaborated with the national partners then had the task to define the weighting factors for the leaning outcomes in the LOC forms (see Fig. 7).

In the next step the LOCs were communicated to the respective partners and sector experts opposite in each of the bilateral comparison. Their task was to estimate, for each LOC from the other country, the degree of learning outcome coverage by the qualification from their own country (see Fig. 7).

For instance, the German sector expert first had to review the German VET qualification in Geriatric Nursing and to complete LOCs for the modules DE 1.1 to DE 4.4 (see Koch-Zadi, in this volume), entering the learning outcomes and weighting factors for each of these.

These German LOCs were then sent to the Finnish partner. The Finnish sector expert had the task to estimate, in respect of each learning outcome of the German qualification, to what extent the learning outcome in question was attained by holders of the Finnish qualification ‘Practical Nurse’ as well. The degree of coverage was entered, separately for each learning outcome, into the German LOCs.

In exchange, the German partner received the Finnish LOCs with the learning outcomes and their weighting factors for the qualification of 'Practical Nurse', more specifically the modules FI 4.1.1.1 to FI 5.1.8. (see Stenström et al., in this volume). For each module of the 'Practical Nurse' qualification the German sector expert entered those comparative modules from the German Geriatric Nursing programme that overlapped with at least one Finnish learning outcome. Following that, she estimated the percentage to which each learning outcome is covered by the relevant comparative module/s.

All completed LOCs were finally sent for analysis to the APL department at the University of Oldenburg. There the results from the LOCs were transferred into summative tables (Fig. 9). These summative tables present the degree of coverage for all modules.

Figure 9

Bilateral comparison (example)

DE / FI	1.1	1.2	1.3	1.4	...	4.3	4.4	∑
5.1.8	32,34%		3,83%		...		63,83%	100 %

Source: own work

8. Reflections on the procedure

In the course of the equivalence check, problems were identified in various areas. Some major difficulties and lessons learned are discussed in the following.

The learning outcomes identified during the first project phase had been formulated for use within the descriptive matrices. The consequence was that some of the formulations were too general for a utilisation in the second project phase (i.e. for the estimation of the coverage of learning outcomes).

The weighting of learning outcomes was difficult for the sector experts who cooperated with the national partners. It was not clear for some of the experts,

for instance, by which standard the relevance of learning outcomes was to be assessed.

Other problems occurred with regard to estimating the coverage of learning outcomes. Some experts arrived at totals of more than 100% per row. The entry of such values, however, is technically impossible in the LOC. The reason for this technical restriction is the hypothesis that a learning outcome can be covered only to a maximum of 100% by learning outcomes from another qualification. As a matter of fact, values higher than 100% could occur in certain cases, e.g. when the learning outcomes of the comparative qualification are not disjunct, but for pragmatic reasons such values are not foreseen in the LOC design.

Finally there were difficulties in the interpretation of the results of the comparisons, i.e. of the summative tables. The partners had problems to understand why the results of bilateral comparisons consisted of two tables (coverage of qualification A by qualification B, and coverage of qualification B by qualification A).

On the whole it became clear that the procedure of the equivalence check, both in terms of the level assessment and the comparison of contents, requires a detailed briefing and instruction of the experts who carry out the assessments. Due to the geographical distance of the partner countries, the effectiveness of briefing via e-mail or telephone was limited. Likewise, the necessary exchange of information between the bilateral partners during the estimation of the coverage of learning outcomes was possible only to a limited extent. Future transnational equivalence checks should therefore provide for a larger number of project meetings and better communication between the project partners.

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Bilateral comparison between the Finnish Practical Nurse qualification and the German Geriatric Nursing qualification

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1. Introduction

This Finnish chapter is part of the project 'Quality-oriented Accreditation of Vocational Learning Outcomes in Health Care and Nursing' (CrediCare) within the Lifelong Learning Programme launched by the European Commission. The chapter describes the bilateral comparison between the Finnish practical nurse qualification especially the study programme of Care for the Elderly and the German study programme of Geriatric Nursing. The chapter begins with general information about the Finnish practical nurse education, its qualification and employment structure. It is followed by a description of the module structure covered by the MLI procedure and the findings of the modules of the MLI tool. Finally, the chapter presents the description and discussion of the results of the bilateral comparison.

2. The vocational qualification of social and health care in VET

→ *Study programmes of the social and health care sector in VET*

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.

→ *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 (Figure 1). 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, and self-assessment.

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)

Figure 1

Structure of the vocational qualification in social and health care, 120 cr

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

A table of all modules can be found at the web page: http://www.oph.fi/download/140436_vocational_qualification_in_social_and_health care_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 periods can also take place under mobility schemes. 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).

→ *Assessment and certification*

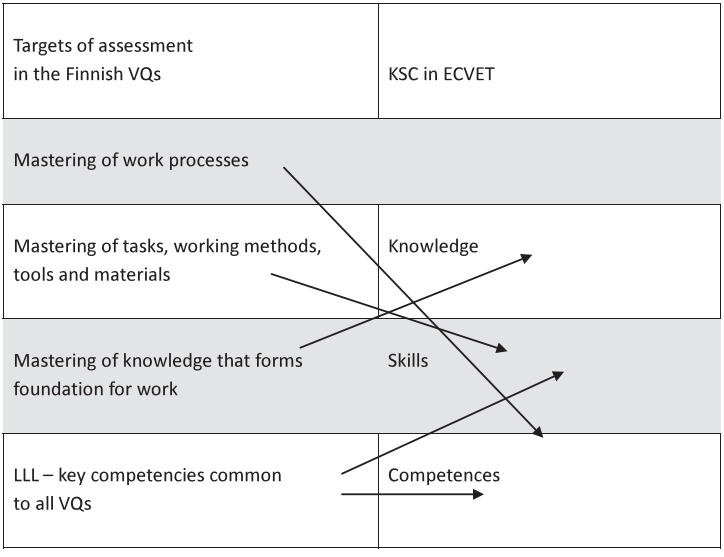
Vocational Qualifications consist of units (parts of qualifications). They are composed on the basis of workplace functions and named according to activities at work. Knowledge, skill and competence (KSC) are described as learning outcomes of these units. Theory and practice are expressed, studied and assessed together within the same unit and there is a common mark in the certificate. The targets of assessments are 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 methods, equipment and material as well as underpinning knowledge and the key competences for lifelong learning (Figure 2).

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).

Figure 2

Targets of assessment



Source: Finnish National Board of Education, 2012

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 the completion of skills demonstrations, which forms part of the qualification certificate. Vocational skills demonstrations aim to ensure the quality of education and training in cooperation with the workplace, and feed-

back received from skills demonstrations are used as a basis for developing instruction.

→ *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).

In the selection of students for vocational upper secondary education and 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.

The Act on Vocational Education and Training (Act 630/1998, section 14) contains the provision of a student's right to make individual choices in his/her studies. The Decree on Vocational Education and Training (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 to serve student's right to make individual choices, 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.

→ *Qualification of the Practical Nurses*

This description of the qualification of practical nurses is based 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 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 old people or patients with dementia, in different settings. They can guide and support the elderly 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 use 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 apply 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, and hospitals.

→ *Employment structure of Practical Nurses*

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 the demand for competent people in working life, in particular in primary health care, social welfare and specialised medical care. The field wants plenty of young applicants and new qualified people (Ministry of Finance, 2006).

The employment opportunities for practical nurses are good at the moment, but with relatively low salaries considering the large proportion of shift-work. An average total salary was in 2010 about € 2,450 per month. For example, in 2010 the average total salary of the practical nurses

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

3. Results of the MLI assessments

After a careful examination of the MLI tool it was decided to test it in the context of Finnish VET in social and health care. For the study purposes, the large modules of the Finnish Practical Nurse qualification needed to be divided from the original six modules into fifteen, 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.

The experiment also provided a possibility to test the interview method in the MLI procedure and it was decided that the same method would be used in the actual implementation. Representatives from the Finnish Institute for Educational Research (FIER) continued as experts of the MLI tool while 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.

Table 1

Summary of the MLI results

	Broad and up-to date knowledge	Critical understanding	Interdisciplinarity	Practice orientation	Problem solving	Creativity and innovation	Autonomy	Communicative competence	Consideration of social and ethical issues	Total MLI score
Compulsory vocational modules										
Support and guidance of growth (Part 1)	5.4	4.0	5.3	6.6	4.9	5.5	4.8	4.1	7.0	**5.3**
Support and guidance of growth (Part 2)	5.6	4.7	5.6	6.6	4.9	5.2	5.8	4.6	6.8	**5.5**
Support and guidance of growth (Part 3)	5.4	3.7	5.6	6.6	4.9	5.2	5.8	5.7	6.8	**5.5**
Nursing and care (Part 1)	4.5	4.7	4.7	6.6	3.4	3.5	3.8	4.8	7.0	**4.8**
Nursing and care (Part 2)	4.0	4.8	4.7	6.6	4.4	4.2	4.1	5.0	7.2	**5.0**

Nursing and care (Part 3)	4.5	4.8	4.3	6.6	4.4	4.5	4.5	5.8	7.6	**5.2**
Rehabilitation and support (Part 1-3)	4.1	4.2	6.0	6.6	6.8	6.8	6.2	6.0	7.4	**6.0**
Specialisation modules										
Care for the elderly (Part 1-3)	5.9	5.4	7.2	6.6	7.7	7.5	7.2	7.4	7.9	**7.0**
Working as an employee and entrepreneurship	5.9	5.5	6.6	5.9	6.8	5.8	6.2	4.6	7.4	**6.1**
Optional modules										
Home care and nursing of the elderly (Part 1-2)	4.0	4.8	4.3	6.6	5.8	4.2	5.8	4.8	7.9	**5.4**
Compulsory core subjects										
Health education	5.6	5.7	5.0	6.3	6.3	5.2	5.5	5.3	7.0	**5.7**
Mean of MLI scores	4.9	4.8	5.6	6.5	5.9	5.6	5.8	5.6	7.4	**5.8**

Source: own work

The summary of the MLI results is presented in Table 1. It describes the scores of the Finnish modules according the MLI scaling dimensions. The first three modules to be presented are the compulsory ones of 'Support and Guidance of Growth', 'Nursing and Care', and 'Rehabilitation and Support', followed by the optional vocational module 'Home Care and Nursing of the Elderly'. Finally, the results are shown for the specialisation Module 'Care for the Elderly' and for the core subject of 'Health Education'.

The Finnish results seem to be high on the MLI scale and differ from the official EQF/NQF levels. The aggregate average level across the modules is 5.7 on the MLI scale, while the module-specific averages range from 5.0 to 7.0 The highest average was achieved in the module 'Care for the Elderly', which covers a specialisation area for students of care and nursing. It is carried out in the final year of studying. At the lower end of the range is the module 'Nursing and Care', which is one of the compulsory modules for all students in Practical Nurse education and training, and taught at the end of the first year. The results are logical in the sense that the modules at the end of the training show the highest performance level while the lowest averages are found in modules

at the beginning of training. Looking at the single indicator ratings, we can see that they vary from 3.4 to 7.9. The module 'Nursing and Care' has the lowest rating in problem solving and the modules 'Care for the Elderly' and 'Home Care and Nursing for the Elderly' have the highest rating in the indicator 'Consideration of social and ethical issues'. It seems that this indicator reached the highest ratings.

The overall results of the MLI are high in the Finnish VET setting. As expected, the initial modules in the study programme yield lower scores than the ones in the last year of studying. The high overall performance can be explained in various ways. Even after the division, the modules in the Finnish VET qualification 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 qualification in social and health care presumes 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 the high MLI scores is the high level of teaching. Different subjects have their own expert teachers responsible for their area in the study programme. For example, psychology is taught by a teacher with at least a Master's degree in psychology, pharmaceutics in the study programme 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 skills between the youngest students coming straight from the comprehensive school and those coming from upper secondary school.

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).

4. Results of the bilateral comprison

The bilateral comparisons from the Finnish side were conducted in May 2013 by the Finnish Institute for Educational Research and the experts of social and health care education from Jyväskylä Educational Consortium. Simultaneously with the comparisons, the latter weighted the Finnish learning outcomes. The comparison data were gathered into an Excel spread sheet, which included the German learning outcomes as well. This process was unilateral in the sense that the learning outcomes or weightings were not discussed between the partners during the comparison process.

The results of the bilateral comparison are presented first from the German perspective and second from the Finnish perspective.

→ *Defining learning outcomes*

Learning outcomes for the comparison matrixes were defined by the social and health care experts, with the help of national and local curricula. Since the modules were split up for analytical purposes, some learning outcomes were to be found in different parts of the module. Finnish VET programmes can also include learning outcomes that are not explicit in the curriculum or at least not mentioned in every module description.

The two educations from Finland and Germany chosen for the comparison have differences in their curricular structure. The German programme of geriatric nursing is focused on elderly care whereas the Finnish Practical Nurse education includes modules that are compulsory for all practical nurses from dental care to geriatric nursing. The structure is different also in that the German learning domains are pursued simultaneously or in parallel for the whole three-year education whereas their Finnish counterparts follow a chronological order. In addition, the nature of comprehensive education makes it possible to

compose the learning units differently by contents. Table 2 presents the results of the bilateral comparison as filled in by the German partner. Here, the Finnish results are interpreted from the perspective of the German geriatric curriculum.

→ *Bilateral comparison from the German perspective: module by module based approach*

First the bilateral comparison is made module by module. Due to the structural differences in the Finnish/German curricula, the module by module based equivalence check may give a too narrow picture of the overall equivalence of these two educations. As seen in Table 2 the modules of Finnish practical nurse education have coverage with several German geriatric nurse modules and when this coverage is summed, it seems like the two educations have very high equivalence (over 78% in all of the modules).

The highest equivalence between modules was in FI 5.1.8 *Health education* and its German counterpart DE 4.4 *Maintaining and promoting personal health* where the coverage was 64%. However, it differs from the coverage given by an expert from the Finnish perspective who interpreted the coverage to be 88%. These modules give the student's knowledge on how to promote their own well-being and are quite similar in their learning objectives.

Rather high equivalence is also visible between the modules *Support and guidance of growth part 1* and DE 4.2 *Learning to learn*, where the equivalence was 50%. These both modules teach studying and learning skills, which explain high coverage. Other partner assessed the equivalency as high as 82.5%. Reasons for differing estimations might lie in different weightings of this common learning objective.

Table 2

Finnish learning outcomes covered by German learning outcomes

FI	DE (Coverage of learning outcomes in %)													Total
	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	
4.1.1.1									6.25		28.13	50	12.5	3.13	**100**
4.1.1.2	23.91					23.91			26.09		23.91			2.17	**100**
4.1.1.3	23.81	14.29	26.19			20.24		15.48							**100**
4.1.2.1		13.04	18.26	14.35					19.57	6.96	26.09			1.74	**100**
4.1.2.2			52.63		15.79				5.26	8.42	12.63			5.26	**100**
4.1.2.3			44.35	2.17	26.09			3.48	11.74		11.3			0.87	**100**
4.1.3.1		5.88	55.29	3.53	35.29										**100**
4.1.3.2			59.55	11.36	9.09			12.73	7.27						**100**
4.1.3.3	10			20					12.5	5	33.75			18.75	**100**
4.10.1.1	7.14	14.29	48.57			10				2.86	17.14				**100**
4.10.1.2			34.09	18.18	9.09			25			13.64				**100**
4.10.1.3	5.8		28	17.14		5.71		1.14	14.86					5.71	**78.37**
4.11.1.3 Part 1			35.53	10.53	1.97		33.95		7.63		1.97				**91.58**
4.11.1.3 Part 2			49.27	8	7.27		26.91								**91.45**
5.1.8	32.34		3.83											63.83	**100**

Source: own work

The lowest coverage in this comparison is from 1% to 10%. The comparative framework allowed for choosing up to seven modules to the comparison. These low equivalencies come from those modules that are less relevant and which were included to account for learning outcomes with a minor weight in both modules. Taking these minor learning objectives also into account is important in order to see if all the learning outcomes are realised in the programme represented in the comparison.

Differences in coverage can also be explained through the human factor involved in the comparison process, which is based solely on subjective interpretations of the learning outcomes. Same subjective differences are also apparent in those modules that have some equivalency according to other partner, but which have not been seen as relevant to comparison by the other. One example of this is the module FI 4.11.1.3 *Home care and nursing of the Elderly part 1*, which has the equivalency of 55% with the learning domain DE 4.3 *Dealing with crises and difficult social situations*, but which has not been seen relevant in the German comparison.

→ *Bilateral comparison from the German perspective: equivalency by qualification*

The two educations involved in this equivalency check have similar contents and learning outcomes, but they are distributed differently in their respective curricula. The summative table of comparison results shows that the equivalency is high in every module when all the relevant modules are considered. Twelve of the fifteen modules have full coverage (100%) and the remaining three modules also exceed the limit of high equivalency which was set to 70% by the coordinator.

Examples of modules by qualification

The Finnish module 4.1.1.1 *Support and Guidance of Growth part 1* is the first module taught in Practical Nurse education. As regards the learning outcomes, the module assumes that students take responsibility of their own learning and vocational development and are able to utilise information technology in the learning process. After the module students are also expected to comply the rules of a working group and safety instructions of the workplace and respect

ethical principles related to the occupation. Elements of these learning outcomes can be found in five German modules. The highest equivalence (50%) is found with the German learning domain 4.2 *Learning to learn* and the module 4.1 *Developing occupational self-image* that shows the equivalence of 28%. Altogether the five relevant learning domains cover 100% of this module's learning outcomes.

The second presented Finnish module is taught in the second year of training. Learning objectives in the module 4.1.2.1 *Foundations of Practical nurse's work in nursing and care* aim to develop student's ability to promote client's or patient's physical and mental health, safety and wellbeing, carry out patient-specific nursing in compliance with occupational health and safety instructions. Students are also expected to assess their own action and vocational development and utilise given feedback. After the module the learners should be able to manage the statutes, regulations and ethical principles in the social and health care and instruct clients to use social and health care services and relief benefits.

The learning outcomes of this module are covered in full (100%) by seven learning domains of the German partner. Slightly over 26% are covered by the module 4.1 *Developing occupational self-image*, and almost 20% coverage are reached in the learning domains 1.3 *Caring for elderly in a personally appropriate and situation-based manner* (18.3%) and 3.1 Giving consideration to institutional and legal framework conditions in geriatric nursing activities (19.6%). In this comparison it should be noted that the institutional and legal frames are different in Germany and Finland and therefore not easily comparable.

One of the Finnish modules solely related to geriatric nursing is the third part of the study programme Care for the Elderly. This module 4.10.1.3 *Promoting health of the elderly* imparts knowledge, skills and competences that help the students in promoting healthy lifestyles of patients and relatives and also in supporting and guiding them with the use of different services. After the module students are able to abide ethical and quality-related principles of elderly care and also know how it can be developed. They master the knowledge related to the status and rights of the elderly and dealing with a dying patient in a respectful way. They should also have the competence needed in elderly pharmacotherapy and skills in dealing with memory loss.

This module has matching elements with six German learning domains. The equivalence is highest (28%) with the German domain 1.3 *Caring for the Elderly people in a personally appropriate and situation-based manner* and second highest (17%) with the domain 1.4 *Instructing, counselling and holding discussions*. Some correspondence is also seen in the domains 3.1 *Giving consideration to institutional and legal framework conditions in geriatric nursing activities* (15%) and 1.1 *Incorporating theoretical principles in geriatric nursing activities* (6%). Altogether the learning domains cover 78% of the Finnish module, meaning that about a quarter of its learning outcomes are not covered by the German geriatric nurse education. The score is lowest in this equivalence check but the coverage can still be seen quite comprehensive.

Another Finnish module not fully covered by geriatric nurse education is the optional 4.11.1.3 *Home care and nursing of the elderly*. The first theme 'Acting at elderly people's' includes elements similar to four German learning domains. Highest equivalence is identified with the 1.3 *Caring for the elderly people in a personally appropriate and situation-based manner*, which covers 49% of the Finnish module. In addition, 27% is covered by the German module 2.2 *Supporting elderly people in designing their day and self-organised activities*. Other relevant modules are 1.4 *Instructing, counselling and holding discussions* (8%) and 1.5 *Contributing to medical diagnostics and therapy* (7%). Together the German counterparts cover 92% of the learning outcomes of the Finnish module.

→ *Bilateral comparison from the Finnish perspective: module by module based approach*

Table 3 presents the results of the bilateral comparison as filled in by the Finnish partner. Here, the German geriatric curriculum is interpreted from the perspective of the Finnish Practical Nurse qualification. First, the bilateral comparison is made module by module. As seen in Table 3 the modules of German Geriatric Nurse education have content-wise coverage in common with several Finnish Practical Nurse modules and when this coverage is summed, it seems like the two educations have quite high equivalence (over 65% in all of the modules).

Table 3

German learning outcomes covered by Finnish learning outcomes

DE	FI (Coverage of learning outcomes in %)															Total
	4.1.1.1	4.1.1.2	4.1.1.3	4.1.2.1	4.1.2.2	4.1.2.3	4.1.3.1	4.1.3.2	4.1.3.3	4.10.1.1	4.10.1.2	4.10.1.3	4.11.1.3 Part 1	4.11.1.3 Part 2	5.1.8	
1.1	10	14	9	14						11	10	26				**94**
1.2			23.75	8.75		10.63				17.5		6.25		33.13		**100**
1.3					20			4		20		11	19	16		**90**
1.4			26								30		34			**90**
1.5						16			13			39		24		**92**
2.1						17.5		12.5		11.25		8.13	26.25	10		**85.63**
2.2												17.5	7.5	66.25		**91.25**
2.3						22.5		10.83			66.67					**100**
3.1		31.67		12.5		12.5			8.33							**65**
3.2				40					32.5	10						**82.5**
4.1		25		15					20			6.67				**66.67**
4.2	82.5															**82.5**
4.3							8.33		3.33				55			**66.67**
4.4							7.5								87.5	**95**

Source: own work

The highest equivalence between modules was in DE 4.4. *Maintaining and promoting personal health* and FI 5.1.8 *Health education*, where the coverage was 88%. However, it differs from the coverage given by an expert from the German perspective who interpreted the coverage to be 64%. The Finnish health education course is only one credit, whereas the German counterpart is 2.5 credits. Although the Finnish module is smaller than the German counterpart, the former has interpreted to cover more than the latter.

Rather high equivalence is also visible between the modules DE 4.2 *Learning to learn* and FI 4.1.1.1 *Support and guidance of growth part 1*, where the equivalence was 83%. The German partner assessed the equivalency to be 50%. The variation in equivalence assessments might be explained by proportional differences. The Finnish module is 3 credits whereas the German counterpart is one credit. Therefore it is quite natural that the Finnish module covers more of the German module than vice versa.

The equivalence from the Finnish perspective seems to vary from the German perspective in some modules. For example the equivalence of the German module DE 2.3 *Supporting elderly people in designing their housing and their residential environment* and the Finnish counterpart FI 4.10.1.2 *Care for the Elderly part 2* was 67% given by the Finnish experts, but by the German expert only 25%. The lowest coverage in this comparison is from 3% to 10%. As mentioned before these low equivalencies come from those modules that are less relevant. In addition, the differences might base on the different interpretation of the concepts.

→ *Bilateral comparison from the Finnish perspective: equivalence by qualification*

The summative table of comparison results shows that eleven modules out of fourteen exceed the limit of high equivalence (75%), which was set by the coordinator. The other three modules each have the equivalence of 65-67%.

Examples of module-specific equivalence by qualification

The highest module-specific equivalence by qualification is found in the German modules DE 1.2 *Planning, implementing, documenting and evaluating the care of the elderly people* and DE 2.3 *Supporting elderly people in designing*

their day and self-organising activities which are both fully covered in the Finnish curriculum. The specified learning outcomes of the former module can be found in six Finnish modules where their coverage varies from 6% to 33%. The latter module has matching elements with three Finnish modules where the most equivalent is the second part of the module *Care for the Elderly* with 67% coverage.

The largest module-specific discrepancy by qualification can be found in the German module 3.1 *Giving consideration to institutional and legal framework conditions in geriatric nursing activities*, which shows a coverage of 65% in this equivalence check with the Finnish Practical Nurse education. The specified outcomes of this module have highest coverage with the Finnish module *Support and guidance of growth part 2*, which also aims to provide the students with basic information on the legal frames in social and health care. However in this comparison it should be noted that the institutional and legal frames are different between Finland and Germany and therefore not easily comparable as such.

Another domain with relatively low coverage is the module DE 4.1 *Developing an occupational self-image*, which has matching elements with four Finnish modules. None of the modules chosen for comparison exceed 25% coverage but altogether the coverage is almost 67%. The same applies to the module 4.3 *Dealing with crises and difficult social situations* which has matching elements with three Finnish modules, mostly with the Finnish module 4.11.1.3 *Home care and nursing of the elderly part 2* with 55% but the module has also similarities with two other modules. Together they cover nearly 67% of the German module.

5. Conclusions

Overall, it seems that the Finnish Practical Nurse training programme and German Geriatric Nurse education and training resemble each other to a great degree in terms of their curricular learning objectives. As many as twelve out of the 15 Finnish modules were fully covered by the German learning domains and even the lowest equivalence was as high as 78%. On the other hand, only two out of the 14 German modules were fully covered by the Finnish curriculum and the lowest domain-specific equivalence was 65%. There are probably several reasons for the differences in the interpretation of the results. It is possi-

ble that the Finnish experts have interpreted module coverage more cautiously than their German colleagues. Also conceptual differences may have led to different interpretations. A more fundamental difference between the VET programmes compared is that the German programme is based on a more medical approach, whereas the Finnish programme is more inclined to behavioural science.

The equivalence check based on learning units alone would have given very different results. Also if the timetable had allowed more time for the comparison, the results could have been interpreted with deeper understanding. Full coverage of the learning outcomes specified in one module generally called for more than four learning domains in the other programme, which implies that module-based approach may not be feasible in the acknowledgement of prior learning. Therefore, there is still need and room for subjective and case-sensitive assessment of prior learning in student mobility.

The tool of Module Level Indicator (MLI) provides a good basis for module comparisons across different countries as well as for promoting mobility in this regard. However, it fails to point out possible cultural differences involved. Moreover, the tool ignores assessment, which is part of the ECVET system. According to ECVET, the sending and receiving organisations are to reach an agreement on student competencies and related assessment. In module evaluation, it is important to find a shared understanding of the concepts.

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7. Appendix: Module titles

Modules of the Finnish Practical Nurse qualification:

FI Module 4.1.1.1 Support and guidance of growth Part 1/3: Professionality in practical nurse's work

FI Module 4.1.1.2 Support and guidance of growth Part 2/3: Human and society

FI Module 4.1.1.3 Support and guidance of growth Part 3/3: Supporting development and wellbeing

FI Module 4.1.2.1 Nursing and Care Part 1/3: Foundations of Practical nurse's work in nursing and care

FI Module 4.1.2.2 Nursing and Care Part 2/3: Practical nurse's work in promoting health, safety and ability to function

FI Module 4.1.2.3 Nursing and Care Part 3/3: Working as a practical nurse in health care and nursing

FI Module 4.1.3.1 Rehabilitation support Part 1/3: Rehabilitee-oriented action

FI Module 4.1.3.2 Rehabilitation support Part 2/3: Supporting a person in rehabilitation

FI Module 4.1.3.3 Rehabilitation support Part 3/3: Working as a practical nurse in rehabilitation

FI Module 4.10.1.1: The foundations of Care for the Elderly Part 1

FI Module 4.10.1.2: Care for the Elderly Part 2.

FI Module 4.10.1.3: Promoting Health of the Elderly Part 3

FI Module 4.11.1.3: Home care and nursing of the elderly. Part 1/2: Elderly Care and Nursing at Home 4cr (+ 3cr On-the-job learning)

FI Module 4.11.1.3: Home care and nursing of the elderly. Part 2/2: Home care and nursing of the elderly 4cr (+ 3cr On-the-job learning)

FI Module 5.1.8: Health education

Modules of the German Geriatric Nursing programme:
DE 1.1: Incorporating theoretical principles in geriatric nursing activities
DE 1.2: Planning, implementing, documenting and evaluating the care of elderly people
DE 1.3: Caring for elderly people in a personally appropriate and situation-based manner
DE 1.4: Instructing, counselling and holding discussions
DE 1.5: Contributing to medical diagnostics and therapy
DE 2.1: Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities
DE 2.2: Supporting elderly people in designing their housing and their residential environment
DE 2.3: Supporting elderly people in designing their day and self-organised activities
DE 3.1: Giving consideration to institutional and legal framework conditions in geriatric nursing activities
DE 3.2: Contributing to quality-assuring measures in geriatric nursing
DE 4.1: Developing an occupational self-image
DE 4.2: Learning to learn
DE 4.3: Dealing with crises and difficult social situations
DE 4.4: Maintaining and promoting personal health

VET in the German health care sector: the case of Geriatric Nursing

Dagmar Koch-Zadi

1. Geriatric Nursing in Germany: an overview

→ *Vocational education and training in German health care*

In the German education system there are three branches of vocational education and training (VET) in health care: Nursing, Geriatric Nursing and Paediatric Nursing. Currently there are still these special training programmes defined by age group. It is expected that in the next five years the VET programmes will be restructured and Germany will have one VET programme in General Nursing, probably with some specialisation programmes included. In the German Qualifications Framework (DQR), VET programmes in nursing belong to level 4, which corresponds to level 4 of the European Qualifications Framework (EQF).

→ *Structure of the Geriatric Nursing programme*

The VET programme of Geriatric Nursing lasts three years and takes place in schools for Geriatric Nursing and in training companies in the care sector. Training can also be given in part-time form, lasting up to five years in this case. The programme is organized as dual training: schools and firms train the students together. 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 (4,900) hours. The theoretical and practical instruction in school encompasses at least 2100 hours. In some federal states – for example Bremen – there is additionally 300 hours general education that is a total of 2,400 lessons, 800 lessons at school a year. The practical training takes at least 2,500 hours. Main fields for practical training are residential homes or outpatient nursing facilities (2,000 hours). Parts

of 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 or facilities providing non-institutional assistance for the elderly.

→ *Entrance requirements and transition to further studies*

The entrance requirement is the intermediate educational qualification (ten years of general education). 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. Even students with a certificate of secondary education have access if they have completed successfully a vocational training lasting at least two years. Under certain conditions the VET may be reduced. 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).

Skilled nurses who want to pursue their nursing careers have several options to advance their education. The education system offers permeability up to higher level. In upper secondary education there are recognised further training programmes for skilled professionals in the nursing sector. In the tertiary sector there are various study programmes at the bachelor's and master's levels (nursing, nursing science, nursing management, nursing pedagogy etc.). Some of the study paths are organised as dual study programmes in cooperation with nursing schools.

→ *Curriculum, learning concepts and methods*

The curriculum is input-orientated and is based on the 'learning field' approach. As described in the 'Geriatric Nursing Vocational Training and Examination Regulations' of 26 November 2002 the curriculum comprises four learning areas and 14 learning fields for the theoretical and practical instruction at school:

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

In the learning field approach the training contents follow 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 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 and business administration.

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, role-playing, workshops, excursions and practical skills training.

For the practical training in Geriatric Nursing five topics are specified which describe different levels of knowledge, competences and skills:

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

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

On the whole it can be stated that the focus is on reinforcing practice-orientated learning. The two learning venues school and training company are closely linked together to promote the transfer between theory and practice.

→ *Qualification of Geriatric Nurses*

Geriatric Nurses have knowledge, abilities, 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). The overall task of Geriatric Nurses is the comprehensive and planned, competent and professional nursing in keeping with generally recognised knowledge in nursing science, particularly medical nursing. They plan, implement, document and evaluate the care of elderly people and incorporate the theoretical principles in their nursing activities. They know how to carry out their nursing tasks in various care situations (residential homes, private household, hospitals, etc.) in a personally appropriate and situation-based manner. They recognize the self-care problems and capabilities and act in reference to the elderly`s needs. They pay great attention to ethical principles and orient their work on a professional ethical attitude. In communication with the elderly people, relatives and persons of reference they apply their interactive competences, they instruct, discuss and counsel in a respecting and cherishing manner. Geriatric Nurses work according to nursing guidelines and standards, they handle therapeutic appliances and prostheses, carry out mobilisation and prophylaxis. In emergency cases they are able to act and carry out first aid. They support und guide elderly people to maintain their self-care competence.

Geriatric Nurses participate in the treatment of sick elderly people, including the implementations of doctor's orders. They are able to cooperate constructively in the interdisciplinary team, particularly with doctors and other therapeutic professions. They know how to contribute medical diagnosis and therapy by delegation. Geriatric Nurses know how to work with preservation and restoration of individual abilities in the framework of geriatric and gerontopsychatric rehabilitation concepts. In nursing elderly with dementia or gerontopsychiatric changes they apply to special concepts and methods. Geriatric Nurses are able to carry out preventive health care measures, including nutritional guidance. They guide, advise and support elderly people to maintain their abilities in nutrition and household. If necessary they offer consultation and assistance to make use in handling therapeutic appliances, adaption of housing and various welfare services. Geriatric Nurses support elderly to live in a safe and secure environment and they pay attention to risk prevention in residential environments. Geriatric Nurses know how to care dying elderly people in a comprehensive manner. Together with other professionals in the

interdisciplinary team they apply their knowledge, competences and skills to ensure safety and well-being of dying elderly people. In palliative care they pay great attention to ethical values.

In various care settings Geriatric Nurses have contact to caregivers who are not nursing professionals. They apply their knowledge and interactive competences to instruct, advise and support for example in caregiving situation at home or care assistants in residential homes. Geriatric Nurses apply their knowledge and competences to support and advise elderly people as regards their personal and social affairs. In their nursing activities they give consideration to the circumstances and social networks of the elderly. They pay attention to ethnicity-specific and intercultural aspects, questions of belief and life, of daily life and living in old age. Geriatric Nurses assist elderly people in maintaining and activating an independent way of life, including the promotion of their social contacts. They know how to support elderly in their family relationships and social networks. 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. If possible they refer elderly people to activities of recreation, education and culture, to self-help groups, senior citizens' representatives and advisory committees. They offer day-structuring measures, festivities and events. Geriatric Nurses give consideration to the need of elderly people for contact, communication, love and sexuality. Geriatric Nurses encourage and supervise family and neighbourhood help, they counsel relatives providing nursing care.

Geriatric Nurses know how to deal with administrative work directly associated with the tasks in geriatric nursing. They apply their knowledge and skills in nursing planning, evaluation and documenting, and use information and communication technology (ICT). In their nursing activities they give consideration to institutional and legal framework conditions. They know how to exploit possibilities of funding agencies, services and facilities of the health and social care sector and consider economy and efficiency. Geriatric Nurses organize care transitions und interface management. Geriatric Nurses participate in quality-assuring measures in nursing, care and treatment. They reflect the importance of quality assurance for geriatric nursing, apply concepts and methods of quality development and contribute constructively the quality management in their work place.

Geriatric Nurses use their vocational knowledge, competences and skills to act as a professional in an occupation. They give consideration to occupational laws; they deal with the current situation of nursing, reflect on it critically and develop a professional occupational image. They apply learning concepts and techniques, use new information and communication technologies, working methods and time management. In crises and difficult social situations they are capable to act in an appropriate manner. With regard to their personal health they know how to work in a ergonomically correct manner, to maintain health promotion; they use methods for prevention and coping stress, advice and supervision among colleagues.

→ *Assessment and certification*

The assessment is conducted by teachers (theoretical and practical lessons) and by practical instructors (practical training). The performance is assessed by a grade scale of numbers from one ('very good') to six ('inadequate') (section 4, Geriatric Nursing Vocational Training and Examination Regulations). There are two forms of performance evaluation, a continuous performance evaluation during the three-year course (annual reports) and a final assessment in the last year (examination).

a) Continuous performance evaluation – annual reports

The performance evaluation is process-oriented (annual report). At the end of each training year the students receive a report (certificate) concerning their performance in theoretical instruction and practical training. The grades are decided at the report conference under the responsibility of the executive board of the school.

Several methods are used for assessment of the learner's attainment during the whole training period. Teachers at school use written tests, assignments, seminar papers, reports, project work, working groups, practical exercises and demonstrations and involvement in the lessons. In the practical training the performances are examined with tasks of comprehensive nursing (written part, implementation in practice and reflection).

The grades of the annual reports are preliminary grades for the final examination and take account with a share of 25 per cent for the calculation of the

final result (section 9, Geriatric Nursing Vocational Training and Examination Regulations).

b) Final examination

The final assessment is carried out as a state examination by the presiding member of the Board of Examiners (competent authority) and compromises a written part, an oral part and a practical part.

The written part consists of three written tests, each takes 120 minutes. The subjects are 'Incorporating theoretical principles in geriatric nursing activities' and 'Planning, implementing, documenting and evaluating the care of elderly people' (test 1), 'Caring for elderly people in a personally appropriate and situation-based manner' and 'Contributing to medical diagnosis and therapy' (test 2), 'Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities' (test 3).

The oral part is conducted as an individual examination under the presiding member of the Board of Examiners (competent authority) and lasts about ten minutes. The oral part covers the learning fields 'Caring for elderly people in a personally appropriate and situation-based manner' (part 1), 'Giving consideration to institutional and legal framework conditions in geriatric nursing activities' (part 2), 'Developing an occupational self-image' and 'Dealing with crises and difficult social situations' (part 3). The oral examination is orientated on the same requirement profile as the written part.

The practical part refers to the learning areas 'Tasks and concepts in geriatric nursing' and 'Support of elderly people in designing theirs lives'. 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 two days; the element of the examination involving the performance of nursing care is not to exceed 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, hygienie, communication, documentation of nursing activities and reflection.

c) 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.

2. Results of the MLI assessment

→ *Implementation of the MLI procedure at Geriatric Nursing School 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 continuing vocational education and training for professionals in health care and social care sector. The school collaborates closely with the important stakeholders in Geriatric Nursing and the 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 qualification 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.

In the first phase of the project the procedure for the implementation of MLI assessment at ibs school was defined. The author was appointed by the project coordinator as an expert evaluator because of her long time experience as headmaster of geriatric nursing schools and her expertise in curriculum devel-

opment. By guidance of the project partner at University Oldenburg the expert was worked into the MLI instrument and procedure. It was decided that the MIL assessment would be executed based on reference material of the geriatric nursing school. The reference material was compiled by the school and reviewed by the expert. Additionally main issues raised by the material were clarified in direct communication with the headmaster of the school. Finally the comprehensive collection of the school contains textbooks, collections of texts, worksheets, tasks, tests and proctored examinations, written and oral examinations for each learning field. Among the project members was decided to use the term 'module' for all learning units as a uniform terminology in the project.

→ *The MLI assessment*

The next important work step was to describe all modules in a comprehensive overview based on the matrix defined on the second workshop in Finland. The overview follows the structure content ('input'), learning outcomes ('output'), assessment/examination, workload and EQF level.

There are some important issues which have to be mentioned.

1. First it must be pointed out that in VET for Geriatric Nursing currently no workload and no credit points are defined. It is an input orientated curriculum with a defined number of hours for lessons at school and practical training.

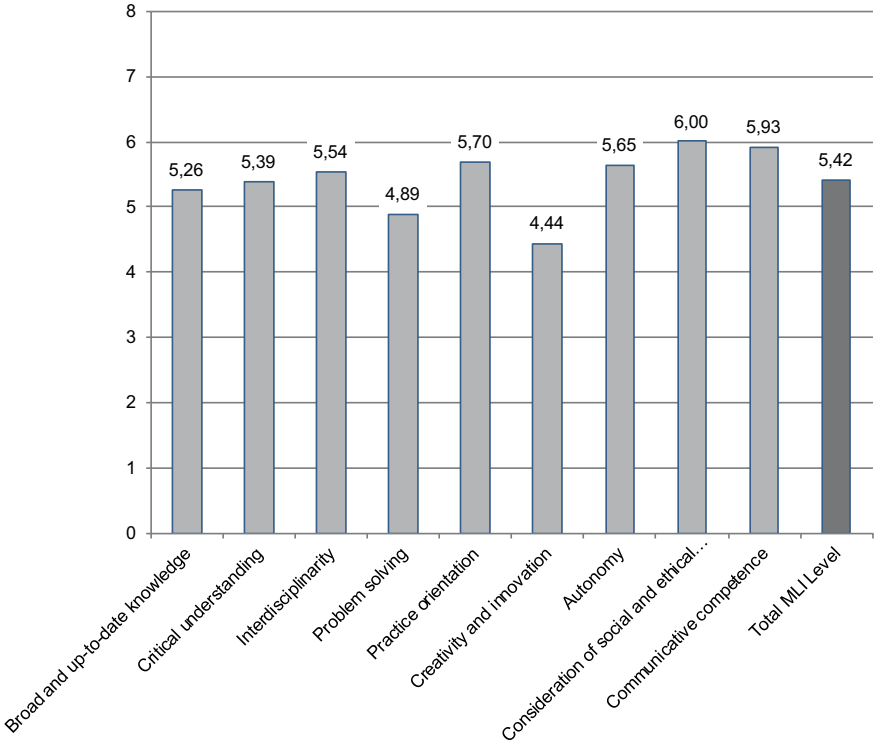
2. It should be emphasised that the Geriatric Nursing programme has a close connection to practice. All in all there is a clear dominance of the practical part of training (2,500 hours) in the training programme in comparison to the theoretical training at school (2,100 lessons). This feature is typical of the dual organisation of VET in Germany. 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 and examined by school during the whole training period.

3. An important characteristic is the difference in volume (40 to 720 hours); additionally there are 200 hours for free definable instruction. The largest module 1.3 'Caring for elderly in a personally appropriate and situation based manner' (720 hours) was divided in three equal sub modules.

4. Almost all modules are designed interdisciplinary; contents of several disciplines are involved. Most of the modules are taught during the complete training period. Only five modules are taught in one or two years of the training programme.

Figure 1

Overall results of the MLI assessment



Source: Wolfgang Müskens (adapted)

After intensive examination of the reference material and after guidance and instruction in the MLI assessment procedure the author prepared a test version for the MLI assessment for one exemplary module. The procedure, experiences and results were presented on the second workshop in Finland. Based on this test version the procedure of the MLI assessment was reviewed and subjects for the FAQ (MLI User Guide) were identified.

→ *Results of the MLI assessment*

As seen in Figure 1, which presents the overall results of the MLI assessment, the scales show high scores. Most of the modules have a total MLI score higher than five; the range of scores is between 6.38 and 3.97.

The following table 1 presents the detailed results for each module and for each of the MLI scales.

The highest scores can be found in the scales for 'Consideration of social and ethical issues' (6.0) and 'Communicative competence' (5.9). Furthermore, 'Practice orientation' (5.7) and 'Autonomy' (5.7) have high scores.

It has to be pointed out that the results suggest that the level of the geriatric nursing qualification is higher than the determined level in the German Qualification Framework (DQR), which is level 4. Generally the high score of Geriatric Nursing programme confirms 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 on level 5 to 6 for nursing programmes.

Table 1

Detailed results of the MLI assessment

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

LF 2.3 Supporting elderly people in designing their day and self-organised activities	4.9	4.5	5.0	6.6	4.4	3.8	5.5	5.3	4.6	**4.9**
Learning Area 3: Legal and institutional framework conditions										
LF 3.1 Giving consideration to institutional and legal framework conditions	5.8	5.8	5.0	5.0	4.4	4.8	5.1	6.5	6.6	**5.4**
LF 3.2 Contributing to quality assurance measures	4.7	5.5	5.3	5.0	4.4	4.2	3.4	5.0	5.7	**4.8**
Learning Area 4: Geriatric Nursing as an occupation										
LF 4.1 Developing an occupational self-image	5.0	4.4	5.6	4.7	3.4	3.8	3.8	5.5	6.6	**4.8**
LF 4.2 Learning to learn	3.0	3.5	3.4	1.3	1.0	2.8	3.4	3.9	3.5	**2.9**
LF 4.3 Dealing with crises and difficult social situations	4.3	4.2	5.3	5.3	3.0	4.2	4.5	5.7	6.3	**4.8**
LF 4.4 Maintaining and promoting personal health	3.2	3.5	3.4	5.3	3.0	3.5	3.8	5.0	5.0	**4.0**
Mean of MLI scores	5.3	5.4	5.5	5.7	4.9	4.4	5.7	5.9	6.0	**5.4**

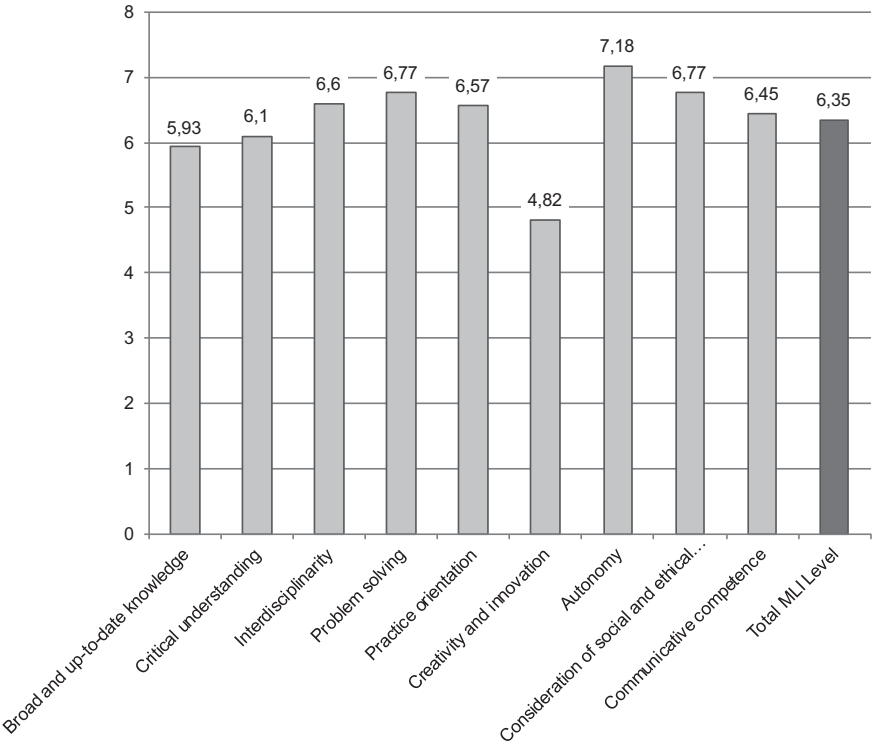
Source: own work

The module with the highest score (6.4) is module 1.3 ‘Caring for elderly in a personally appropriate and situation-based manner’ (Figure 2). It can be regarded as the core module because of its volume and meaning in the Geriatric Nursing programme as a whole.

The module with the lowest score is module 4.4 ‘Maintaining and promoting personal health’ (4.0), which focuses on cross sector skills such as ‘Personal health promotion’, ‘Occupational health and safety’, ‘Preventing and coping with stress’ and ‘Advice and supervision among colleagues’ (Figure 3).

Figure 2

MLI results for module 1.3

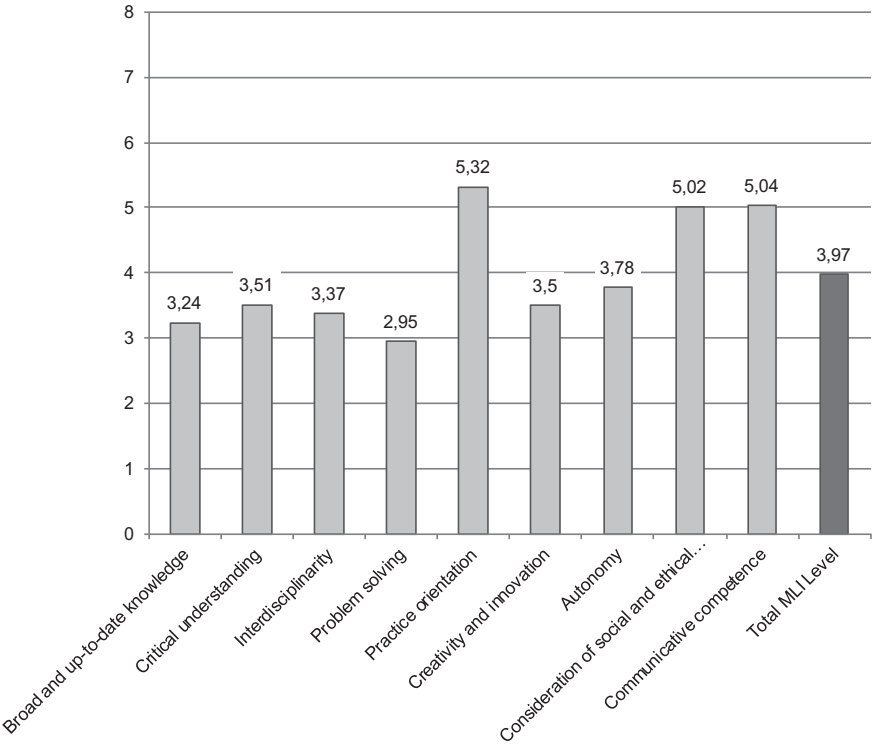


Source: Wolfgang Müskens (adapted)

A closer look at the results of the MLI scales illustrates the focus of the Geriatric Nursing programme. The learning outcomes refer mainly to 'Autonomy', 'Practice orientation', 'Critical understanding', 'Consideration of social and ethical issues' and 'Communicative competences'. The highest scores have the scales 'Autonomy' (7.2), 'Critical understanding' (6.8), 'Consideration of social and ethical issues' (6.8) and 'Communicative competences' (6.7). The lowest scores are on the scales 'Problem solving' (3.0), 'Broad and up-to-date knowledge' (3.2) and 'Creativity and innovation' (3.5).

Figure 3

MLI results for module 4.4



Source: Wolfgang Müskens (adapted)

What is remarkable is that the scale '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 in upper secondary education are organised as alternance training, closely connected to practice and focus on learning outcomes which enable graduates for daily professional activities.

The analysis of the MLI results has to be done in light of the special profile of nursing profession, particularly Geriatric Nursing in Germany and also the

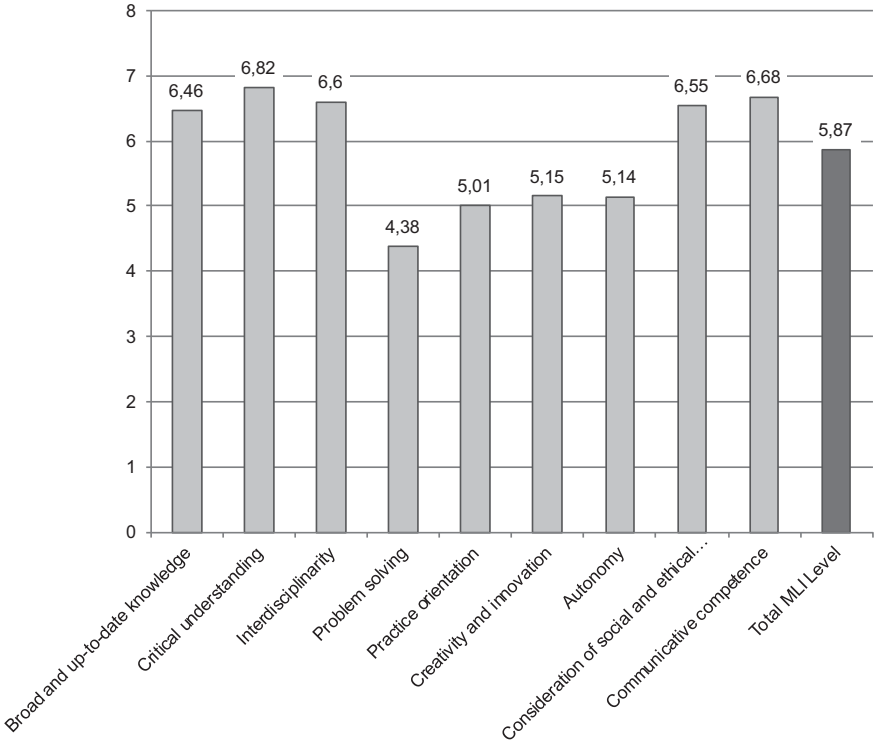
special concept of this programme. Professional Geriatric Nurses are experts in body-to-body, side-by-side and face-to-face work. They are responsible for nursing of elderly people, they reflect their knowledge continuously, they care and communicate in a personally and situation based manner and at 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. The four modules from learning area 1 'Tasks and concepts in geriatric nursing' have great importance in the qualification. The contents deal with nursing, anatomy/physiology, pharmaceutics, gerontopsychiatry, hygiene and dietetics, psychology, ethics, nature of profession and law. It can be expected that these are the most important modules in the Geriatric Nursing programme. They focus on the basic knowledge, skills and competences for the profession. The MLI scores in these modules are between 6.4 and 5.7. In the core module 'Caring for elderly in a personally appropriate and situation-based manner' the learning outcomes emphasise 'Critical understanding' (6.0), 'Problem solving' (6.8), 'Interdisciplinary' (6.6), 'Practice orientation' (6.6), 'Autonomy' (7.2) , 'Consideration of social and ethical issues' (6.8) and 'Communicative competence' (6.55) (see Figure 2 above).

Remarkable are also the high scores in the modules in learning area 2 'Support of elderly in designing their lives' (higher than 5). The contents are based on social science and deal with ethics, psychology, sociology, nature of profession, law, home economics and pedagogy/geragogy. The modules are closely connected to practical training and focus professional requirements in supporting elderly in designing their daily live and self organised activities. Particularly in the module 2.1 'Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities' one finds high scores on the scales 'Broad and up-to-date knowledge' (6.5), 'Critical understanding' (6.8), 'Interdisciplinary' (6.6), 'Consideration of social and ethical issues' (6.6) and 'Communicative competence' (6.7). These results make evident that geriatric nurses have to cope with requirements of social services, besides the medical-nursing-orientated tasks. They have to consider the elderly as a person in his/her individuality and living environment (Figure 4).

Figure 4

MLI results for module 2.1



Source: Wolfgang Müskens (adapted)

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 scores of 5.4 and 4.8. It has to be pointed out that here particularly knowledge, skills and competences of 'Consideration of social and ethical issues' (6.6) and 'Communicative competence' (6.5) are in the focus.

The modules in learning area 4 'Geriatric nursing as an occupation' deal with knowledge, competences and skills regarding to the situation as an employee, to circumstances in the workplace and to the occupational self-image. The contents deal with issues from nature of profession, ethics, sociology, nursing,

psychology and ICT. Generally there are lower total MLI scores (4.8 to 4.0). As regards the individual scales, the highest scoring ones are 'Consideration of social and ethical issues' (6.6), 'Interdisciplinarity' (5.6) and 'Communicative competence' (5.7).

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 learning outcomes of the Geriatric Nursing programme in Germany have a high coverage to other European qualifications in nursing, particularly the Nursing qualification programme in Estonia and Finland.

3. Bilateral comparison between Germany and Finland

→ *Implementation of the bilateral comparison*

On the third project workshop in Dublin the selection of cases for the transnational equivalence checks and the procedure was agreed. The project consortium decided as selected constellation for transnational comparison the programme of Geriatric Nursing in Germany with the Estonian programme of Basic Nursing (Diploma) and the Finnish qualification of Practical Nurse. The following section deals with the bilateral comparison between Germany and Finland.

The instrument for the bilateral comparison is a matrix which follows the model of the Learning Outcome Matrix (LOM). The LOM was prepared by the partner from the University of Oldenburg. This matrix juxtaposes all modules in each possible pair of qualifications with a view to estimating which modules from one qualification might be covered by which modules from the other. This means that the coverage of modules in terms of learning outcomes is explored for the selected qualifications from Germany and Finland. The bilateral comparison is carried out in both directions, i.e. the expert from Germany checks the matrix to what extent the learning outcomes from Geriatric Nursing qualification are covered by learning outcomes of Finland and vice versa.

At the time when the plans were drawn up it was assumed that the transnational comparison would be carried out in a dialogue between the partners. It was considered that the partners would use appropriate communication channels such as Skype for their collaboration. Furthermore relevant information and research results (module descriptions, MLI reviews) should be exchanged. In the course of the work process it became clear that it wouldn't be possible to comply with all these aspects of the plan. The main reason for this was particularly the tight deadline in the project tasks.

The bilateral comparison Germany – Finland followed the main work steps:

First step: Preparation of the Learning Outcome Matrix (LOM)

The expert responsible for the reference qualification (i.e. Germany) estimates the weighting factor for each learning outcome in the modules of the reference qualification (Geriatric Nursing). This weighting factor gives information about the relevance of the learning outcome in question for the module as a whole. A scale from 1 to 3 was used, i.e. a weight of 3 means a high importance of a learning outcome.

Second step: Carrying out the bilateral comparison with the Finnish qualification

In this step the German expert takes the view of the comparative qualification. Now the Finnish qualification is the reference qualification. First the comparative modules that might cover the learning outcomes of the reference qualification are identified and entered in the LOM. Any learning outcome may be covered by one or more modules. For pragmatic reasons the number of comparative modules that could be entered into the LOM was limited to seven.

After identifying the comparative modules the German expert estimates the coverage of learning outcomes by the comparative modules. The maximum coverage for each learning outcome is 100%.

These work steps were vice versa performed by the Finnish expert. The complete LOM were sent to the partner of the University of Oldenburg who evaluated the data.

Third step: Analysis of the results of the bilateral comparison

After receipt of the data the German expert interprets the results of the bilateral comparison from the German point of view. Although in this phase the experts of the transnational comparison act independently.

→ *The bilateral comparison Germany – Finland*

The bilateral comparison was implemented by the expert of the German partner ibs e. V. The comparison was carried out following the agreed work steps and was based solely on reference material of the German programme Geriatric Nursing (module descriptions and MLI Assessment). The German expert worked independently without direct contact to the expert from Finland. Unfortunately reference material of the Finnish qualification (descriptions of the modules, results of the MLI assessments etc.) couldn't be considered in the bilateral comparison because they were not available. Moreover, no information about the weighting factors of the Finnish modules was at hand. These frame conditions have to be considered. Therefore the comparison was solely based on the learning outcomes in the Finnish LOM. Possibly a lack of detailed knowledge about the partner qualification as well as cultural differences have brought about a misconception of the Finnish learning outcomes, which could affect the validity of the results of the bilateral comparison and the analysis from the German view.

The following lists present the modules from the German and the Finnish qualification which were included in the bilateral comparison.

Geriatric Nursing – module titles
DE 1.1 Incorporating theoretical principles in geriatric nursing activities
DE 1.2 Planning, implementing, documenting and evaluating the care of elderly people
DE 1.3 Caring for elderly people in a personally appropriate and situation-based manner
DE 1.4 Instructing, counselling and holding discussions
DE 1.5 Contributing to medical diagnostics and therapy
DE 2.1 Giving consideration to the circumstances and social networks of the elderly in geriatric nursing activities
DE 2.2 Supporting elderly people in designing their housing and their residential environment

DE 2.3 Supporting elderly people in designing their day and self-organised activities
DE 3.1 Giving consideration to institutional and legal framework conditions in geriatric nursing activities
DE 3.2 Contributing to quality-assuring measures in geriatric nursing
DE 4.1 Developing an occupational self image
DE 4.2 Learning to learn
DE 4.3 Dealing with crises and difficult social situations
DE 4.4 Maintaining and promoting personal health

Practical Nurse – module titles
FI 4.1.1.1 Support and guidance of growth Part 1/3: Professionality in practical nurse's work
FI 4.1.1.2 Support and guidance of growth Part 2/3: Human and society
FI 4.1.1.3 Support and guidance of growth Part 3/3: Supporting development and well-being
FI 4.1.2.1 Nursing and Care Part 1/3: Foundations of Practical Nurse's work in nursing and care
FI 4.1.2.2 Nursing and Care Part 2/3: Practical Nurse's work in promoting health, security and ability to function
FI 4.1.2.3 Nursing and Care Part 3/3: Working as a practical nurse in healthcare and nursing
FI 4.1.3.1 Rehabilitation support Part 1/3: Rehabilitee-oriented action
FI 4.1.3.2 Rehabilitation support Part 2/3: Supporting a person in rehabilitation
FI 4.1.3.3 Rehabilitation support Part 3/3: Working as a Practical Nurse in rehabilitation
FI 4.10.1.1 The foundations of Care for the Elderly Part 1
FI 4.10.1.2 Care for the Elderly Part 2.
FI 4.10.1.3 Promoting Health of the Elderly Part 3
FI 4.11.1.3 Home care and nursing of the elderly. Part 1/2: Elderly Care and Nursing at home 4cr (+ 3cr On-the-job learning)
FI 4.11.1.3 Home care and nursing of the elderly. Part 2/2: Home Care and Nursing of the elderly 4cr (+ 3cr On-the-job learning)
FI 5.1.8 Health education

At first the two qualifications seem to be quite similar in their content and the learning outcomes. At the same time it's evident that there are differences in the curricula. Focus of the German programme 'Geriatric Nursing' are learning outcomes with the emphasis on medical-based nursing and on social services

for elderly. The curriculum contains 14 learning fields (= modules) of different sizes from 40 to 720 hours. The German curriculum is not based on a credit point system. Most of the modules are taught continuously during the three-year programme; five modules are not taught continuously. In comparison, the Finnish programme is structured in compulsory modules for all and specification modules with the focus of care for the elderly. Due to the extent of the six Finnish modules they were divided into 15 smaller modules.

Both curricula design the modules in an action-oriented approach, not subject-oriented, i.e. contents and learning outcomes of the modules are based on actions and requirements of nursing in the occupational area. Some of the modules have real 'counterparts' in the partner qualification, i.e. content and learning outcomes are quite similar. For example the Finnish module 5.1.8 'Health education' and the German module 4.4 'Maintaining and promoting personal health' have high similarity. Also the Finnish modules 4.1.2.1. 'Nursing and Care Part 1/3: Foundations of practical nurse`s work in nursing an care', module 4.1.2.2 'Nursing and Care Part 2/3: Practical nurse`s work in promoting health, security and ability to function' and the module 4.1.2.3 'Nursing and Care Part 3/3: Working as a practical nurse in healthcare and nursing' have a counterpart in the German qualification: module 1.3 'Caring for elderly in a personally appropriate and situation-based manner'.

The first step in the bilateral comparison was done with the German perspective on the German qualification: the expert weighted the learning outcomes for each module in the LOM. The number of learning outcomes in the German modules is between 3 the minimum and 8 the maximum. In most of the modules the learning outcomes have a weight of 1 or 2; there are only two learning outcomes with a high weight (3) within the modules.

With regard to the learning outcomes it has to be mentioned that they don't give a complete picture of the modules as a whole. The learning outcomes were defined in the beginning of the project work by the German expert (module descriptions). These descriptions don't contain a full description of learning outcomes of the Geriatric Nursing programme, because in the project work it was necessary to focus the main learning outcomes for the module descriptions. It has to be considered that the German qualification is based on the learning field concept and all modules have a comprehensive nature and contain more learning outcomes than entered in the LOM. Therefore the comparison has to bear in mind that not all learning outcomes of the qualification are

considered in the LOM. This aspect may be the reason for some varieties in the bilateral comparison.

In the second step the perspective was changed: German modules were identified as comparative which might cover the learning outcomes of the Finnish reference qualification. Beforehand the modules and learning outcomes were checked regarding their relevance for the bilateral comparison from the German view. The Finnish programme was included as a whole into the comparison because all modules indicate significant relevance for the German qualification. The expert estimated the weight of coverage of learning outcomes for each comparative module, at maximum 100%.

When assigning the comparative modules to the Finnish learning outcomes, some problems were revealed. The comprehensive nature of the Finish modules made it necessary to include up to seven comparative modules; in some cases the learning outcomes would be found in other German modules which couldn't be considered. Noticeable is also that some Finnish modules had identical learning outcomes because of the division from 6 to 16 modules.

→ *Results of the bilateral comparison Germany – Finland*

The analysis and interpretation of the results were carried out independently by the German expert from the German point of view. The central questions concentrate on overlaps, differences, gaps and problems identified in the bilateral comparison. In the guidelines it was stipulated that high coverage of learning outcomes is 70% or more; a low degree of coverage is less than 50%.

At a first glance the results show a significant high coverage of the German and the Finnish qualification programmes.

Table 2

Finnish learning outcomes covered by German learning outcomes

FI	DE (Coverage of learning outcomes in %)													Total
	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	
4.1.1.1									6.25		28.13	50	12.5	3.13	**100**
4.1.1.2	23.91					23.91			26.09		23.91			2.17	**100**
4.1.1.3	23.81	14.29	26.19			20.24		15.48							**100**
4.1.2.1		13.04	18.26	14.35					19.57	6.96	26.09			1.74	**100**
4.1.2.2			52.63		15.79				5.26	8.42	12.63			5.26	**100**
4.1.2.3			44.35	2.17	26.09			3.48	11.74		11.3			0.87	**100**
4.1.3.1		5.88	55.29	3.53	35.29										**100**
4.1.3.2			59.55	11.36	9.09			12.73	7.27						**100**
4.1.3.3	10			20					12.5	5	33.75			18.75	**100**
4.10.1.1	7.14	14.29	48.57			10				2.86	17.14				**100**
4.10.1.2			34.09	18.18	9.09			25			13.64				**100**
4.10.1.3	5.8		28	17.14		5.71		1.14	14.86					5.71	**78.37**
4.11.1.3 Part 1			35.53	10.53	1.97		33.95		7.63		1.97				**91.58**
4.11.1.3 Part 2			49.27	8	7.27		26.91								**91.45**
5.1.8	32.34		3.83											63.83	**100**

Source: own work (table 2 and 3)

Table 3

German learning outcomes covered by Finnish learning outcomes

(Coverage of learning outcomes in %)

DE	FI 4.1.1.1	4.1.1.2	4.1.1.3	4.1.2.1	4.1.2.2	4.1.2.3	4.1.3.1	4.1.3.2	4.1.3.3	4.10.1.1	4.10.1.2	4.10.1.3	4.11.1.3 Part 1	4.11.1.3 Part 2	5.1.8	Total
1.1	10	14	9	14						11	10	26				**94**
1.2			23.75	8.75		10.63				17.5		6.25		33.13		**100**
1.3					20			4		20		11	19	16		**90**
1.4			26								30		34			**90**
1.5						16			13			39		24		**92**
2.1						17.5		12.5		11.25		8.13	26.25	10		**85.63**
2.2												17.5	7.5	66.25		**91.25**
2.3						22.5		10.83			66.67					**100**
3.1		31.67		12.5		12.5			8.33							**65**
3.2				40					32.5	10						**82.5**
4.1		25		15					20			6.67				**66.67**
4.2	82.5															**82.5**
4.3							8.33		3.33				55			**66.67**
4.4							7.5								87.5	**95**

Table 2 presents the results from the German perspective with the German qualification 'Geriatric Nursing' as the comparative qualification. Table 3 shows the results from the Finnish view with the Finnish qualification 'Practical Nurse' as comparative qualification.

Altogether the 15 Finnish modules are fully covered or have a high degree of overlapping with the 14 German modules (78% to 100%). From the Finnish perspective 11 of the German modules have high coverage with the Finnish modules (82.5% to 100%); 3 modules have a lower coverage (65% to 67%).

The interpretation of the results focuses on the one hand on each single module in the bilateral comparison, i.e. to compare the degree of coverage with a module in the comparative qualification. On the other hand the overlapping of modules in the qualification as a whole is analysed.

It is notable that there always is a high coverage if all relevant modules are considered. For example, the German module 1.3 'Caring for elderly in a personally appropriate and situation-based manner' is covered by twelve Finnish modules. The highest overlap is in the Finnish module 4.1.3.2 'Rehabilitation support Part 2/3: supporting a person in rehabilitation' (60%). The Finnish module 4.1.2.1 'Nursing and Care Part 1/3: Foundations of Practical nurse's work in nursing and care' overlaps with seven German modules with the highest coverage in the module 4.1 'Developing an occupational image' (27%).

From the German view the Finnish module 4.1.3.2 'Rehabilitation support Part 2/3: Supporting a person in rehabilitation' has the highest coverage with the German module 1.3 'Caring for elderly in a personally appropriate and situation-based manner' (60%). The learning outcomes of this module are also covered by four other German modules: 1.4 'Instructing, counselling and holding discussion' (11%), module 1.5 'Contributing to medical diagnostics and therapy' (9%), module 2.3 'Supporting elderly people in designing their day and self-organized activities' (13%) and module 3.1 'Giving consideration to institutional and legal framework conditions in geriatric nursing activities' (7%). In summary the coverage is 100%, i.e. the module is fully covered by the German qualification.

On the whole the results indicate a high degree of overlapping in all modules with regard to the core competences of the nursing profession. Particularly all modules which refer to nursing and care, to medical diagnostics, to rehabili-

tation and to nursing as a profession have a significant overlap with German modules. From the Finnish view the total coverage of the German modules 1.1 'Incorporating theoretical principles in geriatric nursing activities', 1.2 'Planning, implementing, documenting and evaluating the care of elderly people' 1.3 'Caring for elderly in a personally appropriate and situation-based manner', 1.4 'Instructing, counselling and holding discussions' and 1.5 'Contributing to medical diagnostic and therapy' is between 90 and 100%. The learning outcomes of these modules are covered in several Finnish modules.

Remarkable are particularly the modules with the highest coverage in both directions. The German module 4.4 'Maintaining and promoting personal health' has a high degree of overlap with its Finnish equivalent 5.1.8 'Health education'. From the Finnish view there is a coverage of 87.5%. From the German view there is a coverage of 64%. The German expert estimated the coverage also in two other German modules: in module 1.1 'Incorporating theoretical principles in geriatric nursing activities' (32%) and in module 1.3 'Caring for elderly in a personally appropriate and situation-based manner' (4%).

From the Finnish perspective also the German module 4.2 'Learning to learn' has a high coverage with the Finnish module 4.1.1.1 'Support an guidance of growth Part 1/3: Professionality in practical nurse's work' (82%). The German expert estimated a lower coverage (50%) in this comparative module and found learning outcomes in four other German modules: module 3.1 'Giving consideration to institutional and legal framework conditions in geriatric nursing activities' (6%), module 4.1 'Developing an occupational image' (28%), module 4.3 'Dealing with crises and difficult social situations' (12.5%) and module 4.4 'Maintaining and promoting personal health' (3%), all added together the total coverage is 100%.

From the German view there are some modules with a rather low overlap with Finnish modules. For example the module 3.2 'Contributing to quality-assuring measures in geriatric nursing' is covered in four Finnish modules with low values (3% to 8%). In contrast, the Finnish expert weighted the coverage in total with 82.5%. This difference in interpretation might be explained by difference in content. It's quite obvious that the German system of quality assurance is different from the Finnish system.

Differences in estimation between Germany and Finland can also be observed in module 4.3 'Dealing with crises and difficult social situations' and

its equivalent 4.1.1.1 ‘Support and guidance of growth Part 1/3: Professionality in practical nurse’s work’. From the German perspective there is low coverage (12.5%) in this single Finnish module. In contrast, the Finnish experts weighted the coverage as a whole with 66.7% and assessed overlapping with two other modules 4.1.3.1 ‘Rehabilitation support Part 1/3: Rehabilitee-orientated action’ (8%), module 4.1.3.3 ‘Rehabilitation support Part 1/3: Working as a practical nurse in rehabilitation’ (3%). The reason for this could be on the one hand the different design of the modules in the qualification and on the other hand the subjective interpretation about the relevance of the learning outcomes in this module.

Another example for varying estimation is the German module 2.2 ‘Supporting elderly people in designing their housing and their residential environment’. The Finnish expert assessed coverage of 66% with the Finnish module 4.11.1.3 ‘Home care and nursing of the elderly. Part 2/2: Home Care and Nursing of the elderly’, whereas the German expert assessed an overlapping of 27% and estimated a higher overlapping with the module 4.11.1.3. ‘Home care and nursing of the elderly. Part 1/2: Elderly Care and Nursing at home’ (34%). The reason for this could be a different interpretation of the content in the modules.

4. Summary of findings

The results of the MLI assessment suggest that this tool, in principle, is suitable to compare VET training programmes of different countries by level. If you compare the results of the MLI Assessment for the German programme ‘Geriatric Nursing’ and the Finnish programme ‘Practical Nurse’ it’s obvious that both VET programmes are quite similar by level. The results show for the German programme a level of 5.4 and for the Finnish programme a level of 5.8. Both qualifications have a higher grading than in their national qualification frameworks where both are located at level four. The scales ‘Consideration of social and ethical issues’ and ‘Practice orientation’ show high scores in both qualifications.

The comparison based on learning outcomes presents a varied picture. Overall the results of the bilateral comparison suggest that there is a close similarity between the German programme ‘Geriatric Nursing’ and the Finnish programme ‘Practical nurse’. The comparison of modules and learning outcomes shows in a large part a high degree of coverage. All of the 15 Finnish modules

are covered to a large extent by German modules. In twelve Finnish modules the learning outcomes are covered with 100%, four are covered with 78% to 92%. The Finnish comparison shows a slightly different result. Two of the 14 German modules have a 100% coverage, the others have overlapping from 65% to 95%.

In details even small gaps are found from the German perspective when less coverage with Finish modules was found for example in the German modules 3.1 and 4.3.

About the varieties between the German und the Finnish perspective several reasons can be discussed. On the one hand the divergent concepts of the training programmes and curriculums might be responsible for differences in interpretation. The German 'Geriatric Nurse' works as a specialist for medical care, nursing and social support, whereas the Finnish 'Practical Nurse' has a focus in practical nursing and care for elderly. Also the structure of the curriculum, different sizes of the modules, differences in defining of learning outcomes doesn't make it easy to compare the qualification programmes. On the other hand the subjective factor might have influenced the interpretation. At least the frame conditions procedure within the project work (tight time frame, missing documents, no personal contact during the bilateral comparison etc.) might be responsible for the varieties. It should be stressed that the procedure of the bilateral comparison should be revised in general to increase the validity of the results. The approach to compare modules and learning outcomes implies necessarily deeper understanding of the reference qualification.

5. References

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Comparing professional higher education and dual VET: Estonia and Germany

Marii Haak, Krista Loogma

1. Overview of the professional higher education qualification of basic nursing at Tallinn Health Care College

The first students started to study nursing at professional higher education level in 1996 and the first nurses graduated with a professional higher education diploma in 2000. 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 lasts for 3.5 years. During admission, the interest towards the studies is high with 3.5 candidates applying on one student place in Tallinn Health Care College. 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. However, there are also study programmes (one year) for working nurses, who want to acquire another/additional specialization (e.g. clinical nurse, health nurse, mental nurse and intensive nurse) at the level of higher education (HE).

→ *Structure of the study programme*

For nurses school-based learning is organised at tertiary level in Professional Higher Education Institutions. Learning of theoretical subjects takes place in school, and placement is implemented in hospitals and health centres. The study programme comprises 120 ECTS credits of theory studies with 90 ECTS credits 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 workplace practice. All Estonian curricula are performance based – following the outcomes, which are very clearly described in the curricula.

After having passed the basic nursing studies, according to the outcomes of 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 co-operation 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, teach him/her, evaluate the effectiveness of his/her own actions, and if necessary, cooperate with other members of the health care team. Our programme prepares nurses to work with all age groups and to operate as a mediator between the health care personnel and doctors. Nurses are qualified to decide, whether patient´s problems should be solved by nurse or the doctors´ intervention is needed.

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 simulation environment before heading to workplace practice.

Basic nursing education study programme consists of 12 modules:

Nurse's Personality and Professional Development (30 ECTS)
Basics of Nursing (20 ECTS)
Clinical Nursing (45 ECTS)
Paediatric nursing (15 ECTS)
Intensive nursing (10 ECTS)
Health nursing (30 ECTS)

Mental Health Nursing (10 ECTS)
Human structure and functionality studies (10 ECTS)
Pharmacology (5 ECTS)
Research and development work methodology (15 ECTS)
Elective- and optional subjects; Final work/final examination (10 ECTS)

Training involves contact learning, practical classes, field trips, practical training facilities, independent work, group discussions etc. Training takes place in school house and hospitals, and in web-based learning environments like Moodle, ÕIS and IVA.

→ *Structure of the modules*

Personal and Professional Development of the Nurse

The objective of the module is to support the development of students' personal development, 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.

Basics of nursing

The purpose of basics on nursing module develops systematic knowledge about nursing and prepares students for offering nursing aid based on systematic and continuous ethic principles. The module consists of three subjects on Basics of nursing, 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.

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 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, and genetics.

Some of the learning outcomes are directly related to the module objective, as recognizing 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. For example, the teamwork skills, the patient's preparation for necessary examination, and critical evaluation of one's work.

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 as paediatric 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 judgements in caring for children and family.

Intensive 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.

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.

Mental health nursing

Mental Health Nursing module's objective is to develop knowledge, values and skills for offering nursing aid in mental health sphere in cooperation with interdisciplinary team in health and social care areas. 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 mental health sphere. Students are expected to know the most widely spread mental disorders, their symptoms, influential factors and treatment.

Anatomy and vital functions

The aim of anatomy and vital functions module is to acquire knowledge of the development, building and vital functions of both, healthy and sick human body. The module consists of 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 and related key terms in Estonian and Latin.

Pharmacology

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

Having passed the module, the students are expected to know the effects 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.

Research and development methodology

Research and development methodology module's aim 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 final thesis or compose final development project.

→ *Assessment and certification*

The assessment in the College complies with the principles of outcomes-based assessment. The basic rules for assessment 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 case of the non-differentiated assessment, the achievement of learning outcomes is assessed. On higher professional education the grading follows letters 'A' (excellent) and so on.

As a rule, the member of the teaching staff who teaches the subject assesses the learning outcomes, except the assessment of 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, decide on the grade. Assessment methods and criteria shall be established by a member of the teaching staff and he or she shall inform the learners of them in the beginning of the module/subject in the SIS (Study Information System) 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 results in the assessment of curriculum objectives after their implementation. Based on the assessment methods, the assessment criteria are defined for each subject separately. Learners are eli-

gible 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 one 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 the theoretical part on vocational level. On professional higher educational level 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 students acquire a diploma which is accepted across the European Union.

→ *Entry requirements and transition to further studies*

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 to form a body of motivated learners, which will create qualities for competitiveness in the labour market.

2. Results of the MLI assessment

→ *Implementation of the MLI procedure*

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 research on the modules, application and completion of the MLI questionnaire. The study group consisted of Tallinn Health Care College personnel, including the Vice-Rector of Academic Affairs, Head of the Chair of Nursing, Head of the Department of Vocational Education, Lecturer-assistant in the Chair of Nursing, Lecturer-teacher in the Chair of Nursing and one administrative staff member. The descriptive matrices of the modules were filled out in cooperation with the Heads of each module as they were estimated to have the best overview of the module in general, and the objectives, learning outcomes, volume etc. of each subject in the module. The process of collecting data and the analyses of the modules was completed by September 2012.

The completion process of the MLI started in October 2012 and ended in November 2012. In order to fill out the MLI questionnaire, six members of study groups worked in pairs to carry out interviews with the heads of the modules. Two pairs conducted three interviews and one pair four interviews. In total all ten interviews were completed according to the MLI structure. Beforehand the work group studied the MLI FAQ document in details to be familiar with relevant terminology and to construct a common structure to be followed during the interviews. Also, the MLI questionnaire was translated into Estonian. All study group members confirmed that the translation corresponded to the original questions, and all differences from educational systems 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 some cases if necessary the content of the questions was explained during the interviews. All interviews were recorded for further needs. By the end of November the completed MLI sheets were sent to University of Oldenburg to get the MLI results.

→ *Selection of modules of the qualification in question*

The Basic Nursing Education curriculum in Tallinn Health Care College includes 12 modules, with the amount from 5 ECTS to 45 ECTS. Two modules – Elective on Optional Subjects and Final Work/Exam were found not relevant for MLI assessment. The matrices and MLI questionnaires were completed for ten 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 four subjects (Research and Development Work Methodology I-IV). As the aim and the learning outcomes of each subject are similar and dependable on each other, we did not find a possibility to separate them. The same question concerns several other modules as well.

→ *MLI results*

In all modules the total MLI level is around 6.0 – with lowest score at point 5.5 and highest score at point 6.7. In most of the modules the creativity and innovation dimension is remarkably lower than other aspects of MLI assessment. In comparison with the learning outcomes, we find the result to be according to expectations as the curriculum is based on prescribed professional standards and standards of applied higher education, and therefore little room has been left for creativity and innovation. In some cases the need to follow strict requirements and rules even inhibits innovation and creativity as the approach in nursing may be very strict according to some criteria or procedures.

The highest average score is found in the dimension of Practice orientation. As the curriculum is based on applied higher education and the volume of practical training is 90 ECTS, which forms around 40% of the volume of the curriculum, the result is rather expectable. A lot of emphasis is put on a practical training throughout the curriculum as seven modules out of ten involve internship

in training bases. Consideration of social and ethical issues is another aspect, strongly emphasised in the curriculum. An overview of the complete MLI results is presented in the following summative table (Table 1).

Table 1

MLI results for the basic nursing qualification

	Broad and up-to date knowledge	Critical understanding	Interdisciplinarity	Practice orientation	Problem solving	Creativity and innovation	Autonomy	Communicative competence	Consideration of social and ethical issues	Total MLI score
Basics of Nursing	5.8	6.1	6.6	6.6	6.8	3.5	4.5	5.0	6.6	**5.7**
Teaching of Human Anatomy and Vital Functions	6.6	4.5	6.0	6.6	5.3	3.8	4.5	6.5	5.2	**5.4**
Pharmacology	5.8	5.7	4.7	5.3	6.3	3.5	6.5	5.7	6.1	**5.5**
Health Nursing	5.9	4.8	5.6	6.3	4.9	5.2	5.1	6.0	5.9	**5.5**
Clinical Nursing	5.6	3.8	6.0	6.6	5.8	2.2	7.2	6.5	6.1	**5.5**
Intensive Nursing	5.0	4.4	5.3	6.6	5.3	2.2	7.2	6.5	6.6	**5.5**
Pediatric Nursing	5.6	6.7	6.6	6.6	6.8	4.2	4.8	5.5	6.1	**5.9**
Mental Health Nursing	7.0	6.1	6.9	6.6	6.3	7.1	6.5	7.2	7.0	**6.7**
Personal and Professional Development of the Nurse	7.0	7.1	6.6	5.9	5.8	5.5	4.8	6.2	7.4	**6.3**
Research and Development Work Methodology	7.4	5.2	6.6	6.6	4.9	4.8	6.8	6.7	5.2	**6.0**
Mean of MLI scores	6.2	5.4	6.1	6.4	5.9	4.2	5.8	6.2	6.2	**5.8**

Source: own work

→ *Analysis of modules based on MLI results*

The module assessment results are analysed from two different perspectives. First, analysing the table by rows, we can see, what are the most outstanding/ most modest outcomes of the specific module. Secondly, analysing the table by columns, we can see, which modules contribute most/little to the specific outcomes.

Analysing the table by columns, we can see, that for the first outcome (broad up-to-date knowledge) modules 2 and 10 contribute the most. For the second outcome (critical understanding) module 9; for the third outcome (interdisciplinary) module 8; for the fourth outcome (practice orientation) modules 1 and 7 contribute the most. Analysing the table by rows, we can see the results by modules, which are briefly described as follows.

Basics of nursing

The highest MLI score (6.8) of the module have the outcomes formulated as problem solving. The lowest (3.5) at the same time are creativity and innovation. The subjects included to this module are mostly taught in the first year. The main aim of those subjects is to give students theoretical knowledge in nursing. To a large extent it includes situation based learning, which requires students to use problem solving competences. At the same time, strict approach to nursing theories doesn't enable students to put much emphasis on aspects of creativity and innovation.

Teaching of human anatomy and vital functions

In this module, the highest score (6.6) has attributed to the outcome of broad up-to date knowledge. The lowest score (3.8) have computed for creativity and innovation.

Pharmacology

In pharmacology, the highest score has the dimension of Autonomy (6.5) and the lowest Creativity and innovation (3.5). In the nursing curriculum, pharma-

cology is thought quite brief and the aim of the module is to give nursing students an overview of the basic concepts of pharmacology they need to attain to work under doctor's supervision. At the same time, they are expected to work independently in the area of their competence, which explains the high score of the dimension of autonomy.

Health nursing

In this module, Practice Orientation has the highest score (6.3) and Critical understanding (4.8) and Problem solving (4.9) the lowest ones. However, the differences between highest and lowest scores are rather small. The subjects included to this module are taught in the first and third year. The competences of critical understanding and problem solving might have a lower score because during the first year of studies there is not much emphasis put on those aspects. This module has a high degree of practice orientation as in the third year it includes practical training in health centres in volume of 18 ECTS.

Clinical nursing and intensive nursing

The results of these two modules are very similar. The highest score has computed for the Autonomy (7.2) and the lowest for Creativity and innovation (2.2). In this case, the differences between scores of highest and lowest outcomes are rather big. In these modules there is quite little emphases put on aspects of creativity and innovation so far. But this is going to change as in the college the simulation centre will be developed in the near future.

Paediatric nursing

The highest score has the dimension of Problem solving (6.8) and the lowest (4.2) Creativity and innovation. Like the Basics of Nursing module, this module includes a lot of situation based learning, which requires students to use problem solving competences.

Mental health nursing

In this module, the highest score (7.2) has Consideration of social and ethical issues and the lowest (6.1) Critical understanding. It is remarkable that in this module the dimension of creativity and innovation has much higher score (7.1) than in other modules. The Mental Health Nursing module is the only one, which includes several e-courses and international elective courses.

Personal and professional development of the nurse

In this module the Communicative competence has the highest score (7.4) and Autonomy the lowest (4.8). Compared to other modules, the communicative competence has in this module noticeably higher score. This might be explained by the subjects of the module which are highly oriented to support the development of student's personality through subjects like psychology and team management.

Research and development work methodology

The module of work methodology has the highest score (7.4) of Broad up-to date knowledge and the lowest (4.8) of Creativity and innovation. The dimension of creativity and innovation is rather low to take into consideration that the aim of this module is to develop knowledge about the principles and objectives of research work in nursing science, and to develop readiness for conducting the research. To support these aspects, there are some changes conducted in the curriculum which are not reflected in these results yet.

3. Results of the bilateral comparison with Germany

The bilateral comparison is carried out between Estonian applied higher education (EQF 6) study programme and German vocational study programme (EQF 4). As the Estonian curriculum is a general nurse study programme on a higher education level and the German curriculum geriatric is a nurse study programme on vocational education level, we expected a rather low coverage of the study programmes.

Table 2

Estonian learning outcomes covered by German learning outcomes

EE	DE (Coverage of learning outcomes in %)														Total
	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	
Basics of Nursing	20	11.43	47.14			4.29					5.71				**88.57**
Clinical Nursing		13.75	33.75		26.25						7.5				**81.25**
Health Nursing	10	10	31.11		12.22		4.44		16.67		5.56				**90**
Intensive Nursing		4.44	61.11		34.44										**100**
Mental Health Nursing			63.33		21.67			5	6.67						**96.67**
Paediatric Nursing															**0**
Personal and Professional Development		3.64		10.91					6.36		35.45		10		**66.36**
Pharmacology			50		50										**100**
Research and Development Work Method..	17.14	11.43	11.43												**40**
Teaching of Human Anatomy and Vital Fuct.			100												**100**

Table 3

German learning outcomes covered by Estonian learning outcomes

DE	EE (Coverage of learning outcomes in %)											Total
	Basics of Nursing	Clinical Nursing	Health Nursing	Intensive Nursing	Mental Health Nursing	Paediatric Nursing	Personal and Professional Development	Pharmacology	Research and Development Work Methodol.	Teaching of Human Anatomy and Vital Fuct.		
1.1	30		32				8		20			**90**
1.2	46.25		16.25				6.25					**68.75**
1.3	54		38									**92**
1.4	10		20				18					**48**
1.5	84											**84**
2.1	16.25		30				7.5					**53.75**
2.2	7.5		53.75									**61.25**
2.3	16.67		23.33									**40**
3.1	13.33		21.67									**35**
3.2			13.75									**13.75**
4.1	11.67	8.33	3.33				51.67					**75**
4.2							82.5					**82.5**
4.3	10		18.33				28.33					**56.67**
4.4	12.5		12.5				30					**55**

Source: own work (table 2 and 3)

Opposite to the expected results, in terms of learning outcomes seven modules out of ten in Estonian curriculum (Basics of Nursing, Clinical Nursing, Health Nursing, Intensive Nursing, Mental Health Nursing, Pharmacology, Teaching

of Human Anatomy and Vital Functions) have a high degree of coverage by German modules (cf. Table 2). Three modules out of seven (Intensive Nursing, Pharmacology, Teaching of Human Anatomy and Vital Functions) are covered 100 %. At the same time, only five modules out of fourteen in German curriculum show a high degree of coverage by Estonian modules. (cf. Table 3) It is remarkable that none of those modules is covered 100%. Four German modules have a low degree of coverage by Estonian modules, of which one module is covered 0% (Pediatric Nursing). The results of comparison from Estonian perspective are quite unexpected as we did not assume German learning outcomes to cover Estonian curricula to such a large extent.

In the following the results of the bilateral comparison are discussed in more detail in terms of the high/low degree of coverage and some other notable findings from the perspective of Estonian general nurse study programme. The findings are discussed from the perspective of the partner country to outline some important results.

→ *Modules with a high degree of coverage*

Basics of Nursing module show coverage with five German modules in total 88.57%. The highest coverage 47.14% is found with the module Caring for elderly people in a personally appropriate and situation-based manner (module 1.3) followed by the module Incorporating theoretical principles in geriatric nursing activities (module 1.1) in the volume of 20%. As Basics of Nursing include aspects of geriatric nursing and nursing activity to a large extent, we find this result to be rather predictable.

Clinical Nursing module is covered in total 81.25 % by four German modules. The highest degree of coverage show modules Caring for elderly people in a personally appropriate and situation-based manner (module 1.3, 33.5%) and Contributing to medical diagnostics and therapy (module 1.5, 26.25%.). It is remarkable that on the other way around, from the German perspective, we have also found quite high coverage but the overlapping indicates to the Basic of Nursing module instead of Clinical Nursing.

Health Nursing module is covered by German modules in volume of 90%. The coverage is distributed between several modules with the percentage from 4.44% to 31.11%. The highest degree of overlapping is found with the module

Caring for elderly people in a personally appropriate and situation-based manner (module 1.3). According to the learning outcomes and vice versa assessment, we find this result to be rather expectable.

Mental Nursing module is covered by German learning outcomes in total of 96.67%. The highest coverage (63.33%) is found with the module Caring for elderly people in a personally appropriate and situation-based manner (module 1.3) followed by the module Contributing to medical diagnostics and therapy (module 1.5) to the extent of 21.67%. Vice versa assessment has found no overlapping.

Pharmacology module is covered by German learning outcomes 100%. The overlapping is found with the modules Caring for elderly people in a personally appropriate and situation-based manner (module 1.3) and Contributing to medical diagnostics and therapy (module 1.5). With both modules the coverage is found in a volume of 50%. In the vice versa assessment, no overlapping has been found.

Teaching of Human Anatomy and Vital Functions module is 100% covered by German learning outcomes in the module Caring for elderly people in a personally appropriate and situation-based manner (module 1.3). From the perspective of German curriculum there is no coverage found.

→ *Modules with a low degree of coverage*

Research and Development Work Methodology module is covered by three German modules in total 40%. The coverage is quite equally distributed between modules Incorporating theoretical principles in geriatric nursing activities (module 1.1), Planning, implementing, documenting and evaluating the care of elderly people (module 1.2) and Caring for elderly people in a personally appropriate and situation-based manner (module 1.3) with the highest degree of coverage (17.4%) with module 1.1.

There is no coverage found with the module Pediatric Nursing in both perspectives of the analyses. This result is rather expected as the German study programme is specialized in geriatric nursing and there is no linkage with pediatric nursing.

→ *Notable findings and discussion*

As mentioned beforehand, it is notable that three Estonian modules out of ten are covered 100% by German learning outcomes. Even more remarkable is the fact that from German perspective there is no coverage found between those modules and also learning outcomes don't refer to such high overlap. This phenomenon might be explained by the structure of the curricula. Seen from the Estonian perspective, the learning outcomes of the modules are described in general as the modules consist of several subjects. Each subject is described in more detailed learning outcomes but in this study those specific outcomes are not referred to. It seems that it might be the case of German curriculum as well. Although there still remains the question, if German geriatric nurse and Estonian general nurse study programmes are comparable.

It is remarkable that in the analyses of bilateral comparison German modules 1.3 and 1.5 mentioned as high degree of coverage in case of most of the Estonian modules. It is in the contradiction with the result, that those models cover almost 100% Estonian Intensive Nursing module, Pharmacology module and Teaching of Human Anatomy and Vital Functions modules. It is also noticeable that Estonian module Personal and Professional Development is covered by German learning outcomes only with 66.36% but at the same time from the perspective of German modules, the Personal and Professional Development of Nurse modules covers eight German modules from the volume of overlap from 6.26% to 82.50% with the module Learning to learn. From the perspective on Estonian modules, there is no overlap found with this module.

In conclusion, some findings, discussed above are rather contradicting and it is difficult to find reasonable interpretations for the findings. Additionally, the curricula for comparison in this case, were different in terms of scope of the curriculum (in Estonia case Basic Nursing, in German case Geriatric Nursing) and education level, the curricula are implemented. In Estonian case, the curriculum of basic nursing is part of higher education (professional higher education). In German case, the curriculum of geriatric nursing is part of vocational education at secondary level.

The Bachelor of Science (Hons) Nursing in Ireland

Justin Rami, Tara Shortt

1. Description of selected qualification

→ *General overview*

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

Nursing and Midwifery is located solely in higher education of the Irish National Framework of Qualifications that has been developed and maintained by the National 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 Irish Higher Education Authority (HEA, 2005).

Nursing 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 and 9 respectively (EQF 6 and 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 and 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).

→ *An Bord Altranais*

In order to 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 regarding nurse education. This body has been integral to addressing items such as nurse registration, regulation, structural and work changes, segmentation of grades, training and 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 midwifes. 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 responsibilities 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.

Additionally as evidenced above, in order to practice nursing as a profession, every nurse must register with this regulatory board and pay yearly subscriptions to remain of a live nursing register.

→ *Knowledge, skills and competencies of the Irish Nurse Training Programme*

The nursing 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.

→ *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.

Table 1

Structure of the educational programme including modules with ECTS points

	Module	Credits
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 Outpatients 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
Total		240 ECTS

Total hours of instruction: 4,472 hours

Source: own work

→ *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 laboratory, 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.

→ *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 and 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 alignment with this, grade point averages is used as a standardised grading system 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.

→ *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 opportunities to participate in the relatively newly devised 'Practice Nurse Practitioners' training programmes that affords roles and responsibilities similar that of a junior 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.

→ *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 and 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.

2. Results of MLI assessments

This section 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 questionnaire devised in cognizance of the structural recommendations set out initially within this overall project context.

→ *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 curriculum within the BSc 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.

→ *Selection of modules*

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

→ *Results of the MLI toolkit*

In the following an overview is given of the results of the review of the modules by means of the MLI tool.

Table 2

Summative table of MLI results

	Broad and up-to date knowledge	Critical understanding	Interdisciplinarity	Practice orientation	Problem solving	Creativity and innovation	Autonomy	Communicative competence	Consideration of social and ethical issues	Total MLI score
IE Module 1 – Scientific principles for Health care (Biology, Physics and Chemistry)	7.2	6.8	7.2	7.3	6.6	6.1	6.2	7.2	7.4	**6.9**
IE Module 2 – Structure and 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**

IE Module 3 – Psychology & interpersonal skills for clinical practice	7.0	7.3	7.2	6.8	6.6	7.5	5.9	7.9	7.4	**7.0**
IE Module 4 – Foundations of General Nursing (Part A)	7.0	6.7	7.2	7.3	6.6	6.5	6.8	7.9	7.4	**7.0**
IE Module 5 – Transitions: Engage to succeed	7.4	7.4	7.2	7.8	6.6	7.5	7.2	7.9	7.4	**7.4**
IE Module 6 – Structure and function of the human body (Part B)	7.4	6.8	7.2	7.8	6.6	7.5	7.2	7.9	7.4	**7.3**
IE Module 7 – Social Science for Healthcare (Sociology)	7.4	7.4	7.2	7.4	5.0	6.8	6.8	7.9	7.4	**7.0**
IE Module 8 – Foundations of General Nursing (Part B)	7.4	7.3	7.2	7.8	6.6	6.8	6.8	7.4	7.4	**7.2**
IE Module 9 – Perspectives on Nursing	7.4	7.0	6.9	7.3	6.6	7.5	7.2	7.9	7.4	**7.2**
IE Module 10 – Exposure to Clinical Learning	7.0	6.8	7.2	7.7	6.6	6.8	7.2	7.0	7.4	**7.1**
IE Module 11 – Nursing the older adult and other populations	7.4	7.4	7.2	7.7	6.6	6.5	6.5	7.9	7.4	**7.2**
IE Module 12 – General Nursing (Medical – Surgical Nursing 1)	7.4	7.1	7.2	7.7	6.6	6.8	7.2	7.0	7.4	**7.2**
IE Module 13 – Patient Safety, Microbiology & safety	7.4	7.4	6.3	7.4	6.6	5.5	5.8	7.0	7.4	**6.8**
IE Module 14 – Broadening Clinical Learning	6.6	6.8	7.2	7.7	6.6	6.5	6.5	7.0	7.4	**6.9**
IE Module 15 – Pharmacology	7.4	7.4	6.0	7.7	6.6	6.1	5.8	6.8	7.4	**6.8**

IE Module 16 – Deepening Clinical Learning (A) G	7.4	6.8	7.2	6.8	6.6	6.8	5.5	7.0	7.4	**6.8**
IE Module 17 – General Nursing (Medical – Nursing 11)	7.4	6.5	6.0	7.7	6.6	6.1	6.2	7.9	7.4	**6.9**
IE Module 18 – General Nursing (Medical – Surgical 111)	7.4	7.0	6.3	7.7	6.6	6.1	6.2	7.0	7.4	**6.8**
IE Module 19 – 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**
IE Module 20 – Biopsychosocial Approaches in Clinical Practice.	7.4	6.7	7.0	7.7	6.6	6.1	7.2	6.8	7.4	**6.9**
IE Module 21 – Deepening Clinical Learning B (G)	7.2	6.8	7.2	7.7	6.6	7.5	6.5	7.9	7.4	**7.2**
IE Module 22 – Nursing in Diverse Settings	7.4	6.8	7.2	7.7	6.6	7.5	7.2	7.9	7.2	**7.2**
IE Module 23 –General Nursing (Medical – Surgical 1V)	7.4	7.0	7.2	7.7	6.6	7.1	7.2	7.9	7.4	**7.3**
IE Module 24 – Teaching and Assessing in the Practicum	7.4	7.4	7.2	7.4	6.6	7.5	7.2	7.9	7.4	**7.4**
IE Module 25 – Management and Quality Improvement	7.4	7.4	7.2	7.7	6.6	6.1	7.2	7.9	7.4	**7.2**
IE Module 26 – Promoting Health	7.4	7.4	7.2	7.3	6.6	7.5	7.2	7.9	7.4	**7.3**
IE Module 27 – Clinical Placement 4C (Internship) G&P	7.4	7.1	7.2	7.7	6.6	7.5	7.2	7.9	7.4	**7.3**
IE Module 28 – Clinical Placement 4D (Internship) G&P	7.4	7.1	7.2	7.7	6.6	7.5	6.8	7.9	7.4	**7.3**

IE Module 29 – Clinical Placement 4A (Internship)	7.4	6.8	7.2	7.3	6.6	7.5	7.2	7.9	7.4	**7.2**
IE Module 30 – Clinical Placement 4B	7.4	7.1	7.2	7.7	6.6	7.5	6.9	7.9	7.4	**7.3**
IE Module 31 – 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 scores	**7.2**	**6.9**	**7.1**	**7.3**	**6.5**	**6.9**	**6.5**	**7.5**	**7.4**	**7.0**

Source: own work

The qualitative analysis illustrates overall a very high MLI level – an average of 7.1 across all 31 modules. In fact 22 modules score an MLI greater than seven 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.

The top three highest MLI score findings

- 7.9 – Across 20 modules, all in 'Consideration of Social and Ethical Issues'.
- 7.7 – Across 23 modules, all in 'Problem solving'.
- 7.4 – 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'. These particular competencies would indeed confirm the professional profile and nature of Nursing and support the ongoing developments within Healthcare and Nursing in Ireland particularly 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 Multidisciplinary 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 MSc 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.

The lowest three MLI score findings

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

The lowest MLI findings are in respect of Sociology, year one 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 transferable 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, 'creativity and innovation' would not necessarily feature very highly with regards learning competencies as this is very much a knowledge based subject with text book learning thus little room for variation.

Finally, 'Autonomy' does not score highly in relation to 'Deepening Clinical Learning'. 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.

→ *Summary of MLI results*

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 curriculum. 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 curriculum duly mirrors the high level results gleaned for the equivalence check i.e. the Learning Out-come 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 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.

3. Bilateral comparisons Ireland and France

This study was undertaken concerning the Irish Partner qualification – Nurse Training Programme at pre-registration honours degree level NFQ 8 (EQF level 6) with the French Partner qualification – Diplome D'Etat d'Infirmier (DEI) (EQF level 6). This exercise comprised identifying where and to what extent the French learning outcomes (within 37 training units) were evident and integrated across the Irish Training Programme Modules through the learning outcomes alike. This was carried out in collaboration with the Irish experts primarily through desk research comparing matrixes for descriptions/subjects/modules/units/learning fields for both. Collaboration and discussion at a local level, decisions as to what percentage of overlap in French learning outcomes to the Irish modules were determined. This procedure predominantly was designed to enable each partner to carry out the comparison independently.

Table 3

Irish learning outcomes covered by French learning outcomes

IE \ FR	(Coverage of learning outcomes in %)									
	1.1	**1.2**	**1.3**	**2.1**	**2.2**	**2.3**	**2.4**	**2.5**	**2.6**	**2.7**
1				15.00	32.86		3.57	2.14		5.00
2				2.86	42.86		7.14	4.29		5.71
3	28.57								5.71	
4					16.67			13.33		
5			7.50							
6				4.00	44.00		10.00	10.00		12.00
7	38.57	5.00				2.14			11.43	
8			20.00							
9			51.67							
10			10.00							
11		7.50							6.25	5.00
12								5.24		12.38
13								37.50		
14			3.57							
15										
16			4.17							
17										31.43
18							32.50			
19	8.33		16.67							
20					8.89	18.89	6.67	7.78		7.22
21			4.17							
22		6.67				10.00		5.00		
23								10.00		
24		6.36								
25		10.00								
26		20.00								
27										
28										
29										
30										
31										

IE \ FR	2.8	2.9	2.10	2.11	3.1	3.2	3.3	3.4	3.5
1	1.43	2.14							
2	29.29	2.14							
3									
4			3.33		16.67				
5					6.25	8.75			
6	14.00	6.00							
7					11.43				
8				8.75	2.50	10.00			
9					15.00	3.33			
10						8.33	1.67		
11									
12	19.52	22.14		9.29					
13			22.50						
14					5.00		10.00		
15				100					
16					5.83		1.67		
17	22.86			7.86	6.43	2.14			
18				7.50	5				
19					8.33		10.00		
20	7.22	6.67							
21					4.17		1.67		
22	5.00	33.33					13.33		
23	70.00				5.00				
24									20.91
25							24.00		
26									
27									
28									
29									
30									
31								18.33	

IE \ FR	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	5.1	5.2
1										
2										
3										
4	21.67								11.67	16.67
5										6.25
6										
7							1.43			
8										2.50
9										15.00
10										
11	21.25							6.25	22.50	
12					2.38					
13					40.00					
14										5.71
15										
16										5.00
17										0.71
18	32.50								15.00	7.50
19										
20										
21										5.00
22							21.67			
23										5.00
24						13.64				
25								10.00		
26						34.17				
27										
28										
29										
30										
31										

IE \ FR	5.3	5.4	5.5	5.6	5.7	5.8	6.1	∑
1								**62.14%**
2								**94.29%**
3								**98.57%**
4								**100.00%**
5	18.75			15.00			15.00	**77.50%**
6								**100.00%**
7								**70.00%**
8	10.00		7.50					**100.00%**
9	3.33			8.33				**96.67%**
10	8.33		1.67			60.00		**100.00%**
11						6.25		**75.00%**
12								**93.81%**
13								**100.00%**
14				3.57		57.14		**94.29%**
15								**100.00%**
16				4.17		53.33		**85.00%**
17								**74.29%**
18								**100.00%**
19				20.00				**76.67%**
20								**95.56%**
21				4.17		53.33		**83.33%**
22								**95.00%**
23								**90.00%**
24		20.00		13.64		17.27		**91.82%**
25				12.00		28.00		**84.00%**
26	5.00	19.17		8.33		13.33		**100.00%**
27						100		**100.00%**
28						85.71		**85.71%**
29						100		**100.00%**
30						100		**100.00%**
31				48.33	20.00		6.67	**93.33%**

Source: own work

Table 4

French learning outcomes covered by Irish learning outcomes

FR \ IE	(Coverage of learning outcomes in %)										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1.1			6.67				16.67				
1.2									24.29		2.86
1.3				1.3			5.12		26.3		
2.1	88.57										
2.2		43									
2.3		3.08				9.08					7.54
2.4								10			
2.5	2	11.23				5.89		3.89			
2.6							13				39.18
2.7	4	10.15				5.08					20
2.8		8									
2.9											
2.10				20							
2.11											
3.1				22	15				4		
3.2				25.64	51.28						
3.3				3			7.5	4	34.18		
3.4				6.35	4.86						
3.5				14	28				7		
4.1				3.01				6.02		18.66	2.27
4.2					35						
4.3				8				10			
4.4								7			
4.5				4							
4.6					18						
4.7											
4.8					20						
5.1										7.11	
5.2										7	7
5.3			20.31		35						
5.4					30						
5.5								15			
5.6					9.17						
5.7											
5.8										8	8
6.1											
6.2			20		38						

FR \ IE	12	13	14	15	16	17	18	19	20	21
1.1								7.5	33.33	
1.2										
1.3			5.12					5.12		
2.1		5.71		5.71						
2.2									25.5	
2.3	19.08				9.08	9.08				
2.4			8			7	7			7
2.5	7.89	15.79								
2.6			9.82							23
2.7		15.38					15.38			
2.8	38.22				4.44	30.22				
2.9				10						
2.10		80								
2.11				60						
3.1								6		
3.2										
3.3										4.82
3.4								2.71		
3.5										
4.1			5.21		8.96					
4.2										
4.3			10		7		10			10
4.4				18		24	6			
4.5		41								
4.6								3		
4.7										
4.8										
5.1			12.53		18.53	18.55	4.3			8.68
5.2	7		7		7	7	7			7
5.3									4.69	
5.4										
5.5	15			20						
5.6										
5.7										
5.8	8		8		8	8	8			8
6.1										
6.2										

FR \ IE	22	23	24	25	26	27	28	29	30	31	∑
1.1											**64.17%**
1.2				10.86							**38.00%**
1.3					4.87		1.18				**49.00%**
2.1											**100.00%**
2.2											**68.50%**
2.3		9.08									**66.00%**
2.4											**39.00%**
2.5											**46.68%**
2.6											**85.00%**
2.7											**70.00%**
2.8		19.11									**100.00%**
2.9	90										**100.00%**
2.10											**100.00%**
2.11											**60.00%**
3.1											**47.00%**
3.2		20.51	2.56								**100.00%**
3.3	6										**59.50%**
3.4			10.06							42	**65.99%**
3.5			3								**52.00%**
4.1						8.96	8.96	8.96	8.96		**80.00%**
4.2											**35.00%**
4.3						10	10	10	10		**95.00%**
4.4											**55.00%**
4.5											**45.00%**
4.6			18								**39.00%**
4.7	86										**86.00%**
4.8			8	30							**58.00%**
5.1	8.68	4.35				4.3	4.3	4.3	4.35		**99.96%**
5.2	7	7				7	7	7	7		**98.00%**
5.3	5										**65.00%**
5.4			30								**60.00%**
5.5											**50.00%**
5.6				12.5						8.33	**30.00%**
5.7			80								**80.00%**
5.8						8	8	8	8		**96.00 %**
6.1				70						30	**100.00 %**
6.2											**58.00 %**

Source: own work

→ *Interpretation of bilateral comparison results (IE/FR)*

More specifically the following results were gleaned:

IE Module 1 – Scientific Principles for Healthcare (Biology, Physics & Chemistry) is covered 62.14% by seven French units. Notably 32.86% of the learning outcomes are evident in FR 2.2 – Cycles of Life and Major functions UE 2.3.S1. This is followed by 15% in FR – Basic Biology UE 2.1.S1 and 5% in FR 2.7 - Organic failures and degenerative processes UE 2.7.S4.

IE Module 2 – Structure and Function of the Human Body (Part A) is covered 94.29% by the French partners across seven units comprising of 42.86% in FR 2.2 – Cycles of Life and Major functions UE 2.2.S1 and 29.29% regarding FR 2.8 – Obstructive processes UE 2.8.S3.

IE Module 3 – Psychology & interpersonal skills for Clinical Practice is 98.57% covered by two French units namely 64.29% by FR 4.2 – Relationship Care and 28.57% by FR 1.1 – Psychology, Sociology, Anthropology UE 1.1.S1 and UE 1.1.S2.

IE Module 4 – Foundations of General Nursing (Part A) is 100% covered by seven French units with 21.67% in FR 4.1 – Comfort and Well Being and 16.67% across three three French units – FR 5.2 – Assessment of a clinical situation UE 5.2.S2, FR – 3.1 Reasoning and clinical approached in nursing UE 3.1.S1 S2 & FR 2.2 – Cycles of Life and major functions UE 2.2.S1.

IE Module 5 – Transitions: Engage to succeed is 77.5% covered by seven French units with 18.75% of learning outcomes evident in FR 5.3 – Communication, project management UE 5.3.S3 and 15% overlap with FR 5.8 - Traineeships UE 5.8.S1 to S6 and FR 5.6 – Implementation of therapeutics and care coordination UE 5.5.S5.

IE Module 6 – Structure and Function of the Human Body (Part B) has 100% coverage evidenced across seven French units with the 44% of the learning outcomes located in FR 2.2 – Cycles of Life and major functions UE 2.2S1.

IE Module 7 – Social Science for Healthcare (Sociology) is 70% covered by six Learning units with 38.57% coverage in FR 1.1 – Psychology, sociology, anthropology UE 1.1.S1 & UE 1.1.S2.

IE Module 8 – Foundations of General Nursing (Part B) is 100% covered by seven French units with 38.75% of the learning outcomes overlap in FR 4.4 – Therapeutics and contribution to medical diagnosis UE 4.4.S2, S4 and S5.

IE Module 9 – Perspectives on Nursing is 96.67% covered by six French units with 51.67% of learning outcomes located in FR 1.3 – Legislation, ethics and deontology UE 1.3.S1 and UE 1.3.S4 as well as 15% overlap in FR 3.1 – Reasoning and clinical approaches in nursing UE 3.1.S1 and S2.

IE Module 10 – Exposure to Clinical Learning is covered 100% by six French units, the largest cohort of learning outcomes 60% in FR 5.8 – Traineeships UE 5.8.S1 to S6.

IE Module 11 – Nursing the Older Adult and other populations is 75% covered by the seven French units with 22.5% in FR 5.1 – Accompaniment in achieving daily healthcare UE 5.1.S1 and 21.25% in FR 4.1 – Comfort and well-being care.

IE Module 12 – General Nursing (Medical – Surgical Nursing 1) is 93.81% covered by seven French units with 22.86% overlap in learning outcomes evident in FR 4.4 – Therapeutics and contribution to medical diagnosis UE 4.4.S2 and S4 and S5, 22.14% in Fr 2.9 – Tumoral processes UE 2.8.S3 and 19.52% in FR 2.8 – Obstructive processes UE 2.8.S3.

IE Module 13 – Patient Safety, microbiology & safety is 100% covered across three French units with 40% of the learning outcomes based in FR 4.5 – Nursing Care and Risk Management UE 4.7.S6, 37.5% in FR 2.5 – Inflammatory and Infectious processes UE 2.5.S3 and 22.5% in Fr 2.10 – Basic Biology UE 2.1.S1.

IE Module 14 – Broadening Clinical Learning is 94.29% covered across seven French units with 57.14% of the learning outcomes predominantly located in FR 5.8 – Traineeships UE 5.8.S1 to S6 followed by 10% in FR 3.3 – Nursing roles, work organisation and inter-professionalism.

IE Module 15 – Pharmacology is 100% covered by 2.11 – Pharmacology and Therapeutics UE 2.11.S1,S3 and S5.

IE Module 16 – Deepening Clinical Learning (A) is 85% covered by seven French units with 53.33% in FR 5.8 – Traineeships UE 5.8.S1 to S6 followed by 10.83% in FR 4.2 – Relationship care.

IE Module 17 – General Nursing (Medical-Surgical Nursing 111) is 74.29% covered across seven French units with 31.43% of learning outcomes evident in FR 2.7 – Organic Failures and degenerative processes UE 2.7.S4 and 22.86% in FR 2.8 Obstructive processes UE 2.8.S3.

IE Module 18 – General Nursing (Medical-Surgical Nursing 11) is 100% covered by six French units with 32.5% in both FR 2.4 – Traumatic processes UE 2.4.S1 and FR 4.1 – Comfort and well being care. To a lesser extent 10% coverage in FR 3.3 – Nursing roles, work organisation and inter-professionalism.

IE Module 19 – Applied Social Science for Healthcare 76.67% covered by six French units with 20% in FR 5.6 – Implementation of therapeutics and care coordination UE 5.5.S5, 16.67% in FR 1.3 – Legislation ethics and deontology UE 1.3.S1 and UE 1.3.S4 and 13.33% in FR 4.2 Relationship care.

IE Module 20 – Biopsychosocial Approaches in Clinical Practice is 95.56% covered across eight French units with 32.22% in FR 4.2 – Relationship care followed by 18.89% in FR 2.3 – Health, illness, disability and accidents of life UE 2.3.S2 8.89% in FR 2.2 – Cycles of Life and major functions UE 2.2.S1.

IE Module 21 – Deepening Clinical Learning B (G) is 83.33% covered across seven French units with 53.33% of the learning outcomes in FR 5.8 – Traineeships UE 5.8.S1 to S6 follwed by 10.83% in FR 4.2 – Relationship care & 4.17% in three further units.

IE Module 22 – Nursing in Diverse settings is 95% covered across seven French units with 33.33% in FR 2.9 – Tumoral processes UE 2.9.S5 followed by 21.67% in FR 4.7 – Palliative and end of life care UE 4.7.S5.

IE Module 23 – General Nursing (Medical – Surgical 1V) is covered 90% within four French units with 70% evident in FR 2.8 Obstructive processes UE 2.9.S5, 10% in FR 2.5 Inflammatory and infectious processes UE 2.6.S2 and S5, and 5% in both FR 3.1 – Reasoning and clinical approaches in nursing UE 3.1.S1 and S2 and FR 5.2 – Assessment of a clinical situation UE 5.2.S2.

IE Module 24 – Teaching and Assessing in the Practicum is 91.82% across six French units. This includes 20.91% in FR 3.5 – Supervision of health care professionals UE 3.5.S4, 17.27% in FR 5.8 – Traineeships UE 5.8.S1 to S6, and

13.64% in both FR 4.6 – Education preventive care UE 4.7.S5 and FR 5.6 – Implementation of therapeutics and care coordination UE 5.6.S6 respectively.

IE Module 25 – Management and Quality Improvement is covered 84% across five French units with 28% evident in FR 5.8 – Traineeship UE 5.7.S5 and S6, 24% in FR 3.3 – Nursing roles, work organisation and inter-professionalism and 12% in FR 5.6 – Implementation of therapeutics and care coordination UE 5.6.S6.

IE Module 26 – Promoting Health is 100% covered by six French units with 34.17% in FR 4.6 – Educational and preventive care UE 4.7.S5, 20% in FR 1.2 – Public Health and health policy and 19.17% in FR 5.4 – Educational care, training of professionals and trainees UE 5.4.S4.

IE Module 27 – Clinical Placement 4C (internship) G&P is 100% covered in FR – 5.8 Traineeships UE 5.8.S1 to S6.

IE Module 28 – Clinical Placement 4D (internship) G&P is covered 85.71% in FR 5.8 Traineeships UE 5.8.S1 to S6.

IE Module 29 – Clinical Placement 4A (internship) is 100% covered in FR 5.8 Traineeships UE 5.8.S1 to S6.

IE Module 30 – Clinical Placement 4B (internship) is 100% covered in FR 5.8 Traineeships UE 5.8.S1 to S6.

IE Module 31 – Evidence Based Practice for Healthcare is 93.33% covered by four French units with 48.33% coverage in FR 5.6 - Implementation of therapeutics and care coordination UE 5.6.S6 followed by 20% in FR 5.7 Optional teaching unit UE 5.7.S5 and S6, 18.33% in FR 3.3 – Nursing roles, work organisation and inter-professionalism and 6.67% in FR 6.1 – Working methods UE 6.1.S1.

→ *Conclusion*

For the purpose of this research, the IE/FR bilateral results were analysed and compared. It is evident that there is a high level of coverage across almost all

IE/FR modules/french learning units with one measured at the medium level only.

There is 100% match across four Irish modules/French learning units, these are:

1. IE Module 15 pharmacology with FR 2.11 – Pharmacology and therapeutics UE 2.11.S1, S3 and S5.

2. IE Module 27 – Clinical Placement 4C (internship) G&P with FR 5.8 Traineeship UE 5.8.S1 to S6.

3. IE Module 29 – Clinical Placement 4A (internship) with FR 5.8 Traineeship UE 5.8.S1 to S6.

4. IE Module 30 – Clinical Placement 4B with FR 5.8 Traineeship UE 5.8.S1 to S6.

The biggest similarity as evidenced above illustrates clearly the French mandatory clinical traineeships with 2,100 hours of work placement and Irish clinical placements (internships) in an academic teaching hospital also with 1,970 hours of workplace practice over the curriculum duration.

Conversely, the bilateral comparison of FR/IE illustrates a relatively lower level of overlap with only 15 modules estimated at the higher level (70-100%). An explanation for this may be the diverse interpretations from the use of English verses the French translation regarding medical language. Notably, identification and interpretation of comparative modules was indeed challenging in this study as the varied use of language made it difficult in incidences to determine the accuracy of the coverage there within. Additionally within each qualification there were a very large quantity of learning outcomes both ways – 135 French learning outcomes and 215 Irish learning outcomes.

It should be stated that the MLI instrument used to analyse the Modules/ Courses of both Irish and French Nursing programmes used the EQFLL as a reference point so validity of the results is based entirely on this tool. When comparing curricula, syllabi, pedagogy and assessment a degree of caution relating to academic and cultural nuance would be advised. Language, interpretation, cause and effect all come into play when analysing on a compara-

tive basis. The CrediCare project aimed to compare and contrast courses and programmes from a vocational perspective across Europe. This report focused on a generic Irish Nursing Degree and a generic French Nursing Degree. These results should also be interpreted within the holistic context of each respective programmatic and national perspective. However this Project does offer a innovative and unique perspective for curriculum designers and policy makers in both jurisdictions.

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5. Appendix: Module titles

Diplôme d'Etat d'Infirmier - Module Titles
FR 1.1 - Psychology, sociology, anthropology UE 1.1.S1 & UE 1.1.S2
FR 1.2 - Public health and health policy
FR 1.3 - Legislation, ethics and deontology UE 1.3.S1 & UE1.3.S4
FR 2.1 - Basic biology UE 2.1.S1
FR 2.2 - Cycles of life and major functions UE.2.2.S1
FR 2.3 - Health, illness, disability and accidents of life UE.2.3.S2
FR 2.4 - Traumatic processes UE2.4.S1
FR 2.5 - Inflammatory and infectious processes UE2.5.S3
FR 2.6 - Psychopathological processes UE2.6.S2 & S5
FR 2.7 - Organic failures and degenerative processes UE2.7.S4

FR 2.8 - Obstructive processes UE2.8.S3
FR 2.9 - Tumoral processes UE 2.9.S5
FR 2.10 - Infectiousness, hygiene UE 2.10.S1
FR 2.11 - Pharmacology and therapeutics UE 2.11.S1, S3 & S5
FR 3.1 - Reasoning and clinical approaches in nursing UE 3.1S1 & S2
FR 3.2 - Project in nursing care UE 3.2S2 & S3
FR 3.3 - Nursing roles, work organisation and inter-professionalism
FR 3.4 - Introduction in research approach
FR 3.5 - Supervision of health care professionals UE 3.5.S4
FR 4.1 - Comfort and well-being care
FR 4.2 - Relationship care
FR 4.3 - Emergency Care UE 4.3.S2 & S4
FR 4.4 - Therapeutics and contribution to medical diagnosis UE 4.4.S2 & S4 & S5
FR 4.5 - Nursing Care and Risk Management UE 4.5.S2 & S4
FR 4.6 - Educational and preventive care UE 4.6.S3 & S4
FR 4.7 - Palliative and end of life care UE 4.7.S5
FR 4.8 - Quality of care assessment practices UE 4.8.S6
FR 5.1 - Accompaniment in achieving daily healthcare UE 5.1.S1
FR 5.2 - Assessment of a clinical situation UE 5.2.S2
FR 5.3 - Communication, project management UE 5.3.S3
FR 5.4 - Educational care, training of professionals and trainees UE 5.4.S4
FR 5.5 - Implementation of therapeutics and care coordination UE 5.5.S5
FR 5.6 - Implementation of therapeutics and care coordination UE 5.6.S6
FR 5.7 - Optional teaching unit UE 5.7.S5 & S6
FR 5.8 - Traineeships UE 5.8.S1 to S6
FR 6.1 - Working methods UE 6.1.S1
FR 6.2 - English UE 6.2.S1 to S6

Nursing General BSc (HONS) (NQF Level 8) – Modules Titles
IE - Module 1: Scientific Principles for HealthCare (Biology, Physics and Chemistry)
IE - Module 2: Structure and function of the human body (Part A)
IE - Module 3: Psychology & interpersonal skills for Clinical Practice
IE - Module 4: Foundations of General Nursing (Part A)
IE - Module 5: Transitions: Engage to succeed
IE - Module 6: Structure and function of the human body (Part B)
IE - Module 7: Social Science for Healthcare (Sociology)
IE - Module 8: Foundations of general nursing (Part B)
IE - Module 9: Perspectives on Nursing

IE - Module 10: Exposure to clinical Learning
IE - Module 11: Nursing the older adult and other populations
IE - Module 12: General Nursing (Medical – Surgical Nursing 1)
IE - Module 13: Patient safety, microbiology & safety
IE - Module 14: Broadening Clinical Learning
IE - Module 15: Pharmacology
IE - Module 16: Deepening Clinical Learning (A)
IE - Module 17: General Nursing (Medical-Surgical Nursing III)
IE - Module 18: General Nursing (Medical-Surgical Nursing II)
IE - Module 19: Applied Social Science for Healthcare
IE - Module 20: Biopsychosocial Approaches in Clinical Practice
IE - Module 21: Deepening Clinical Learning B (G)
IE - Module 22: Nursing in Diverse Settings
IE - Module 23: General Nursing (Medical – Surgical IV)
IE - Module 24: Teaching and Assessing in the Practicum
IE - Module 25: Management and Quality Improvement
IE - Module 26: Promoting Health
IE - Module 27: Clinical Placement 4C (Internship) G&P
IE - Module 28: Clinical Placement 4D (Internship) G&P
IE - Module 29: Clinical Placement 4A (Internship)
IE - Module 30: Clinical placement 4B
IE - Module 31: Evidence Based Practice for Healthcare

The French State Diploma in Nursing

M'Hamed Dif

1. Description of the French selected qualification in nursing

→ *General overview*

Title and level of the qualification

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

Activities

Nurses intervene autonomously and collaborative 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:

- Observation and collection of clinical data;
- Provision of comfort and well-being care;
- Provision of healthcare related information and education to individuals and groups of patients and their entourage;
- Monitoring the evolution of the patient's state of health;
- Undertaking/executing care tasks and activities connected with diagnostics or therapeutics;

- Coordination and organization of care taking tasks and related activities;
- Control and management of medical equipment, devices and products;
- Information and training provision to new staff and trainees;
- Keep-up activities connected with developments in the profession and its related research and practices.

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, etc.); 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. Analysing 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 noncompliance.

C8. Research and analysis of professional and scientific data: identifying and analysing documentary resources; questioning and analysing 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.

Programme

The educational 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:

Table 1

Structure of the State Diploma in Nursing

Programme study units (UE) per main field of study (F) and semester (S)	Acquired competences 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 & 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 & 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 & 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 and C6	0	40	60	4
UE 5.4.S4 Educational care, training of professionals and trainees	C5 and C10	0	40	60	4
UE 5.5.S5 Implementation of therapeutics and care coordination	C4 and 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 Professional 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 in nursing		0	60	190	10
Total F6		0	85	215	12
TOTAL (F1 + F2 + F3 + F4 + F5 + F6)		**750**	**1050**	**1200**	**180**

Source: Order of 31 July 2009 concerning the State Diploma in Nursing

Organisation and methods

The programme is implemented on a fifty-fifty alternating training basis between theoretical and practical courses within an educational and 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.

The educational and training courses within the ISFI:

There are three basic forms/methods of provided educational 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 750 hours devoted to CM during the tree-year-period is distributed over the 6 semesters as follows:

Table 2

Learning hours assigned to lectures (CM)

Semester	1	2	3	4	5	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:

Table 3

Learning hours assigned to tutorials (TD)							
Semester	**1**	**2**	**3**	**4**	**5**	**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:

Table 4

Learning hours assigned to guided personal works (TPG)							
TPG hours per semester	**1**	**2**	**3**	**4**	**5**	**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 tining 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:

Table 5

Distribution of workplace training

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 training: 1, 2 or 3	Types of training: 1,2,3,4	Types of training: 1,2,3,4	Types of training: 1,2,3,4	Types of training: 1,2,3,4	Types of 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 organisa-

tions/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,etc.);
  - 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.

→ *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)

Assessment and validation of undertaken 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 the 31st of 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 31st of 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.

Assessment and validation 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).

→ *Transition points and perspectives for career progression*

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 the 31st of July 2009 concerning the State Diploma in Nursing (DEI-Diplôme d'Etat infirmiers). The candidate has to be aged at least 17 years old at the 31st 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.

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.

2. MLI assessment results of the French qualification

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: 4 main working workshops were held between the core partner, the IFSI team and the two experts on 13/05/2012, 24/08/2012, 21/11/2012 and 15/05/2013.
- 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 the 31st of 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.

→ *Selection of study units of the concerned qualification*

As presented in table 1 of the previous section (through the six main 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 the following four interrelated main 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 'integration 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 clini-

cal traineeships (60 ECTS)' of 2100 hours over the whole duration of the curriculum implementation

- Units (UE 6.1.S1 and UE 6.2: 12 ECTS) considered as 'transversal units' integrating within the field: 'work methods'. They allow student nurses to develop their transversal knowledge and competences.

→ *Notable findings of MLI scaling results*

As shown in table 6 below concerning the MLI implementation results, there are two basic categories of MLI implementation results: MLI scaling results and those of EQF (directly prepared by experts and trainers).

MLI level scaling

They 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 2009a and 2009b).

All the scaling outcomes corresponding to these 9 dimensions (including the total average) for each assessed study unit are reported on the columns concerning 'MLI scaling results' in table 6 below.

Table 6

MLI level assessment of the State Diploma in Nursing

	Broad and up-to date knowledge	Critical understanding	Interdisciplinarity	Practice orientation	Problem solving	Creativity and innovation	Autonomy	Communicative competence	Consideration of social and ethical issues	Total MLI score
F1: Humanities, social sciences and law										**5.5**
UE 1.1: Psychology, sociology, anthropology	5.6	5.7	6.0	4.0	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 interprofessionalism	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 preventive 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	5.3	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: Asssessment 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 (2,100 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 scores	**7.2**	**6.9**	**7.1**	**7.3**	**6.5**	**6.9**	**6.5**	**7.5**	**7.4**	**7.0**

Source: own work

MLI level assessment results: overall tendencies

The average standardised level indicator for 37 assessed units is situated between a minimum of 3.88 obtained within the field 6 'work method' (by the unit: 'UE.6.1 - work methods and ICT') and maximum of 7.25 archived within the field 5 'integration of knowledge and situated professional postures in nursing (by the unit: 'UE.5.8 - professional traineeships'. The MLI average level indicator for the whole qualification (DEI) is 5.52 which is situated within the boundaries of (directly) obtained EQF level scaling results (4.5 minimum and 6.5 maximum). The overall tendencies can be presented in a decreasing order of importance of achieved level-assessment results by main categories and fields of units as follows (cf. table 2):

'Integration units', composed of all 8 units (5.1 to 5.8) of the filed F5 ('integration of knowledge and situated professional postures in nursing'), achieved the highest average score of 6.18 mainly through the following study units:

- UE 5.8 – Professional traineeships: average of 7.25 dominantly achieved 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).
- UE 5.4 – Educational care, training of professionals and trainees: average of 7.00 dominantly achieved through the dimensions: problem solving (7.73), creativity and innovation (7.46), Interdisciplinarity (7.24) and autonomy (7.18).
- UE 5.1 – Accompaniment in achieving daily healthcare: average of 6.28 dominantly achieved through the dimensions: Interdisciplinarity (7.24), consideration of social and ethical issues (7.21), problem solving (6.77) and practice orientation (6.57).

'Constitutive units' obtained the second highest average score of 5.80 for its 13 units (3.1 to 4.8), within its two fields:

- F3 (Sciences and techniques in nursing: fundamentals and methods) obtained an average of 5.94 for its 5 units, basically within the following study units:
  - UE 3.5 – Supervision of healthcare professionals: average of 6.46 dominantly achieved through the dimensions: creativity and innovation (7.46), problem solving (7.25), interdisciplinarity (7.24), communi-

cative competence (6.92) consideration of social and ethical issues (6.77) and autonomy (6.50).
  - UE 3.1 – Reasoning and clinical approaches in nursing: average of 6.11 dominantly achieved through the dimensions: interdisciplinarity (7.24), broad up-to-date knowledge (7.18), communicative competence (6.92), autonomy (6.84), practice orientation (6.57) and consideration of social and ethical issues (6.33).
  - UE 3.3 – Nursing roles, work organisation and inter-professionalism: average of 5.97 dominantly achieved through the dimensions: interdisciplinarity (7.24), consideration of social and ethical issues (6.55), autonomy (6.50) and problem solving (6.29).
  - UE 3.2 – Project in nursing care: average of 5.83 dominantly through the dimensions: interdisciplinarity (7.24), communicative competence (6.92), broad up-to-date knowledge (6.82), practice orientation (6.57) and consideration of social and ethical issues (6.33).
- F4 (Sciences, techniques and nursing interventions) achieved an average of 5.71 for its 8 units, mainly within the following study units:
  - UE.4.6 – Educational and preventative care: average of 7.00 dominantly achieved through the dimensions: problem solving (7.73), creativity and innovation (7.46), consideration of social and ethical issues (7.43), interdisciplinarity (7.24) and autonomy (7.18).
  - UE.4.1 – Comfort and well-being care: average of 6.33 dominantly achieved through the dimensions: interdisciplinarity (7.24), broad up-to-date knowledge (7.00), consideration of social and ethical issues (6.99) and autonomy (6.84).
  - UE.4.8 – Quality of care assessment practices: average of 6.13 dominantly achieved through the dimensions: interdisciplinarity (7.24), autonomy (6.84), broad up-to-date knowledge (6.82), consideration of social and ethical issues (6.55) and practice orientation (6.25).
  - UE.4.5 – Nursing care and risk management: average of 5.97 dominantly achieved through the dimensions: interdisciplinarity (7.24), broad up-to-date knowledge (7.00), autonomy (6.84), consideration of social and ethical issues (6.55) and practice orientation (6.25).

'Contributory units' achieved the third highest average score (5.11) of 14 study units (1.1 to 2.11) within its two fields:

- F1 (Humanities, social sciences and law) achieved an average score of 5.53 for its 3 units, mainly within the following study units:

- UE 1.2 – Public health and health economics: average of 5.91 dominantly achieved 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).
- UE 1.3 – Legislation, ethics and deontology: average of 5.73 dominantly achieved through the dimensions: consideration of social and ethical issues (7.64), problem solving (6.77), interdisciplinarity (6.60) and practice orientation (6.25).

▪ F2 (Biological and medical sciences) obtained an average MLI scaling score of 5.00 for its 11 units, basically within the following study units:

- UE 2.4 – Traumatic processes: average of 5.71 dominantly achieved through the dimensions: problem solving (7.73), consideration of social and ethical issues (6.77), practice orientation (6.57), creativity and innovation (6.14), autonomy (5.48) and interdisciplinarity (5.31)
- UE 2.8 – Obstructive processes: average of 5.64 dominantly achieved through the dimensions: problem solving (6.77), interdisciplinarity (6.60), consideration of social and ethical issues (6.55), autonomy (6.16) and communicative competence (5.74).
- UE 2.6 – Psychopathological processes: average of 5.34 dominantly achieved through the dimensions: consideration of social and ethical issues (6.99), interdisciplinarity (6.27), practice orientation (6.25) and broad up-to-date knowledge (5.39).
- UE 2.7 – Organic failures and degenerative processes: average of 5.29 dominantly achieved through the dimensions: broad up-to-date knowledge (6.82), practice orientation (6.57), interdisciplinarity (6.27) and problem solving (5.81).
- UE 2.9 – Tumour process: average of 5.25 dominantly achieved through the dimensions: consideration of social and ethical issues (6.77), broad up-to-date knowledge (6.64), interdisciplinarity (6.27), communicative competence (5.51), critical understanding (5.38) and practice orientation (5.32).
- UE 2.10 – Infectiousness and hygiene: average of 5.17 dominantly achieved through the dimensions: broad up-to-date knowledge (6.82), interdisciplinarity (6.27), consideration of social and ethical issues (5.46) and practice orientation (5.32)
- UE 2.3 – Health, illness, disability and accidents of life: average of 5.14 dominantly achieved through the dimensions: interdisciplinarity (7.24), consideration of social and ethical issues (6.77), communicative competence (5.98) and practice orientation (5.94).

'Transversal units' covering those of the field F6 (Work methods in nursing) obtained only an average of 3.98 (lower than EQF level 4) mainly within the unit 'UE 6.2 – English in nursing' with an average of 4.08 dominantly achieved through the dimensions: interdisciplinarity (6.27), practice orientation (5.32) and creativity and innovation (4.82).

3. Bilateral comparison results: France and Ireland

The outcomes of the bilateral comparison France-Ireland ('DEI-Diplôme d'Etat d'Infrmier-NQF level 2' and the 'Nursing General BSc-NQF level 8) can be grouped into three basic categories, where all the French DEI's units are covered by at least one of the 31 Irish BSc's modules at an overall average rate of 69% (30% to 100%) (cf. Table 7: Bilateral comparison FR-IE):

- High coverage units (70% and more);
- Medium coverage units (from 50% to 70%)
- Low coverage units (50% and less).

High coverage units: The French DEI-qualification units (UE) achieving a high coverage level of 90.60% on average through the modules of the Irish general BSc in nursing, include in a decreasing order of importance of their overall coverage rates the following 15 units (UE):

- 6.1 – Working methods: It is fully covered at 100% by the 2 Irish modules: 'IE 25-Management and Quality Improvement (70%) and 'IE-31 Evidence Based Practice for Healthcare' (30%).
- 2.9 – Tumour processes which is also fully covered at 100% by the 2 Irish modules: 'IE-22: Nursing in Diverse Settings' (90%) and 'IE-15: Pharmacology' (10%).
- 2.1 – Basic biology: 100% coverage by 3 modules, dominantly at 88.57% by 'IE-1: Scientific Principles for HealthCare (Biology, Physics and Chemistry).
- 2.10 – Infectiousness, hygiene: It is fully covered (100%) by the 2 modules: 'IE-13: Patient safety, microbiology & safety' with 80% and 'IE-4: Foundations of general nursing (Part A)' at 20%.
- 2.8 – Obstructive processes: 100% coverage by 5 modules mainly through: 'IE-12: General Nursing (Medical – Surgical Nursing 1) at

38.22% and 'IE-17: General Nursing (Medical-Surgical Nursing III)' at 30.22%.

- 3.2 – Project in nursing care: 100% coverage by 4 modules, dominantly via 'IE-5: Transitions: Engage to succeed' at 51.28%.
- 5.1 – Accompaniment in achieving daily healthcare: 100% coverage by 12 modules, dominantly via 'IE-17: General nursing (Medical-Surgical Nursing III)' (18.55%) and 'IE-16: Deepening clinical learning (A)' (18.53%).
- 5.2 – Assessment of a clinical situation: It is equally covered by 14 modules at a rate of 7% each with an overall coverage rate of 98%.
- 5.8 – Professional traineeships: It is equally covered by 12 modules at a rate of 8% each with an overall coverage rate of 96%.
- 4.3-Emergency Care: It is more or less equally covered by 10 modules dominantly at 10% each with an overall coverage rate of 95%.
- 4.7 – Palliative and end of life care: It is covered only by one Irish module 'IE-21: Deepening clinical learning B (G)' at 80%.
- 2.6 – Psychopathological processes which is covered by 4 modules at 85% mainly via 'IE-11: Nursing the older adult and other populations' (at 39.18%) and 'IE-21: Deepening clinical learning B (G)' (at 23%).
- 5.7 – Optional teaching unit which is covered at 80% by one Irish module 'IE-24: Teaching and assessing in the practicum'.
- 4.1 – Comfort and well-being care: It is covered at 79.97% by 10 Irish modules at a coverage rate ranging from 2.27% to 18.66% each.
- 2.7 – Organic failures and degenerative processes: It is covered at 70% by 6 modules whose coverage rates are ranging from 4% to 20% each.

Medium coverage units: the 12 DEI's units achieving an average coverage level of 61%, include in a decreasing order of their obtained respective coverage rates the following units:

- 2.2 – Cycles of life and major functions: It is covered at 68.5% by only 2 Irish modules: 'IR-2: Structure and function of the human body (Part A)' (at 43%) and 'IE-20: Bio-psychosocial approaches in clinical practice' (at 25.5%).
- 2.3 – Health, illness, disability and accidents of life, covered at 66.02% by 7 Irish modules whose coverage rates are ranging form 3.08% to 19.08% each.
- 5.3 – Communication, project management: It is covered at 65% by 4 Irish modules, mainly through 'IE-5: Transitions: Engage to succeed'

(35%) and 'IE- 3: Psychology & interpersonal skills for clinical practice' (20.31%).

- 3.4 – Introduction in research approach: it is covered by 5 Irish modules at 65.98%, dominantly through 'IE-31: Evidence based practice for healthcare' (42%).
- 1.1 – Psychology, sociology, anthropology: It is covered through 4 Irish modules at 64.17%, dominantly through 'IE-20: Bio-psychosocial approaches in clinical practice' (33.33%).
- 5.4 – Educational care, training of professionals and trainees: It is equally covered by 2 Irish modules 'IE-5: Transitions: Engage to succeed' and 'IE-24: Teaching and assessing in the practicum' at coverage rate of 30% each.
- 2.11 – Pharmacology and therapeutics: It is covered by one Irish module 'IE-15: Pharmacology' at 60%.
- 3.3 – Nursing roles, work organisation and inter-professionalism: It is covered at 59.50% by 6 Irish modules, dominantly through 'IE-9: Perspectives on Nursing' (34.18%).
- 4.8 – Quality of care assessment practices: It is covered at 58% by 3 modules, dominantly via 'IE-25: Management and quality improvement' (30%) and '5: Transitions: Engage to succeed' (20%).
- 6.2 – English in nursing: It is covered at 58% by the 2 Irish modules:'IE-5: Transitions: Engage to succeed' (38%) and 'IE-3: Psychology & interpersonal skills for clinical practice' (20%).
- 4.4 – Therapeutics and contribution to medical diagnosis: It is covered at 55% by 4 modules, dominantly through 'IE-17: General Nursing (Medical-Surgical Nursing III)' (24%) and 'IE-15: Pharmacology' (18%).
- 3.5 – Supervision of health care professionals: It is covered by 4 modules at 52%, basically through 'IE-5: Transitions: Engage to succeed' (28%) and 'IE-4: Foundations of general nursing (Part A)' (14%)

Low coverage units: With an average coverage rate of 41.87%, they include (in a decreasing level of their obtained coverage rates) the following remaining 10 units:

- 5.5 – Implementation of therapeutics and care coordination: It is covered at 50% by 3 Irish modules: 'IE-15: Pharmacology' (20%), 'IE-8: Foundations of general nursing (Part B)' (15%) and 'IE-11: Nursing the older adult and other populations' (15%).

- 1.3 – Legislation, ethics and deontology: It is covered at 49% by 7 modules, dominantly through 'IE-9: Perspectives on nursing' (26.3%).
- 3.1 – Reasoning and clinical approaches in nursing: It is covered by 4 modules at 47%, dominantly through 'IE-4: Foundations of general nursing (Part A)' (22%) and 'IE-5: Transitions: Engage to succeed' (15%).
- 2.5 – Inflammatory and infectious processes: It is covered by 6 Irish modules at 46.69%, dominantly through 'IE-13: Patient safety, microbiology & safety' (15.79%) and 'IE-2: Structure and function of the human body (Part A) (11.23%).
- 4.5 – Nursing care and risk management: It is covered at 45% by 2 Irish modules, basically through 'IE-13: Patient safety, microbiology & safety' (41%).
- 2.4 – Traumatic processes: With an overall coverage rate of 39%, it is covered more or less equally by 5 Irish modules (7% to 10%).
- 4.6 – Educational and preventive care which is covered by 3 Irish modules at 39%, dominantly through 'IE-5: Transitions: Engage to succeed and 'IE-24: Teaching and Assessing in the Practicum' at a coverage rate of 18% each.
- 1.2 – Public health and health policy: It is covered by 3 modules at 38%, dominantly through 'IE-9: Perspectives on Nursing' (24.29%).
- 4.2 – Relationship care: It is covered at 35% by one Irish module: 'IE-5: Transitions-Engage to succeed'.
- 5.6 – Implementation of therapeutics and care coordination: It is covered at 30% by 3 Irish modules, dominantly through 'IE-25: Management and quality Improvement' (12.5%) and 'IE-5: Transitions: Engage to succeed' (9.17%).

However, it appears from the French partner's perspective (cf. table 8: Bilateral comparison IE-FR) that each of the Irish BSc's 31 modules is covered by at least one of the 35 French units (DEI's 37 units with the exclusion of the two units: 'UE 4.3 – Emegency care' and 'UE 6.2 – English in nursing') at an overall coverage rate of 91% (far higher than that established from the Irish partner's perspective). In this connection, the modules covered by the DEI's units (UE) can be grouped only in two categories (cf. Table 4: Bilateral comparison results IE-FR):

- 30 high coverage Irish modules (M2 to M31) through the French DEI's units at a coverage rate ranging from 70% to 100%. Within this cat-

egory, there are 5 modules, each one of them is covered by one French unit (UE):

- 'IE-M15 Pharmacology' covered by 'FR-UE Pharmacology and therapeutics' at coverage rate of 100%;
- 'IE-M27 Clinical placement 4C (Internship) G&P' covered by 'FR-UE 5.8 Professional traineeships' at coverage rate of 85%;
- 'IE-M28 Clinical placement 4D (Internship) G&P' covered by 'FR-UE 5.8 Professional traineeships' at coverage rate of 100%;
- 'IE-M29 Clinical placement 4A (Internship)' covered by 'FR-UE 5.8 Professional traineeships' at coverage rate of 100%;
- 'IE-M20 Clinical placement 4B (Internship)' covered by 'FR-UE 5.8 Professional traineeships' at coverage rate of 100%;

- One medium converge module (IE-M1 Scientific principles for healthcare) covered by 6 French units at 62.14%, mainly through 'FR-UE 2.2 Cycles of life and major functions' with 32.9% and 'FR-UE Basic biology' at 15%.

The observed differences between the outcomes of the bilateral comparison as established from the two partners' perspectives in the tables 7 (FR-IE) and 8 (IE-FR) is basically due to the following:

- Each of the two partners is influenced by its different contextual understanding and interpretation of the other partner's educational and training programmes in nursing;
- The Irish BSc's modules are more input and pathology oriented, while the French DEI's units (UE) are process and competence-based study units in nursing.

Table 7

French learning outcomes covered by Irish learning outcomes

FR \ IE	(Coverage of learning outcomes in %)										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1.1			6.67				16.67				
1.2									24.29		2.86
1.3				1.3			5.12		26.3		
2.1	88.57										
2.2		43									
2.3		3.08				9.08					7.54
2.4								10			
2.5	2	11.23				5.89		3.89			
2.6							13				39.18
2.7	4	10.15				5.08					20
2.8		8									
2.9											
2.10				20							
2.11											
3.1				22	15				4		
3.2				25.64	51.28						
3.3				3			7.5	4	34.18		
3.4				6.35	4.86						
3.5				14	28				7		
4.1				3.01				6.02		18.66	2.27
4.2					35						
4.3				8				10			
4.4								7			
4.5				4							
4.6					18						
4.7											
4.8					20						
5.1										7.11	
5.2										7	7
5.3			20.31		35						
5.4					30						
5.5								15			
5.6					9.17						
5.7											
5.8										8	8
6.1											
6.2			20		38						

FR \ IE	12	13	14	15	16	17	18	19	20	21
1.1								7.5	33.33	
1.2										
1.3			5.12					5.12		
2.1		5.71		5.71						
2.2									25.5	
2.3	19.08				9.08	9.08				
2.4			8			7	7			7
2.5	7.89	15.79								
2.6			9.82							23
2.7		15.38					15.38			
2.8	38.22				4.44	30.22				
2.9				10						
2.10		80								
2.11				60						
3.1								6		
3.2										
3.3										4.82
3.4								2.71		
3.5										
4.1			5.21		8.96					
4.2										
4.3			10		7		10			10
4.4				18		24	6			
4.5		41								
4.6								3		
4.7										
4.8										
5.1			12.53		18.53	18.55	4.3			8.68
5.2	7		7		7	7	7			7
5.3									4.69	
5.4										
5.5	15			20						
5.6										
5.7										
5.8	8		8		8	8	8			8
6.1										
6.2										

FR \ IE	22	23	24	25	26	27	28	29	30	31	∑
1.1											**64.17%**
1.2				10.86							**38.00%**
1.3					4.87		1.18				**49.00%**
2.1											**100.00%**
2.2											**68.50%**
2.3		9.08									**66.00%**
2.4											**39.00%**
2.5											**46.68%**
2.6											**85.00%**
2.7											**70.00%**
2.8		19.11									**100.00%**
2.9	90										**100.00%**
2.10											**100.00%**
2.11											**60.00%**
3.1											**47.00%**
3.2		20.51	2.56								**100.00%**
3.3	6										**59.50%**
3.4			10.06							42	**66.00%**
3.5			3								**52.00%**
4.1						8.96	8.96	8.96	8.96		**80.00%**
4.2											**35.00%**
4.3						10	10	10	10		**95.00%**
4.4											**55.00%**
4.5											**45.00%**
4.6			18								**39.00%**
4.7	86										**86.00%**
4.8			8	30							**58.00%**
5.1	8.68	4.35				4.3	4.3	4.3	4.35		**99.96%**
5.2	7	7				7	7	7	7		**98.00%**
5.3	5										**65.00%**
5.4			30								**60.00%**
5.5											**50.00%**
5.6				12.5						8.33	**30.00%**
5.7			80								**80.00%**
5.8						8	8	8	8		**96.00%**
6.1				70						30	**100.00%**
6.2											**58.00%**

Source: own work

Table 8

Irish learning outcomes covered by French learning outcomes

IE \ FR	(Coverage of learning outcomes in %)									
	1.1	**1.2**	**1.3**	**2.1**	**2.2**	**2.3**	**2.4**	**2.5**	**2.6**	**2.7**
1				15.00	32.86		3.57	2.14		5.00
2				2.86	42.86		7.14	4.29		5.71
3	28.57								5.71	
4					16.67			13.33		
5			7.50							
6				4.00	44.00		10.00	10.00		12.00
7	38.57	5.00				2.14			11.43	
8			20.00							
9			51.67							
10			10.00							
11		7.50							6.25	5.00
12								5.24		12.38
13								37.50		
14			3.57							
15										
16			4.17							
17										31.43
18							32.50			
19	8.33		16.67							
20					8.89	18.89	6.67	7.78		7.22
21			4.17							
22		6.67				10.00		5.00		
23								10.00		
24		6.36								
25		10.00								
26		20.00								
27										
28										
29										
30										
31										

IE \ FR	2.8	2.9	2.10	2.11	3.1	3.2	3.3	3.4	3.5
1	1.43	2.14							
2	29.29	2.14							
3									
4			3.33		16.67				
5					6.25	8.75			
6	14.00	6.00							
7					11.43				
8				8.75	2.50	10.00			
9					15.00	3.33			
10						8.33	1.67		
11									
12	19.52	22.14		9.29					
13			22.50						
14					5.00		10.00		
15				100					
16					5.83		1.67		
17	22.86			7.86	6.43	2.14			
18				7.50	5				
19					8.33		10.00		
20	7.22	6.67							
21					4.17		1.67		
22	5.00	33.33					13.33		
23	70.00				5.00				
24									20.91
25							24.00		
26									
27									
28									
29									
30									
31								18.33	

IE \ FR	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	5.1	5.2
1										
2										
3										
4	21.67								11.67	16.67
5										6.25
6										
7							1.43			
8										2.50
9										15.00
10										
11	21.25							6.25	22.50	
12					2.38					
13					40.00					
14										5.71
15										
16										5.00
17										0.71
18	32.50								15.00	7.50
19										
20										
21										5.00
22							21.67			
23										5.00
24						13.64				
25								10.00		
26						34.17				
27										
28										
29										
30										
31										

IE \ FR	5.3	5.4	5.5	5.6	5.7	5.8	6.1	∑
1								**62.14%**
2								**94.29%**
3								**98.57%**
4								**100.00%**
5	18.75			15.00			15.00	**77.50%**
6								**100.00%**
7								**70.00%**
8	10.00		7.50					**100.00%**
9	3.33			8.33				**96.67%**
10	8.33		1.67			60.00		**100.00%**
11						6.25		**75.00%**
12								**93.81%**
13								**100.00%**
14				3.57		57.14		**94.29%**
15								**100.00%**
16				4.17		53.33		**85.00%**
17								**74.29%**
18								**100.00%**
19				20.00				**76.67%**
20								**95.56%**
21				4.17		53.33		**83.33%**
22								**95.00%**
23								**90.00%**
24		20.00		13.64		17.27		**91.82%**
25				12.00		28.00		**84.00%**
26	5.00	19.17		8.33		13.33		**100.00%**
27						100		**100.00%**
28						85.71		**85.71%**
29						100		**100.00%**
30						100		**100.00%**
31				48.33	20.00		6.67	**93.33%**

Source: own work

4. Conclusion

In the light of the above analysis conducted throughout the three main sections of this article on the 'implementation of the Module Level Indicator in Nursing: Comparative assessment results', it is important to underline some of the overall tendencies concerning some of the obtained results.

The qualified nurses holding State Diploma in nursing (DEI – Diplôme d'Etat d'Infirmier) at EQF level 6, are observed to integrate easily into the labour market and exercise their activity in two ways: either as employees 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 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.

Concerning the application of the MLI procedure to the selected exemplary case of an EQF-level-six-qualification in nursing in France, the obtained overall average level indicator of 5.25 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 indicators 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 EQF level indicators (established directly by the experts and the trainers) of a minimum of (4.5) and a maximum of (6.5).

As for the bilateral comparison of the French State Diploma in Nursing (NQF level 2/EQF 6) with the Irish BSc in General Nursing (NQF level 8/EQF 6), the overall tendencies of the MLI comparative results are variable according to the adopted direction of the bilateral comparison 'France-Ireland (FR-IE)' or

'Ireland-France (IE-FR)'. This is basically due to the fact that each of the two concerned partners is influenced by its own contextual understanding and interpretation of the other partner's educational and training programme in nursing. Form the FR-IE perspective, each of the 37 units (UEs) of the French qualification (DEI – Diplôme D'Etat d'Infirmier) is covered by at least by one module of the Irish 'BSc Nursing general' where the obtained coverage rates are classified into three main categories:

a) 15 units (UEs) with high coverage rates situated between 70% and 100% at an average coverage rate per unit of 91%;
b) 12 French units with medium coverage rates ranging from 50% to 70% at an average coverage rate per unit of 61%;
c) 10 French units with coverage rates equal or lower than 50% (at an average coverage rate per unite of 42%).

However, from the IE-FR perspective, each of all the 31 modules of the Irish BSc in nursing is covered by at least by one of the 35 French units (DEI's 37 units with the exclusion of two units: UE 4.3 and UE 6.2) at an overall coverage rate of 91%. With the exception of only one medium coverage module (i.e. the module 1 – scientific principles for healthcare covered at 62.14%), all the other 30 modules of the Irish BSc in nursing achieved high coverage rates through the French DEI's units (70% to 100%).

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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.

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Level assessment and bilateral comparison of nursing qualifications on the basis of learning outcomes

Roland Tutschner, Wolfgang Müskens, Wolfgang Wittig

The country chapters in this volume represent the most important results of the CrediCare project. In this concluding chapter we would like to address once more the two principal work steps of the project, i.e. the level assessments and the bilateral comparisons carried out between qualifications in health care and nursing in Estonia, Finland, France, Germany and Ireland, and to summarise and discuss the results of this work in a comparative perspective.

In order to standardise the process of learning outcome oriented level assessment of modules and learning areas to the fullest possible extent, the core instrument of the project, the MLI tool, was discussed in detail within the project team 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, and includes a detailed commentary to the 51 items and nine scales as well as annotations to the 51 items in the MLI questionnaire.

After this testing phase, national experts (teachers, trainers, lecturers, headmasters etc) in the five partner countries, collaborating with the project partners, reviewed the modules of the national qualifications in health care and nursing. The completed MLI questionnaires were analysed by the partners at the University of Oldenburg, who had also been responsible for the development of the instruments used in the project.

The bilateral comparisons of nursing qualifications were carried out in the second phase of the project by means of the Learning Outcome Matrix (LOM) or Learning Outcome Chart (LOC). The LOC tool is described in detail at the beginning of this volume (see Müskens and Eilers-Schoof, in this volume). By means of this instrument the coverage of single modules as well as the extent of mutual coverage between entire qualifications can be determined. For the

implementation of the bilateral comparisons those nursing qualifications were selected which were supposed to be, according to the results of the previous level assessment, at the same or almost the same level. More specifically, bilateral comparisons were carried out between the qualifications 'Geriatric Nursing' (Germany), 'Practical Nurse' (Finland) and 'Basic Nursing' (Estonia) on the one hand, and between the 'State Diploma in Nursing' (France) and the B.Sc. (Hons) General Nursing (Ireland) on the other.

In the following the results of the two project phases, especially the findings from the bilateral comparisons, are summarised. We also briefly outline the particular characteristics of the national qualifications in health care and nursing.

1. Germany

In Germany the three-year training programme in Geriatric Nursing (upper secondary VET) is officially assigned to level 4 of the German Qualifications Framework (EQF level 4). The total workload of the programme is about 4,900 hours. The particular features of geriatric nursing training in Germany include the strong practice orientation of the curriculum as well as the close connection between theoretical instruction and professional practice (see Koch-Zadi, in this volume). These characteristics are reflected in the large share of practical phases, which account for a workload of about 2,500 hours. Another particularity of the curriculum consists in the 14 interdisciplinary 'learning fields' of which it is made up. These, however, are strongly different from each other in workload. For instance, the largest learning field 1.3 'Caring for elderly in a personally appropriate and situation based manner' has a workload of more than 700 hours whereas the workload of the smallest learning field 3.2 'Contributing to quality-assuring measures in geriatric nursing' is only 45 hours.

→ *Results of the MLI assessment*

The results of the MLI assessment show that the learning outcomes of the German training programme in geriatric nursing score particularly high on the MLI scales 'Autonomy' (5.7), 'Practice orientation' (5.7), 'Consideration of social and ethical issues' (6.0) and 'Communicative competence' (5.9). Especially with regard to the scale 'Practice orientation' the scores are high across all

learning fields (in the following the learning fields are referred to as 'modules'). By contrast, the figures are lower in the dimensions 'Problem solving' (4.9) and 'Creativity and innovation' (4.4). These dimensions, however, are not at centre stage in the curriculum.

All modules of the learning area 1 'Tasks and concepts in geriatric nursing' play a central part in the curriculum. These modules deal with the basic knowledge, skills and competences of geriatric nursing. The average MLI scores in this learning area range between 5.7 and 6.4. The core module 1.3 'Caring for elderly in a personally appropriate and situation-based manner' even has MLI scales between 6.1 and 7.1.

The learning area 2 'Support of elderly in designing their lives' also shows average MLI scores higher than 5. This learning area is closely linked to the practical training and deals with requirements that are related to the support of elderly people in shaping their everyday life and self-organised activities.

The two modules of the learning area 3 'Legal and institutional framework conditions of geriatric nursing work' relate to contents of the disciplines 'nature of profession' and 'law'. Here the MLI scores are lower, i.e. between 4.8 and 5.4.

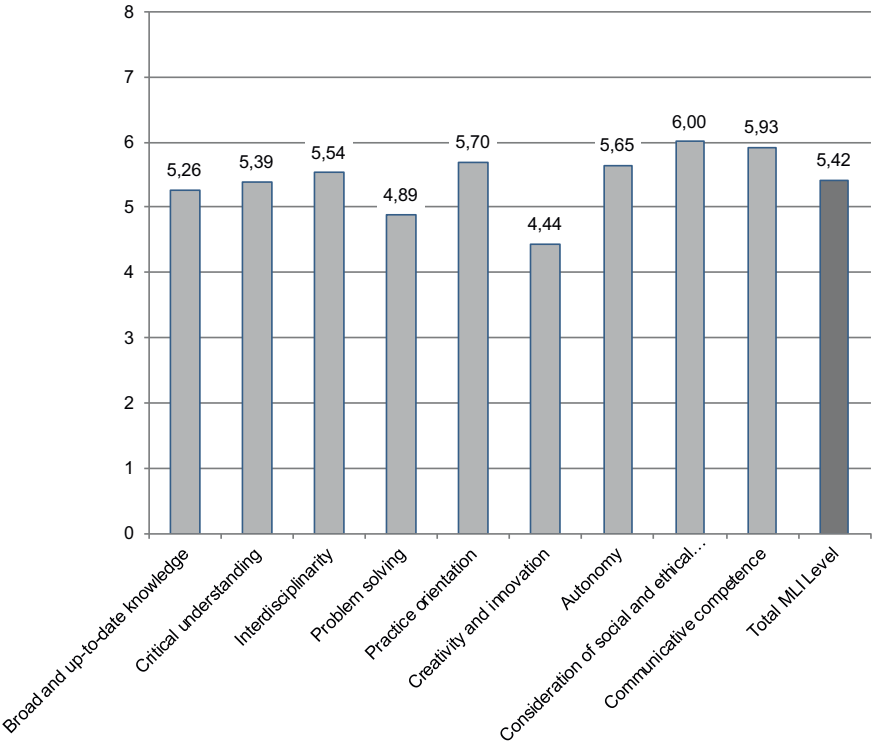
The modules of the learning area 4 'Geriatric nursing as an occupation' have low average MLI levels (4.0 to 4.8), too. However, even in this area the MLI results for the scales 'Consideration of social and ethical issues' (6.6), 'Interdisciplinarity' (5.6) and 'Communicative competence' (5.7) are relatively high. The results are described in detail in the ITB research report no 53 (Tutschner and Wittig, 2013).

The results for the different MLI scales reflect the priorities in the occupational profile of geriatric nurses in Germany. The highest MLI scores are found in the scales 'Autonomy', 'Consideration of social and ethical issues' and 'Communicative competence'. Moreover, the MLI results for the scales 'Broad and up-to-date knowledge' and 'Interdisciplinarity' are an indicator of the interdisciplinary character of the learning field approach. What is striking on the other hand is the relatively low score on the scales 'Creativity and innovation' and 'Problem solving'. In particular, the result for the dimension 'creativity and innovation', being 4.4, is significantly below the average MLI level of 5.4 for the qualification as a whole. This result may be explained by the fact that in many activities of

geriatric nursing clear instructions, often with a medical background, have to be observed so that there is only little room for creativity and innovation.

Figure 1

Average MLI scores for the Geriatric Nursing programme in Germany



Source: own work

The MLI results established support the position of some experts who criticise the official assignment of the Geriatric Nursing programme to level 4 of the German Qualifications Framework as too low. The results show that the average level of the evaluated modules is significantly higher than the official level assignment.

2. Finland

The vocational schools in Finland offer a total of 119 training programmes that lead to 53 different vocational qualifications. Even though three different pathways are available in Finnish vocational education and training, namely school-based VET, company-based VET (apprenticeship) and competence-based recognition of prior learning, training at vocational schools is the dominant type in Finland.

In the professional domain of social services, health and sports there are various training programmes. One of these is the 'Vocational Qualification in Social and Health Care, Practical Nurse' with a total of eight specialisations. For the CrediCare project the Practical Nurse qualification with the specialisation 'Care for the Elderly' was selected. This three-year VET programme consists of six modules and has a volume of 120 credit points, one training year comprising 40 CP and one CP being equal to 40 hours of study. Accordingly, the entire VET programme has a workload of 4,800 hours. Included are 30 CP (1,200 hours) of on-the-job learning.

At Jyväskylä College the students of the Practical Nurse programme undergo five on-the-job learning phases of six weeks each, which are distributed over a period of three years. During these work-based modules the students learn practical skills that are part of the qualification. At certain steps of the training programme the students have to demonstrate their newly acquired skills in tests, which take the form of either genuine work situations or practical assignments. These so-called skills demonstrations are a practice-oriented assessment method to test whether and to what extent the students have acquired the competences that are needed in the labour market. For the purposes of the MLI assessment in the course of the CrediCare project, the six comprehensive modules of the Practical Nurse qualifications were broken down into 15 smaller units.

→ *Results of the MLI assessment*

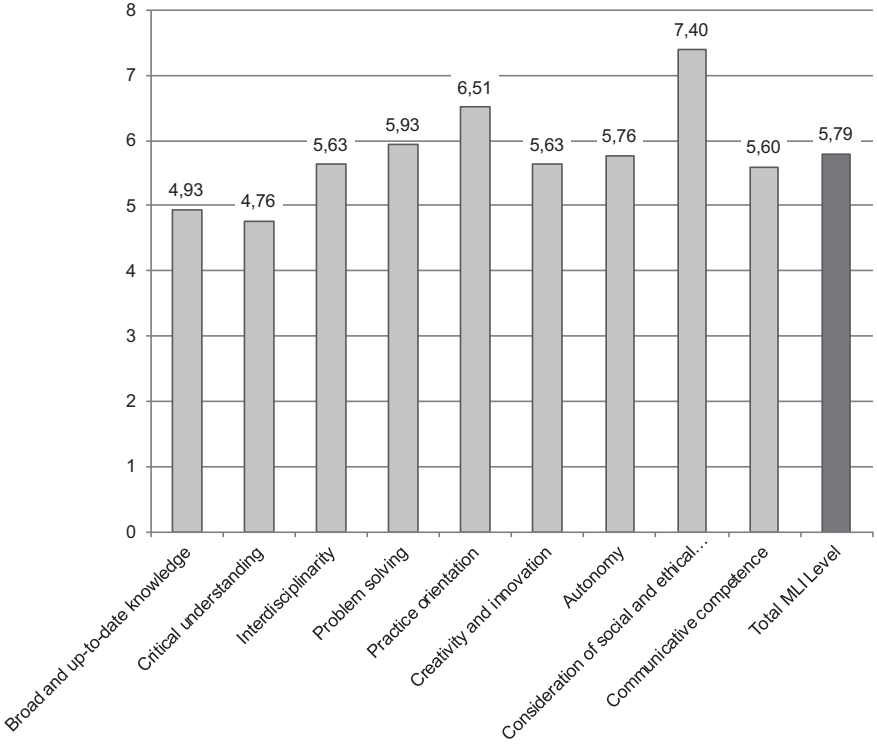
In all modules, high scores were reached in the MLI dimensions 'Practice orientation' and 'Consideration of social and ethical issues', which represent the core elements of the qualification of Practical Nurse. The average MLI score for the scale 'Practice orientation' is 6.5 and the one for the scale 'Consideration of social and ethical issues' is even as high as 7.4.

The optional module ‘Home Care and Nursing of the Elderly’ puts an emphasis on independent and autonomous activity at a high level. In this module the MLI scores in the dimensions ‘Autonomy’ and ‘Problem solving’ are 5.8 each. This result can be explained by the fact that in the national framework curriculum, autonomy is a dimension that plays a central role in the training process.

In the specialisation module ‘Care for Elderly’, whose workload of 13.5 CP is the highest of all, specialist knowledge about nursing and geriatric care is at centre stage. This module achieves a high score of 5.9 on the scale ‘broad and up-to-date knowledge’.

Figure 2

Average MLI scores for the Practical Nurse programme in Finland



Source: own work

It can be observed that the vocational qualification of Practical Nurse has high scores on the MLI scales 'Practice orientation' and 'Consideration of ethical and social issues'. As the holders of this qualification are expected to work as independent actors in a team, features like the independent acquisition of knowledge, critical reflection and problem solving play an important part as well, which is also reflected in the MLI results. The constructivist and universalist orientation of vocational education in Finland is indicated by the high scores on the 'Autonomy' scale. Another core element of Finnish VET, the skills demonstrations, is reflected by high scores in the MLI dimension 'practice orientation'.

As in the case of the German training programme, the total MLI score for the qualification of Practical Nurse of 5.8 is also significantly higher than the official level assignment (EQF level 4). This means that according to the results of the level assessments carried out in the CrediCare project, the administrative and political decisions concerning the level assignment do not seem to reflect the real level of the learning outcomes.

3. Results of the bilateral comparison between Finland and Germany

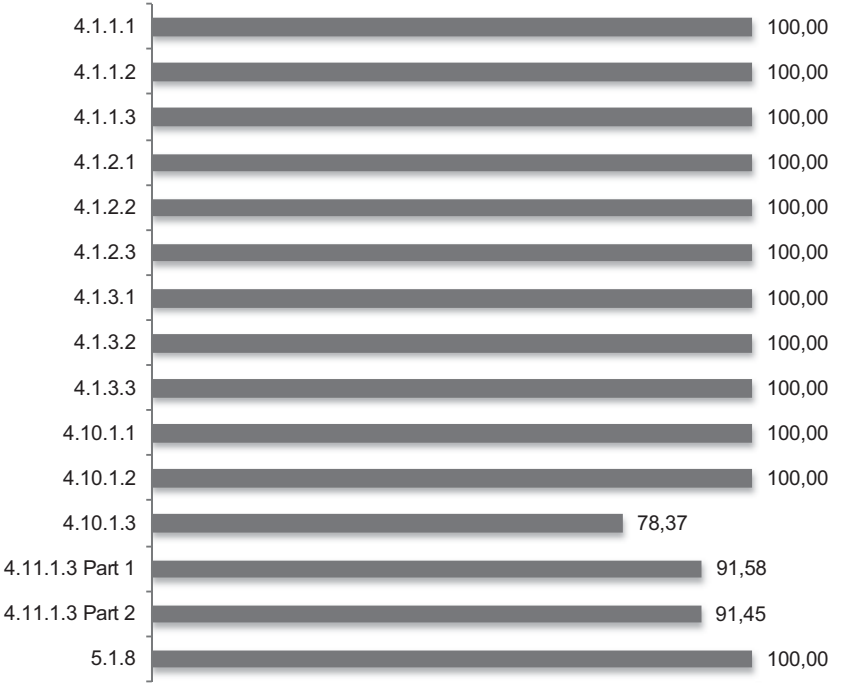
As the two qualifications of Practical Nurse (Finland) and Geriatric Nursing (Germany) are located at the same level, they are predestined for the bilateral comparison. It needs to be pointed out beforehand that the two training programmes have similar contents and learning outcomes; the curricular structures are different, though. Moreover, the German programme of Geratric Nursing is focused on elderly care whereas the Finnish Practical Nurse education includes modules that are compulsory for all nurses from dental care to geriatric nursing (see Stenström et al., in this volume).

The bilateral comparisons were carried out on the basis of the learning outcomes of each single module. Each of the modules was described by five to 15 learning outcomes, and the learning outcomes were weighted according to their relevance for the module in question (see Müskens and Eilers-Schoof, in this volume). It was planned in the beginning that the partners involved in the bilateral comparisons should discuss the weighting of learning outcomes, however this important work step could not be carried out for lack of time.

Figure 3

Coverage of Finnish modules by German modules

Coverage of learning outcomes in %



Source: own work

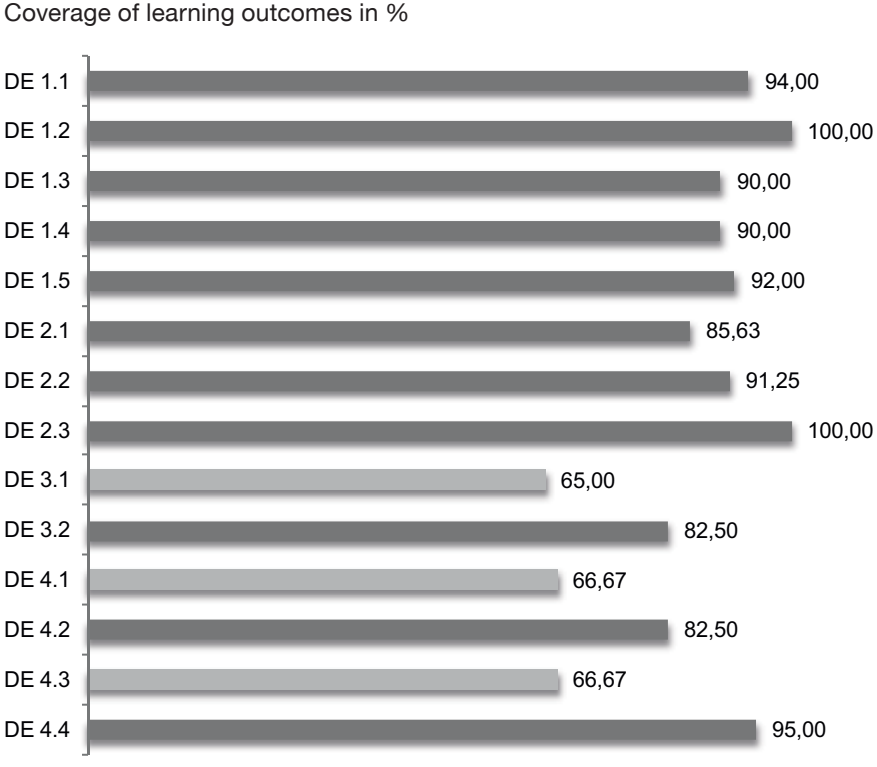
The summative results of the comparison carried out on the German side show that twelve of the 15 modules of the Finnish qualification of Practical Nurse are covered completely, i.e. 100 per cent, covered by modules of the German qualification (Fig. 3). The coverage of the three remaining modules '4.10.1.3 Promoting health of the elderly part 3', '4.11.1.3 Home care and nursing of elderly. Part 2' and '4.11.1.3 Home care and nursing of elderly. Part 1', which is 78 per cent, 91 per cent and 92 per cent respectively, also fulfils the sufficiency criterion with a view to recognition and accreditation. According to the guidelines for the equivalence check, the minimum coverage of learning outcomes that is required for recommending the recognition of the unit in question is 70 per cent (see Müskens, Tutschner and Wittig, 2009, 28). The result of the evaluation by

the German expert is that in total, 92 per cent of the learning outcomes of the modules within the qualification of Practical Nurse are covered by learning outcomes of the qualification in Geriatric Nursing. This means that the comparison of the modules and learning outcomes shows a great similarity of the two nursing qualifications from the German perspective.

In the comparison carried out by the Finnish experts it was estimated to what extent the learning outcomes of the German curriculum are covered by the learning outcomes of the qualification of Practical Nurse. The Finnish experts come to the conclusion that eleven out of 14 German modules are more than 70 per cent covered by Finnish learning outcomes (Fig. 4).

Figure 4

Coverage of German modules by Finnish modules



Source: own work

Two German modules, namely 1.2 ‘Planning, implementing, documenting and evaluating the care of elderly people’ and 2.3 ‘Supporting elderly people in designing their everyday life and self-organised activities’ are completely, i.e. 100 per cent covered by learning outcomes from the Finnish curriculum. Another six modules are covered 90 per cent and more. The three modules that do not meet the equivalence criterion of 70 per cent, namely 3.1 ‘Giving consideration to institutional and legal framework conditions in geriatric and nursing activities’, 4.1 ‘Developing an occupational self image’ and 4.3 ‘Dealing with crises and difficult social situations’, fall short of this standard only by a small margin, scoring 65, 67 and 67 per cent respectively.

To conclude, it can be observed that the two training programmes are very much alike in terms of their curricular contents and learning outcomes. Twelve out of the 15 Finnish modules are completely covered by German learning outcomes, and none of the remaining modules is less than 78 per cent covered. On the other hand, eleven out of 14 German modules are each more than 70 per cent covered by learning outcomes of the Finnish training programme. As mentioned above, only three modules of the German programme are below the equivalence criterion of 70 per cent coverage. The experts attribute this divergence in the results of the evaluation to several factors, e.g. a more restrictive interpretation of the coverage on the part of the Finnish experts, the lack of information on the part of the German expert about the weighting of Finnish modules etc. Another reason could be the fact that the German programme is based on a more medical approach, whereas the Finnish programme is more inclined to behavioural science (Stenström et al., in this volume).

The reliability of the assessment results may also have been compromised by the fact that there was no direct communication between the Finnish and German partners about the weighting and coverage of learning outcomes. In spite of these difficulties it can be concluded that the two qualifications, notwithstanding the differences in the organisation of the curricula, show a considerable overlap of contents so that the conditions for a mutual recognition and accreditation of learning outcomes seem to be fulfilled.

4. Estonia

In the Estonian health care and nursing sector, only social care workers, massagers and emergency medical technicians are trained within the system

of initial vocational education and training. All other qualifications related to health care and social care are awarded in the context of higher education. The following degree programmes are available: Health Promotion, Occupational Therapist, Basic Nursing Education, Nursing Education Specialisation, Midwife, Dental Technician and Assistant Pharmacist. Since 1996 it is possible to study 'Nursing' at the level of professional higher education.

For the Estonian part of the CrediCare project the professional higher education programme 'Basic Nursing Education (Diploma)' at EQF level 6 was selected, which is offered at Tallinn Health Care College. This college is one of two health care colleges in Estonia.

The programme takes 3.5 years and has a volume of 120 credit points for the theoretical part and another 90 for the practical training in hospitals and health centres. Included in the theoretical part are 276 hours of so-called practical studies, in which the students carry out essential practical tasks in simulated environments before they start training in the real workplace. The full-time study programme has a total volume of 210 credit points with one credit point being equal to 26 hours of study. A total of 60 credit points can be earned in each academic year. The Basic Nursing programme consists of twelve modules. Elective and optional subjects, including the thesis and the final examination, were not taken into account in the equivalence check.

→ *Results of the MLI assessment*

The workload of the ten modules of the Basic Nursing programme at Tallinn Health Care College that were included in the assessment ranges between 5 and 45 credit points.

The average MLI score for the Basic Nursing programme, i.e. the total MLI level of the qualification, is 5.8. The lowest scores are found in the medically and clinically oriented modules, which range between 5.4 and 5.5. These are the modules 'Teaching of Human Anatomy and Vital Functions', 'Pharmacology', 'Clinical Nursing' and 'Intensive Nursing'.

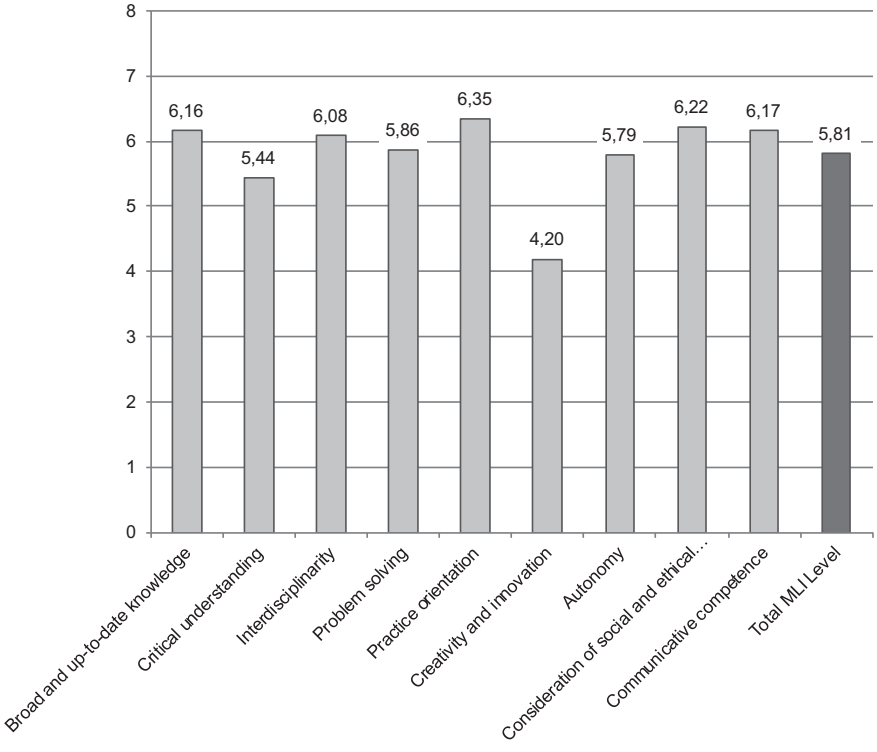
As regards the results for the different MLI scales, the scores are generally low on the scale 'Creativity and innovation', the lowest value being 3.5 each for the modules 'Basics of Nursing' and 'Pharmacology'. This outcome can be

explained by the fact that training and professional practice in many situations of nursing are characterised by rules and instructions. The results are also low in the dimension 'Critical understanding' where the average score is 5.4.

Similar to other nursing qualifications covered by the study, the average MLI level in the dimension 'Consideration of social and ethical issues' is above the average, the score being 6.2. The high value on this scale is typical of all nursing qualifications. The highest score on the scale 'Consideration of social and ethical issues' is 7.4 in the module 'Personal and Professional Development of the Nurse'. The highest scores on the 'Autonomy' scale are 7.2 each for the modules 'Clinical Nursing' and 'Intensive Nursing'.

Figure 5

Average MLI scores for the Basic Nursing programme in Estonia



Source: own work

It has to be observed that it is above all for the significantly low scores on the MLI scale 'Creativity and innovation' as well as the lower MLI levels of the basic modules which have to be taken at the beginning of the programme that the qualification in Basic Nursing reaches the total MLI level of 5.8. The results in the dimension 'Creativity and innovation' are low in almost all of the qualifications analysed here, which reflects the small room for manoeuvre and the tight safety-oriented regulations in the training and professional practice of nurses. The highest results are reached in the nursing specific dimensions 'Consideration of social and ethical issues' and 'Communicative competence' but also on the scales 'Practice orientation' and 'Broad and up-to-date knowledge'.

5. Results of the bilateral comparison between Germany and Estonia

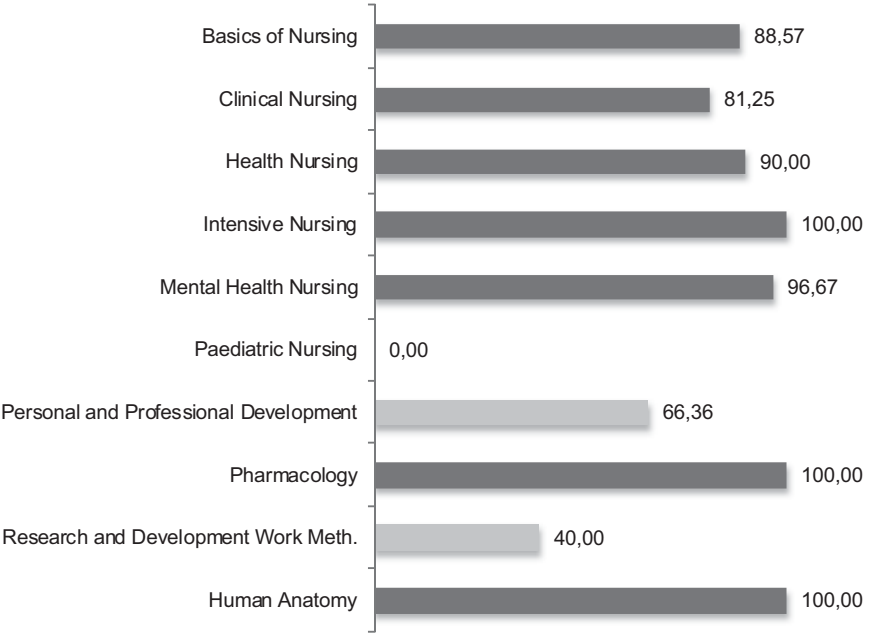
The qualifications Basic Nursing (Estonia) and Geriatric Nursing (Germany) officially belong to different EQF levels. Whereas Basic Nursing, being a professional higher education programme, is officially assigned to EQF level 6, the VET programme in Geriatric Nursing is located at level 4. As the MLI level assessments in the CrediCare project led to an average of 5.4 for the German programme and 5.8 for the Estonian one, it was decided to carry out a comparison of these two qualifications. Given the fact that the Basic Nursing programme is taught at the level of higher education whereas training in Geriatric Nursing takes place in the context of vocational education and training at the upper secondary level, the experts who carried out the equivalence check did not expect a high degree of overlap between the curricula.

The outcome of the bilateral comparison from the German perspective is that seven out of ten modules of the Estonian curriculum are more than 80% covered by learning outcomes from the German programme (see Fig. 6). These are the modules 'Basics of Nursing', 'Clinical Nursing', 'Health Nursing', 'Intensive Nursing', 'Mental Health Nursing', 'Pharmacology' and 'Teaching of Human Anantomy und Vital Functions'. Another module, namely 'Personal and Professional development', is 66% covered and thus almost meets the equivalence criterion.

Figure 6

Coverage of Estonian modules by German modules

Coverage of learning outcomes in %



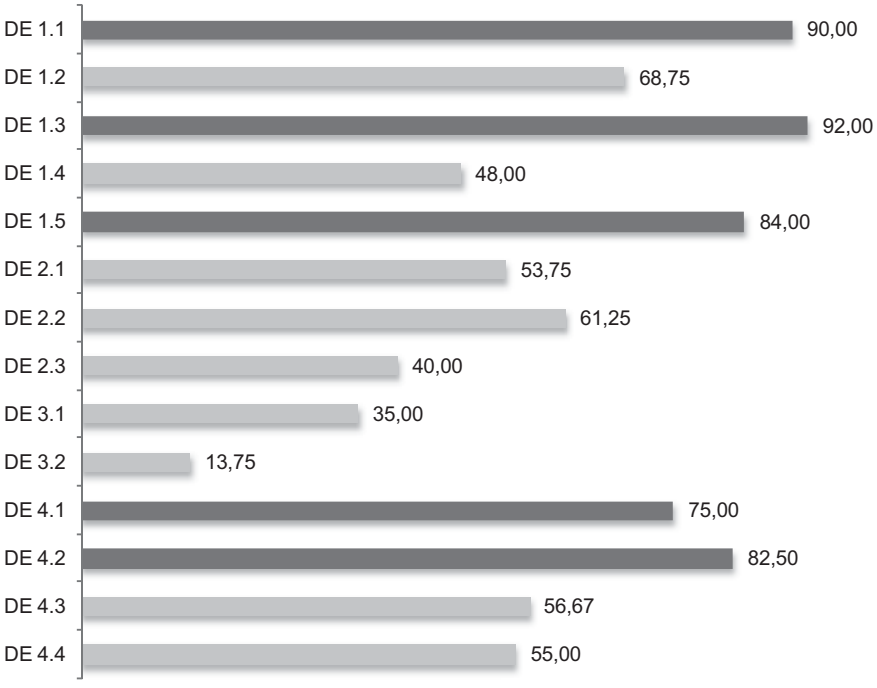
Source: own work

Only two modules, namely 'Paediatric Nursing' (0%) and 'Research and Development of Work Methods' (40%), are covered by the learning outcomes of the German training programme to a small extent or not at all.

From the Estonian perspective the situation is different (see Fig. 7). Only five ouf of 14 modules of the German training programme are covered to a sufficient extent. These are the modules 1.1 'Incorporating theoretical principles in geriatric nursing activities', 1.3 'Caring for elderly people in a personally appropriate and situation-based manner', 1.5 'Contributing to medical diagnostics and therapy', 4.1 'Developing an occupational self image' and 4.2 'Learning to learn'. None of these modules is covered completely.

Figure 7

Coverage of German modules by Estonian modules



Source: own work

Seven German modules are covered only to a small extent, more specifically, less than 60%, by modules of the Estonian curriculum. In these cases the learning outcomes cannot be considered equivalent. The modules concerned are 3.2 'Contributing to quality-assuring measures in geriatric nursing', whose coverage is 13.8%, 3.1 'Giving consideration to institutional an legal framework conditions in geriatric nursing activities' (35%), 2.3 'Supporting elderly people in designing their everyday life and self-organised activities' (40%), 1.4 'Instructing, counselling and holding discussions' (48%), 2.1 'Giving consideration to institutional and legal framework conditions in geriatric nursing activities' (53.8%), 4.4 'Maintaining and promoting personal health' (55%) and 4.3 'Dealing with crises and difficult social solutions', which is 56.7% covered.

With regard to recognition and accreditation of learning outcomes, the results of the bilateral comparison lead to a heterogeneous picture that reflects the fact that the German programme is broader in scope than the Estonian one. From the German perspective the results suggest that large parts of the VET programme in Geriatric Nursing can be recognised and accredited within the Estonian programme in Basic Nursing. More specifically, the Estonian modules 'Intensive Nursing', 'Pharmacology', 'Teaching of Human Anatomy and Vital Functions', 'Mental Health Nursing', 'Basics of Nursing and 'Clinical Nursing' are the ones in which exemptions could be granted to graduates of the German VET programme.

As regards the accreditation of Estonian learning outcomes in the German programme, the modules 1.3 'Caring for elderly people in a personally appropriate and situation-based manner', 1.1 'Incorporating theoretical principles in geriatric nursing activities', 1.5 'Contributing to medical diagnostics and therapy', 4.2 'Learning to learn' and 4.1 'Developing an occupational self image' could be accredited for Estonian graduates due to their overlap with learning outcomes from the qualification in Basic Nursing.

Notwithstanding the different or asymmetric results of the comparison there are significant potentials for accreditation between the German training programme in Geriatric Nursing and the Estonian qualification in Basic Nursing. These potentials should be explored in detail in the future.

6. Ireland

The qualification of Bachelor of Science (Hons) General Nursing, which takes four years of study, is available as a vocationally oriented programme since 2002. The qualifiation is offered in 14 programmes with a total of 860 study places at 13 Higher Education Institutes in cooperation with 22 Healthcare Agencies. It is part of higher education (HE), i.e. the tertiary level, and was assigned by the accreditation body An Bord Altranais to EQF level 6. An Bord Altranais also defines the concrete entry requirements. In order to practise as a nurse one must be registered with An Bord Altranais, and the registration needs to be renewed every year.

The curriculum of the B.Sc. (Hons) General Nursing integrates theory and practice of nursing. All lectures, workshops, tutorials and learning groups take

place at the college. The practical nursing skills are acquired at the Dublin Academic Teaching Hospital and several other health care institutions.

The programme takes four years and has a volume of 240 ECTS points and a workload of 4,472 hours of instruction. The qualification gives access to several further study programmes, e.g. in medicine or various specialisations in nursing.

→ *Results of the MLI assessment*

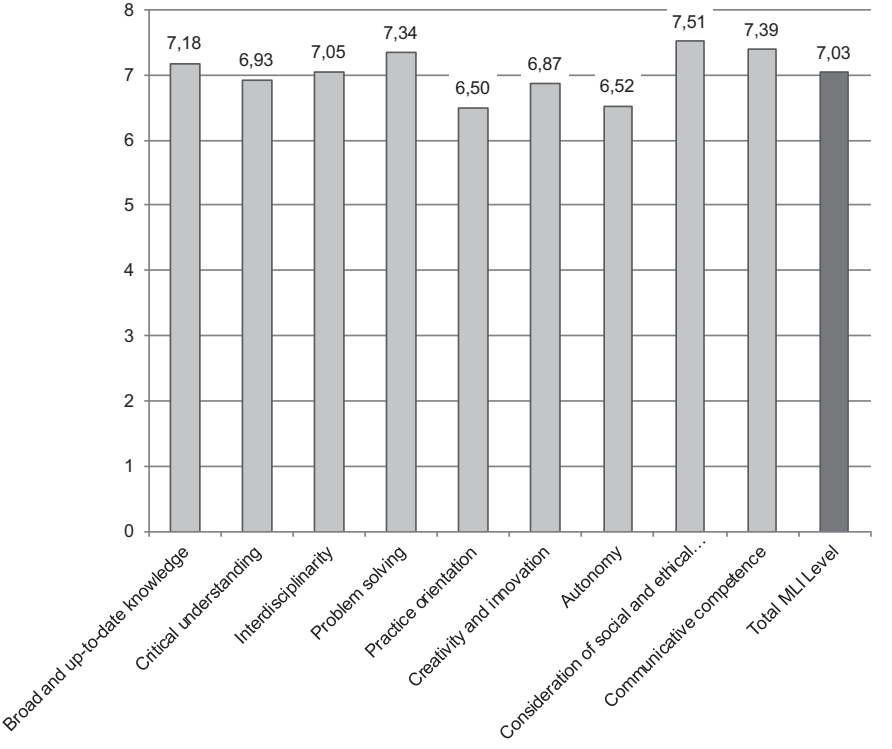
All of the 31 modules of the nursing training programme were covered by the MLI assessment, including 8 practical/clinical internships with a workload from 5 to 30 ECTS points. The analysis of the MLI results shows an average of 7.1 for all 31 modules. In a total of 22 modules the MLI scores are above 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 on the one hand and problem solving on the other is taken into consideration. According to the Irish experts, 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.

Figure 8

Average MLI scores for the B.Sc. (Hons) General Nursing in Ireland



Source: own work

The high average scores in the MLI assessments are interpreted by the Irish partner as a confirmation of the 'balanced and controlled standardisation of practice in the Irish nursing curriculum' (Rami and Shortt, in this volume). The aggregated result of the MLI assessment, being 7.0, is one level above the official EQF position of this qualification at level 6. This outcome documents the high quality of this qualification.

Similar to the observations made in the other nursing qualifications analysed in this study, particularly high MLI scores were found in the dimensions 'Consideration of social and ethical issues', 'Communicative competence' and 'Prob-

lem solving'. The high score on the scale 'Problem solving' highlights the close coordination of theory and practice in the Irish nursing curriculum.

7. France

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's 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. The training programme 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.

→ *Results of the MLI assessment*

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), integration units (UE 5.1 to UE 5.8 – 86 ECTS) and transversal units (UE 6.1 and UE 6.2 S1 to S6 – 12 ECTS). The contributory units represent the development and appropriation of the basic knowledge of nurses. The constitutive units represent the core knowledge and competences. The integration units represent different types of knowledge and competences that are acquired and developed 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 'integration 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 ‘Interdisciplinarity’ (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).

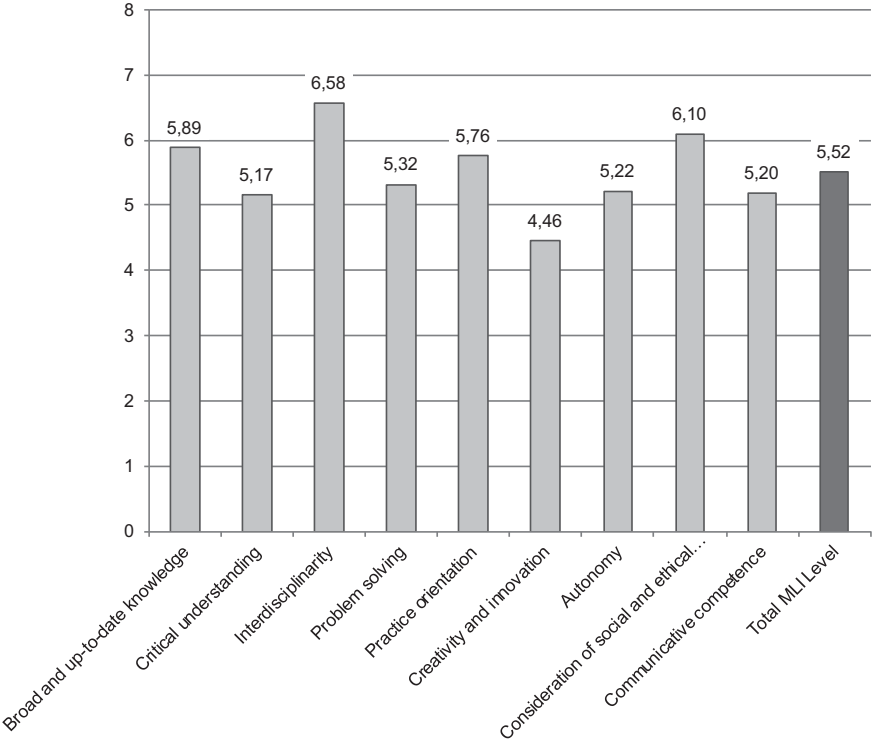
The ‘transversal units’ consist of unit 6.1 ‘Work methods and ICT’ and unit 6.2 ‘English in nursing’. They have an average MLI score of 4.0 and thus the lowest of all four groups.

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 integration unit ‘Traineeship’.

On the whole, only the MLI averages for the ‘constitutive units’ and the ‘integration units’ reach the bachelor’s 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.

Figure 9

Average MLI scores for the State Diploma in Nursing in France



Source: own work

8. Results of the bilateral comparison between Ireland and France

As the two qualifications are officially assigned to the same EQF level, i.e. level 6, they were selected for a bilateral comparison.

From the French perspective, i.e. the perspective of the learning outcomes of the State Diploma in Nursing, a very high degree of coverage of the Irish modules was established. Four out of the 31 Irish modules (IE 15 'Pharmacology', IE 27 'Clinical Placement 4C', IE 29 'Clinical Placement 4A' and IE 30 'Clinical Placement 4B') are each directly and completely covered by one corresponding module from the French programme.

Figure 10

Coverage of Irish modules by French modules

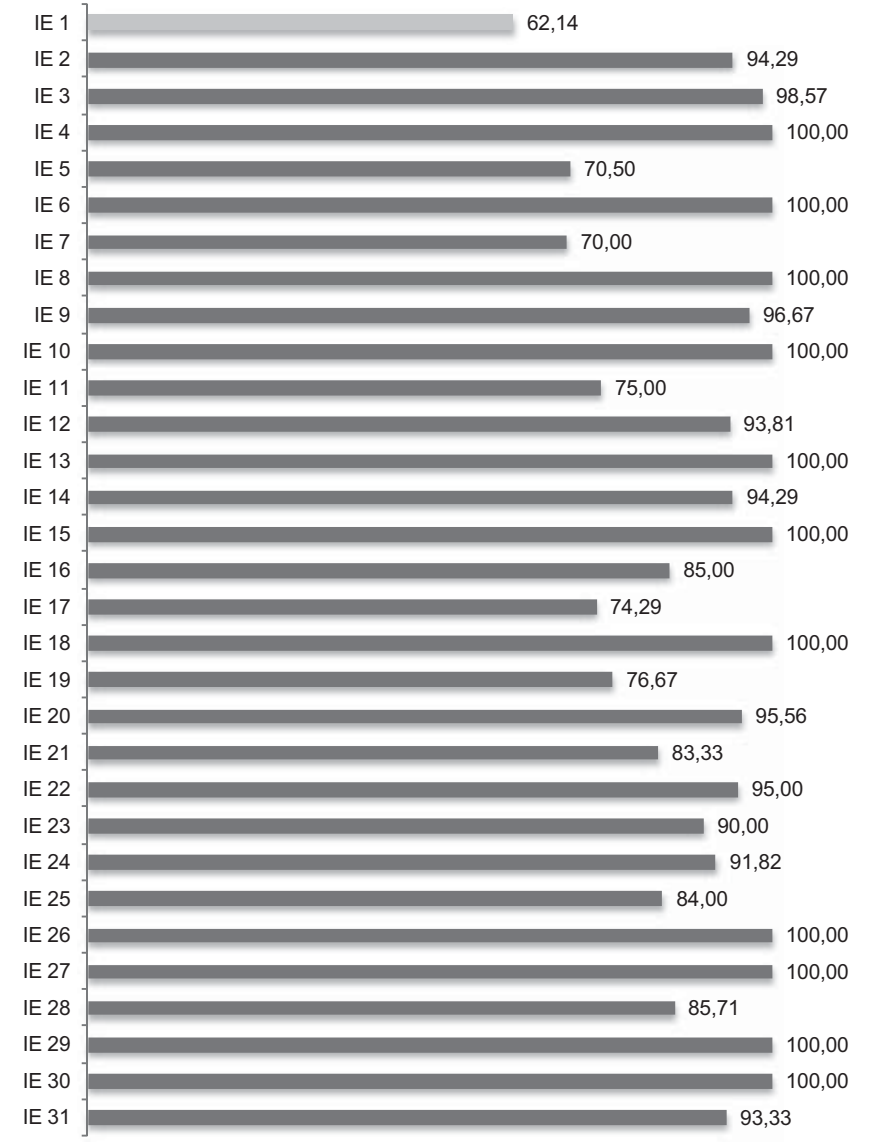
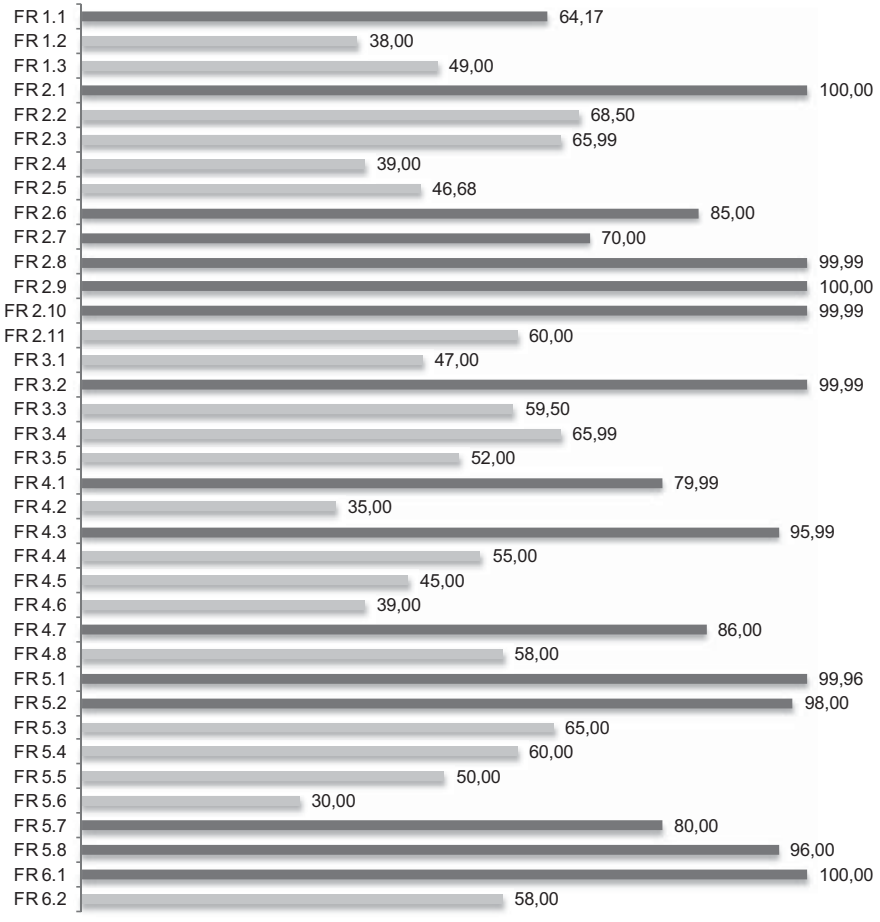


Figure 11

Coverage of French modules by Irish modules

Coverage of learning outcomes in %



Source: own work (figure 10 and 11)

Three of these modules are coveredby the learning outcomes of the practical training phases in hospitals, which are largely equivalent to the practical parts of the Irish qualification in terms of content as well as workload. Another

six modules of the Irish qualification are also 100% covered, but each time by learning outcomes from more than one French module.

Surprisingly there is only one module of the Irish qualification, namely IE 1 'Scientific Principles for Healthcare', whose coverage is below the minimum of 70 per cent. This means that the French State Diploma in Nursing almost completely covers the Irish B.Sc. (Hons) General Nursing.

The Irish experts arrive at a considerably lower estimate with regard to the coverage of the French learning outcomes by the Irish Bachelor of Science. Out of the 37 modules of the French qualification that were included in the comparison, 15 were found to be between 70 and 100 per cent covered by learning outcomes of Irish modules. Seven modules of the French qualification (UE 2.1 'Basic biology', UE 2.8 'Obstructive processes', UE 2.9 'Tumoral processes', UE 2.10 'Infectiousness, hygiene', UE 3.2 'Project in nursing care', UE 5.1 'Accompaniment in achieving daily healthcare' and UE 6.1 'Working methods') are covered in full by Irish learning outcomes. On the other hand, nine modules of the French qualification showed only a coverage between 30 and 50 per cent. The other 13 modules were 50 to 70 per cent covered by learning outcomes from the Irish qualification.

The different results concerning the mutual coverage of the nursing qualifications can be attributed to several factors. The first one seems to be the complexity of the task. On the whole, the experts had to review and compare 31 Irish modules and 37 French ones, and were confronted with 135 learning outcomes of the French qualification and 215 learning outcomes on the Irish side. Other aspects that render the bilateral comparison quite difficult are language, cultural background and interpretation. These factors were influential to some extent in all of the bilateral comparisons carried out in the project, but especially in the one between France and Ireland. In order to achieve more reliable results it would have been desirable to have an intensive exchange of ideas concerning the contents of the modules, the weighting of learning outcomes, and the estimation of the coverage of qualifications. This, however, was not possible in the time frame available to the project partners. Accordingly the results of the bilateral comparisons, including those that indicated a high degree of mutual coverage, can be regarded only as research results whose reliability is limited. However, they can serve as a basis and a starting point for a more standardised procedure of bilateral comparisons in the future.

9. 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.

Figure 12 shows a comparison of the profiles of the average MLI scores per scale across all modules or learning fields in each of the countries. In order to give a clearer picture of the relative strengths and weaknesses of the profiles, the MLI average for all countries was normalised to zero.

MLI scores below the average were found in all nursing qualifications on the scale 'Creativity and innovation'. Here the result is clearest in the case of the Basic Nursing programme in Estonia. The performance of the German and French programmes in this dimension is considerably below the average as well. The other MLI dimension in which all qualifications except the German programme in Geriatric Nursing score below the average is 'Critical understanding'. Low results in this dimension are characteristic of programmes outside higher education.

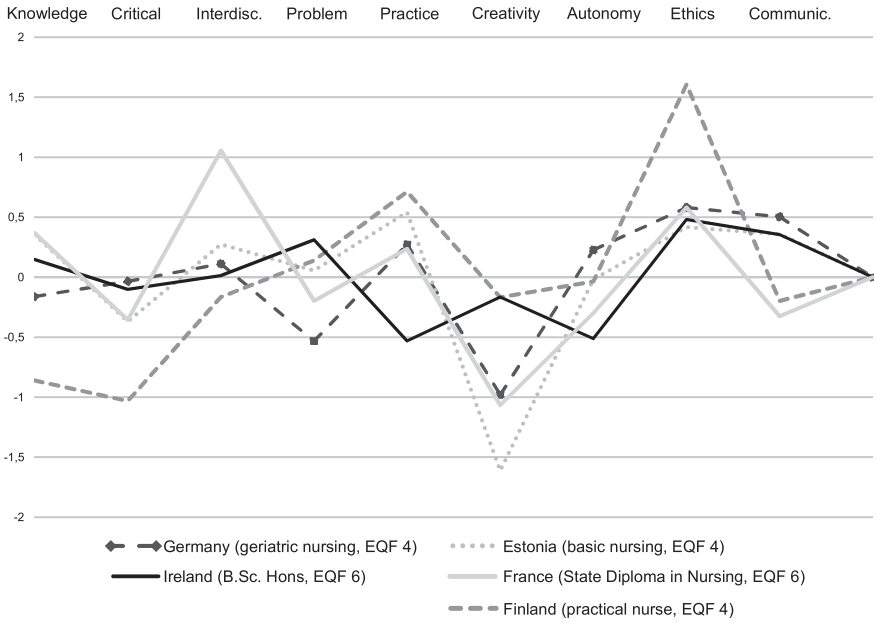
Finally it must be observed that the results of the MLI assessments as well as the bilateral comparisons are not the outcome of a standardised procedure. For instance, the MLI assessments were not carried out by independent experts but by staff members of the training institutions. Only in some cases the MLI results were reflected in expert groups. Therefore the results are often influenced by subjective opinions of the experts as well as the project partners, which is why they cannot be used as objective results that would allow for a comparative ranking, but only as rough estimates for orientation. In order to

improve the reliability of the procedure, future equivalence checks should include a reflection of the MLI results in national expert groups that include not only evaluators and representatives of the training institutions concerned, but also independent experts.

Figure 12

Profile comparison of the five countries

Normalised scores on the MLI scales (average of all scales = 0)



Source: own work

In spite of these limitations and the lack of standardisation of the assessment procedures, the results with regard to the VET programmes Geriatric Nursing in Germany and Practical Nurse in Finland suggest that the official national level assignments might be too low and deserve further examination. In the course of such a reconsideration, a standardised MLI procedure might be a way to arrive at evidence-based level assignments in the future.

As regards the results of the bilateral comparisons, it can be concluded that especially the comparisons between Finland and Germany as well as between

Estonia and Germany, notwithstanding the methodological limitations discussed above, indicate a significant potential for mutual recognition and accreditation. The results should be considered for use in future accreditation procedures.

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Abstract

The LEONARDO DA VINCI Transfer of Innovation project CrediCare, which involved partners from Estonia, Finland, France, Germany and Ireland, aimed at the transnational implementation and testing of a procedure for the description, level assessment and comparison of learning outcomes in the sector of health care and nursing. The project activities were based on the toolkit of the equivalence check method, i.e. the Module Level Indicator (MLI) and the Learning Outcome Matrix (LOM). The two instruments make it possible to analyse the contents of vocational learning outcomes and to determine their levels according to the reference levels of the European Qualifications Framework (EQF). Moreover, the learning outcomes serve as the basis for bilateral comparisons of selected qualifications in nursing.

This volume presents the qualifications covered by the project activities as well as the results of the level assessments and the bilateral comparisons.

Zusammenfassung

Das LEONARDO DA VINCI-Innovationstransferprojekt CrediCare, an dem Partner aus Deutschland, Estland, Finnland, Frankreich und Irland beteiligt waren, verfolgte die Ziele der grenzüberschreitenden Übertragung und Erprobung eines Verfahrens zur Beschreibung, der Niveaubestimmung und des Vergleichs von Lernergebnissen des Pflegesektors. Die Projektaktivitäten basierten auf den Instrumenten des sogenannten Äquivalenzvergleichs, d. h. dem Module Level Indicator (MLI) und der Learning Outcome Matrix (LOM). Mit diesen beiden Instrumenten können berufliche Lernergebnisse inhaltlich erfasst und ihr Niveau anhand der Stufen des Europäischen Qualifikationsrahmens (EQR) bestimmt werden. Darüber hinaus bildeten berufliche Lernergebnisse die Grundlage der bilateralen Vergleiche ausgewählter Pflegequalifikationen.

Im vorliegenden Band werden die Pflegequalifikationen, die Gegenstand der Projektaktivitäten waren, sowie die Resultate der Niveaubestimmung und der bilateralen Vergleiche vorgestellt.

The European Union supports European education and training initiatives for the 2007–2013 Lifelong Learning Programme, providing an overall budget of almost seven billion euros. With its four subprogrammes, i.e. COMENIUS (for schools), ERASMUS (for higher education), LEONARDO DA VINCI (for vocational education and training) and GRUNDTVIG (for adult education), the programme covers all educational domains and age groups.

The German Federal Ministry of Education and Research has charged the National Agency Education for Europe at the Federal Institute for Vocational Education and Training (NA at BIBB) with the responsibility for implementing the LEONARDO DA VINCI and GRUNDTVIG programmes.

The NA at BIBB publishes a series of reports titled "impuls", a publication dedicated to presenting the findings from the LEONARDO DA VINCI and GRUNDTVIG projects, showcasing and disseminating innovations and developments within general and vocational education and training and also facilitating the comprehensive exchange of ideas and experiences.

GEFÖRDERT VOM

Bundesministerium
für Bildung
und Forschung

Project Coordinator

CrediCare+

IT+B INSTITUT TECHNIK UND BILDUNG