

Changes in Nursing Education in the European Union

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***Purpose:** To provide an overview of changes in nursing education in the European Union (EU) within the framework of the Bologna Declaration, signed in 1999 by the European ministers of education, and to describe specific efforts and changes in Spain.*

***Organizing Constructs:** (a) the Bologna Declaration process, its recent reforms in all disciplines including nursing, and perspectives on future developments; (b) the Tuning Project, designed and carried out by a group of European universities to meet the challenges posed by the Bologna Declaration; and (c) efforts in a group of Spanish universities to promote higher education in nursing.*

***Findings and Conclusions:** These changes promote enhanced academic recognition, professionalism in nursing education, and graduates' competencies in practice in most European countries by specifying the undergraduate nursing degree as the minimal entrance level for practice and master's and doctoral programs for further career development.*

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The “transparency” of borders among countries, use of the euro as the common currency, and the mobility of professionals among European countries are some of the most relevant changes in the development of the European Union (EU). These significant social changes require a new university structure, which is taking place through development of the European Higher Education Area (EHEA), also known as the Bologna process. In this article, we describe major directions of change in the EU, with particular examples from our country, Spain. These changes are significant in the EU, but they also could have wide-reaching implications in other countries both for the education of nurses and in nurses' competencies for addressing healthcare needs of people throughout the world.

The Bologna Process

In May 1998 the higher education ministers from France, Italy, the United Kingdom, and Germany signed in Paris the so-called Sorbonne Declaration on the harmonization of the architecture of the European Higher Education System (Ministers in Charge for France, Germany, Italy, and the United Kingdom, 1998). Other European countries also subscribed to this declaration, and this project was later undertaken by the Confederation of European Union Rectors Conferences and the Association of European Universities, with financial support from the European Commission (agreement no. 98-01-CER-CER-0642-00). In June 1999, 29 European higher education ministers met in

Bologna to establish the basis for a functioning EHEA by 2010 and to promote the European System of Higher Education (European Ministers of Education, 1999). The Bologna Declaration as a product of that meeting had six objectives: (a) adopt a system of academic degrees, easy to read and compare, including the introduction of the diploma supplement; (b) adopt a system based on two cycles: the undergraduate cycle, geared to the employment market and lasting at least 3 years; and the graduate cycle for master's and doctoral degrees, conditional upon completion of the undergraduate cycle; (c) establish the European Credit Transfer System (ECTS); (d) promote the mobility of students, teachers, and researchers; (e) promote cooperation in quality assurance; and (f) promote European dimensions in higher

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education. The aim of this process was to make higher education in Europe converge toward a more common system, through which the different national systems would share frameworks for bachelor's, master's, and doctoral levels of education.

Within this new higher education structure, the "diploma supplement" is a document attached to a higher education diploma to improve international comparability and facilitate the academic and professional recognition of qualifications (e.g., diplomas, degrees, or certificates; European Commission of Education and Training, 1998). It contains a description of the nature, level, context, content, and status of studies that are pursued and successfully completed by the student named on the original qualification to which this supplement is appended. The diploma supplement is provided by national institutions.

ECTS credits are numerical values allocated to courses to describe the student workload. As a general rule, one ECTS credit requires between 25 and 45 hours of student work. Traditionally the concept of one credit has been based on 10 hours of classroom teaching. The traditional educational methodologies were, in most courses, focused on memorizing what was taught in the classroom. The ECTS indicates the quantity of work each course unit requires to reach the objectives, including lectures, practica, seminars, tutorials, fieldwork, private study in the library or at home, and examinations or other evaluations. Thus, credits are based on the student workload and are not limited to teaching classroom hours only. In the ECTS, 60 credits is the workload of a normal undergraduate academic year of study (i.e., between 1,500 and 2,700 hours of student work), usually 30 credits for a semester and 20 credits for a term. A postgraduate academic year of 12 months would have 90 credits. The new guideline indicates that classroom teaching is not more than 50% of the workload. This new approach poses a great challenge for curriculum development because within each course the time needed for classroom teaching and for other educational activities has to be readjusted. The main goal with this guideline is to engage students in individual or group activities that include active literature searches and analyses, with emphases on critical thinking and problem-solving methodologies.

Two years after the Bologna Declaration, in May 2001, 33 European ministers of education met in Prague to follow up on the Bologna Process and to set directions and priorities for the years ahead. The signatory countries reaffirmed their commitment to the objectives of the Bologna Declaration, expressed appreciation for the active involvement of the European University Association and of the National Union of Students in Europe, and added three more objectives: (a) Promote lifelong learning; (b) promote the involvement of students in institutions of higher education; and (c) promote the attractiveness and competitiveness of the EHEA to other parts of the world through transnational education.

In Berlin in September 2003, ministers from the 40 participating countries defined three priorities for the next 2 years. The multidimensional first priority included: (a) qual-

ity assurance by defining the responsibilities of the bodies and institutions involved in higher education; (b) evaluation of programs or institutions through internal assessment, external review, participation of students, and publication of results; and (c) building a system of accreditation, certification of comparable procedures, international participation, cooperation, and networking among the European countries participating in the Bologna Process. The second priority was to design a common framework of qualifications for graduate and postgraduate levels. The third priority was to reach agreement on mutual recognition of degrees and study periods among participating countries. The ministers concluded that every student graduating after 2005 should receive the diploma supplement.

In May 2005 the ministers met again and welcomed five additional countries (Armenia, Azerbaijan, Georgia, Moldova, and Ukraine) to participate in the Bologna Process. Representatives of all 45 participating countries reached a common understanding of the principles, objectives, and commitments of the Process and agreed to establish the EHEA by October 1, 2010 (Conference of European Ministers Responsible for Higher Education, 2005). The necessary legislative reforms are largely in place in the participating countries, as well as the structural changes in degrees and curricula, and the introduction of an innovative teaching and learning process. The three-level system was further defined in this meeting, establishing that the first level or cycle (undergraduate curriculum leading to the bachelor's degree) will have between 180 and 240 credits. The third cycle, which leads to the doctoral degree, will not necessarily have credits associated with it. Generic descriptors were adopted for each level based on learning outcomes and competencies. Ministers committed to elaborating national frameworks for qualifications in a three-cycle system, and to having started work on this priority by 2007. The next ministerial conference will be held in London in 2007.

Nursing Education in the European Union

Until now, nursing programs designed to enable nurses to practice in their discipline have been subjected to two European directives regarding the qualifications of "nurses responsible for general care." These are Directives 77/453/ECC of June 27, 1977, and 89/595/EEC of October 10, 1989, which require that a registration program should be at least 3 years long or 4,600 hours. These directives do not indicate academic status requirements for registration level, and in some countries such as Germany this registration is not based on a higher education qualification.

A survey of the existing nursing education pathways within the EU (Agencia Nacional de Evaluacion de la Calidad, 2005) showed the extreme complexity and diversity of curricular and degree structures in European countries. Among the EU countries the centers of higher education vary widely, including polytechnics, university colleges, schools affiliated with universities, universities, or

a combination of these structures. Most countries require no entrance examination, such as the NCLEX-RN in the US, to obtain a work permit. The diploma title or student's academic records are enough for registration as a nurse and to be able to work in any of the EU countries. This system contains limited opportunities for master's and doctoral nursing programs. Moreover, nursing formal education in many countries is managed through collaboration between the ministries of health and education. Within universities, nursing departments might have diverse institutional links, be autonomous, or be structured within medical, humanities, or science faculties.

In contrast, the Bologna Process creates a great opportunity for nursing education at the bachelor's degree level as the entrance level, followed by master's and doctoral academic recognition in all EU countries. The nursing ECTS recognized in all EU countries, combined with more flexible academic structures and increased mobility of nurses, are excellent ways to address some of the historical barriers to academic recognition among EU countries, both at the EU level (e.g., by the Advisory Committee on Training Nurses and the European Nurse Regulators) and at national level.

The Bologna Declaration indicated that programs of study should be organized in undergraduate and graduate levels, but did not specify their duration. The existing debate among university rectors, directors of nursing schools, and professional nursing associations is focused on the initially proposed model of 3-5-8 years of study and qualification: 3 years for the bachelor's level (180 to 240 ECTS credits), 5 years for the master's level (60 to 120 ECTS credits), and 8 years total for the doctoral level (with the requirement of having at least 300 ECTS credits before entering the doctoral level). So far, no significant agreement toward a 3-5-8 model has been reached for nursing or for other disciplines. The agreement is to recognize the equivalency of degrees among countries based not on their duration but on the competencies acquired for graduation.

Tuning Project

In 2000, a group of university leaders took up the Bologna challenge collectively and designed a pilot project titled: "Tuning educational structures in Europe." With funding from the European Commission, the European Universities Association, and the National Conferences of Rectors, the group of participants now includes 16 European countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, and the United Kingdom) and 101 university departments (see map in the **Figure**). The Tuning Project accomplishments should greatly enhance curriculum development across Europe. The name "tuning" was chosen for the project to reflect the idea that universities do not look for uniformity of their degree programs or any sort of unified, prescribed, or standardized European curricula. Instead, the aim is for points of reference, convergence, and common understanding. The protection of the rich diversity



Figure. Countries and institutions participating in the first phase of the Tuning Project. Reprinted with permission from the Tuning Project coordinator; Web site is accessible at www.relint.deusto.es/TuningProject/index.htm

of European education has been paramount in the Tuning Project from the start, and the project leaders and participants do not seek to restrict the independence of academic and subject specialists, or to preclude local and national academic authority. The agreement allows flexibility and autonomy in construction and implementation of curriculum.

Tuning has already occurred in two phases. During the first phase, the disciplines of business administration, education sciences, geology, history, physics, mathematics, and chemistry were analyzed (see **Figure**; Tuning, 2002). During the second phase, nursing and European studies were evaluated, including in participant countries Hungary, Malta, and the Slovak Republic in addition to the 16 countries in the first phase. The nursing tuning project includes the Bologna objectives and notably the adoption of a system of easily readable and comparable degrees. More specifically, the aim is to identify generic and specific competencies for nursing graduates at bachelor's, master's, and doctoral levels. Competencies have been defined as elements representing a dynamic combination of attributes, abilities, and attitudes. Learning outcomes have been described as competencies: what a learner knows or is able to demonstrate after the completion of the learning process. Competencies are not restrictive structures; they are points of reference for curriculum design and evaluation.

Tuning Methodology

The project is being coordinated by the University of Deusto (Spain) and the University of Groningen (Netherlands). Tuning is an expansion of earlier experiences of Socrates-Erasmus Thematic Networks to promote and support interuniversity cooperation for the exchange of students and professors among EU universities. Representatives of more than 130 institutions participated in this project, from most European countries. During the first phase of this project the participants included 5,138 graduates, 944 employers, and 998 academic faculty.

During the Tuning Project, a methodology was designed to increase understanding of different nursing curricula and to make them comparable among countries. A five-part approach was chosen to identify: (a) generic (general academic) competencies such as analysis and synthesis, team work, problem solving, and decision making; (b) subject-specific competencies (knowledge, understanding, and skills); (c) the ECTS as a cumulative system; (d) strategies for learning, teaching, assessment, and performance; and (e) quality enhancement in the educational process, based on a system of internal institutional quality culture. Each component was developed according to a defined process. The starting point was updated information about the state of the nursing education at European level. This information was then reflected upon and discussed by teams of nursing experts. The work of these teams was verified in related European networks, which provided understanding, context, and conclusions that could be valid at the European level. All together, this five-part approach allowed universities to “tune” their curricula without losing their autonomy or their capacity to innovate.

In this process a group of international nursing experts identified 30 generic and 40 specific nursing competencies. Consultation was provided to nursing graduates, students, employers, and faculty on the importance of the generic competencies and nursing-specific competencies (see **Table**). Each competency was evaluated in two ways, yielding a registration and an academic ranking. The registration ranking was a judgment made irrespective of the academic level of the program of study; possible scores were: 1 (essential for registration), 2 (desirable for registration), 3 (not necessary for registration), and 4 (competence acquired after registra-

tion). Academic ranking is the level at which each competency should be studied and acquired. In addition, participants evaluated how well their universities developed each competency.

Within this new structure, a bachelor in nursing or nursing science will denote achievement of the specified competencies in an academic environment with research affiliation. The curriculum will include mandatory theoretical and practical components agreed in a dialogue with recruiters and authorities. At present, based on the European Directive, 50% of a general basic nursing program is composed of clinical practice. The future graduate should possess basic knowledge of and insight into the central disciplines and methodologies used in the nursing profession. These attributes should qualify a graduate to carry out functions and act independently within the area targeted in the program of study. The graduate should also be equipped to undertake further practice-based learning and, where appropriate, to continue study in a graduate program.

In addition to the competencies already acquired in the first cycle or bachelor's degree, a master of nursing science or nursing studies will denote additional competencies via courses of nursing studies situated in research environments. The master's graduate will be qualified for employment on the basis of the academic discipline (i.e., nursing science) and for further study in a doctoral program. The master's graduate will develop knowledge and independence in applying scientific theory and methods. The candidate studying the practice of nursing will be able to perform advanced and specialized nursing competencies.

At the third or doctoral level, a graduate with a PhD in nursing science will have achieved competencies through a course of nursing studies and independent research. Internationally, the graduate will be able to conduct research, teach at universities, and work in public and private organizations where broad and detailed knowledge of research in nursing science is required. A person with a PhD in nursing science will be able to complete scholarly projects through independent analysis, based on appropriate research methods, to yield research outcomes that meet the international standards for PhDs in nursing.

Nursing Education in Spain

The new standards for the EU are affecting individual countries in many ways, as indicated in the example of Spain. Traditionally, governmental recognition of academic nursing levels has lagged behind changes implemented in universities. Although nursing education in Spain was integrated at university level in 1977, the only official academic recognition for this education was a diploma after 3 years of study. Leaders of nursing schools and professional nursing organizations advocated for higher degrees and increased academic recognition. Nurses studied in other disciplines in Spain to earn higher academic degrees or they enrolled in nursing degree programs abroad. Since 1977, numerous attempts have been made by national nursing organizations to compromise

Table. Nursing-Specific Competencies for the Undergraduate Degree

Competencies	Number of items
Professional values and nursing roles	6
Nursing practice and clinical decision-making	5
Nursing skills, interventions, and activities	6
Knowledge and cognitive competencies	8
Communication and interpersonal relationships	8
Leadership, management, and team abilities	7
Total	40

with their Ministries of education to achieve recognition of the bachelor of nursing science (Zabalegui, 2002).

During the last 2 years, 47 universities, which have integrated nursing studies and represent up to 130 nursing schools, have developed bachelor of nursing science curricula after receiving a grant from the Ministry of Education (Agencia Nacional de Evaluación de la Calidad [ANECA]). This project was also supported by the Conference of Nursing School Directors (Conferencia nacional de Directores de Escuelas de Enfermería Españolas). First, an analysis of nursing studies in all EU countries was done to identify the number of years, hours, and ECTS credits required, the type of academic institution, and the degree awarded upon graduation. Second, officials in the participating universities analyzed the demand for nursing studies in Spain, evaluating the number of enrollees in each nursing school and the number of applicants. This phase also included a national nursing survey to determine the level of employmen satisfaction.

The third phase was evaluation of generic and specific competencies needed for graduation at the bachelor's degree and graduate levels. Based on the tuning methodology and results about nursing competencies, this analysis was done with a national survey of nursing students, professors, nurses, nursing administrators, and professional nursing associations. In the final phase, participants in the ANECA nursing project reported to the Spanish government on the degree curriculum, including its objectives, teaching strategies, structure of mandatory courses, and ECTS. Competencies required for each course were identified and defined.

Since 1998 the Universities of Alicante, Internacional de Catalunya, Huelva, Almería, Rovira i Virgili of Tarragona, Lleida, Zaragoza, and Autónoma of Madrid have been offering graduate-level advanced programs of 2 academic years (120 ECTS credits). The degree upon completion of this advanced program is the master of nursing science. This program includes nursing research, teaching, management, and advanced care. More than 1,000 students have already completed the program and over 100 of them are in doctoral study. Some of these graduates have assumed faculty and administrative roles in nursing education and practice setting across the country.

Recently, these eight universities have signed an agreement to create a network for interuniversity cooperation in nursing research, teaching, and student exchange. This network has the capacity to incorporate other universities from EU countries to enhance student outcomes and to implement future and collaborative doctoral programs.

In Spain, a legislative norm (*real decreto*) published January 25th, 2005 established guidelines for undergraduate, master's, and doctoral levels. Finally, as a result of the Bologna Process, nursing is being fully recognized as a higher education discipline, and its curriculum is being organized within the framework of undergraduate and graduate education. On February 10, 2006 the regional government of Catalonia and Valencia approved the first-ever official master's and doctoral nursing science programs at the universities of Alicante, Internacional de Catalunya (Barcelona),

Rovira y Virgili de Tarragona, and Lleida. Now the Ministry of Education is to ratify these official programs.

Conclusions

Efforts are in process to implement significant changes in nursing education in EU countries, with creation of a new European higher education structure within the framework of the Bologna Declaration, consisting of:

1. A strong and increasing governmental emphasis on shorter undergraduate studies, first aimed at reducing their actual duration to their official length;
2. A marked trend toward more autonomy of universities, coupled with new initiatives for quality control and evaluation;
3. Gradual adoption of the ECTS credit system; the first-degree level for professional entry will be the bachelor's degree, and the 3-year diploma level will be eliminated;
4. A shift from a staff-oriented approach to a student-centered approach;
5. Less specialized education at undergraduate level, with specialized education at graduate level; and
6. An agreement to focus not on years but on credits and competencies, with the adoption of common but flexible guidelines for qualifications.

This new structure for higher education in Europe should enhance European nursing competitiveness and promote the roles and influence of nurses on health status of individuals, families, and communities in Europe. In addition, it would make European higher education in nursing more understandable and attractive to students, scholars, and employers within EU countries and throughout the world.

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