



The Subject of Education in European Higher Education Institutes: post Bologna

The Tuning Education Subject Area Group

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1 Introduction

Tuning Educational Structures in Europe is a university driven project which aims to offer higher education institutions and subject areas a concrete approach to implementing the **Bologna Process**.

The Tuning approach, explained in more detail in the accompanying booklet, consists of a methodology to (re-) design, develop, implement and evaluate study programmes for each of the three Bologna cycles. It has been tested in several continents and found fruitful and can be considered valid worldwide. Furthermore, Tuning serves as a platform for developing reference points at subject area level. These are relevant for making programmes of studies comparable, compatible and transparent. The reference points are expressed in terms of intended learning outcomes and competences.

Learning outcomes are statements of what a learner is expected to know, understand and be able to demonstrate after completion of a learning experience. According to Tuning, learning outcomes are expressed in terms of the *level of competence* to be obtained by the learner.

Competences represent a dynamic combination of cognitive and metacognitive skills, knowledge and understanding, interpersonal, intellectual and practical skills, and ethical values. Fostering these competences is the object of all educational programmes which build on the patrimony of *knowledge and understanding* developed over a period of many centuries. Competences are developed in all course units and assessed at different stages of a programme. Some competences are generic (common to any degree course); others are subject-area related (specific to a field of study). It is normally the case that competence development proceeds in an integrated and cyclical manner throughout a programme.

To make levels of learning comparable the subject area groups/Thematic Networks have developed cycle (level) descriptors, which are also expressed in terms of competences.

According to Tuning, the introduction of a three-cycle system as brought about a change from a staff centred approach to a student-oriented approach. It is the student who have to be prepared as well as possible for their future roles in society. Therefore, Tuning has organized a Europe-wide consultation process including employers, graduates and academic staff to identify the most important competences that should be formed or developed in a degree programme. The outcome of this consultation process is reflected in the set of reference points – generic and subject specific competences – identified by each subject area.

Besides addressing the implementation of a three-cycle system, Tuning has given attention to the Europe wide use of the student workload based European Credit Transfer and

Accumulation System (ECTS). According to Tuning, ECTS is not only a system for facilitating the mobility of students across Europe through credit accumulation and transfer; ECTS can also facilitate programme design and development, particularly with respect to coordinating and rationalising the demands made on students by concurrent course units. In other words, ECTS permits us to plan how best to use students' time to achieve the aims of the educational process, rather than considering teachers' time as a constraint and students' time as basically limitless. According to the Tuning approach credits can only be awarded when the learning outcomes have been met.

The use of the learning outcomes and competences approach might also imply changes regarding teaching, learning and assessment methods which are used in a programme. Tuning has identified approaches and best practices to form specific generic and subject specific competences.

Finally, Tuning has drawn attention to the role of quality in the process of designing or re-designing, developing and implementing study programmes. It has developed an approach for quality enhancement, which involves all elements of the learning chain. It has also developed a number of tools and has identified examples of good practice, which can help institutions to boost the quality of their study programmes. Launched in 2000 and strongly supported, financially and morally, by the European Commission, the Tuning Project now includes the vast majority of the Bologna signatory countries. The work of Tuning is fully recognized by all the countries and major players involved in the Bologna Process.

At the Berlin Bologna follow-up conference which took place in September 2003, degree programmes were identified as having a central role in the process. The conceptual framework on which the Berlin Communiqué is based is completely coherent with the Tuning approach. This is made evident by the language used, where the Ministers indicate that degrees should be described in terms of workload, level, learning outcomes, competences and profile. As a sequel to the Berlin conference, the Bologna follow-up group has taken the initiative of developing an overarching *Framework for Qualifications of the European Higher Education Area* (EQF for HE) which in both concept and language is in full agreement with the Tuning approach. This framework has been adopted at the Bergen Bologna follow-up conference of May 2005.

The EQF for HE has made use of the outcomes both of the Joint Quality Initiative (JQI) and of Tuning. The JQI, an informal group of higher education experts, produced a set of criteria to distinguish between the different cycles in a broad and general manner. These criteria are commonly known as the "*Dublin descriptors*". From the beginning, the JQI and the Tuning Project have been considered complementary. The JQI focuses on the comparability of cycles in general terms, whereas Tuning seeks to describe cycle degree programmes at the level of subject areas.

An important aim of all three initiatives (EQF, JQI and Tuning) is to make European higher education more transparent. In this respect, the EQF is a major step forward because it gives guidance for the construction of national qualification frameworks based on learning outcomes and competences as well as on credits. We may also observe that there is a

parallel between the EQF and Tuning with regard to the importance of initiating and maintaining a dialogue between higher education and society and the value of consultation -- in the case of the EQF with respect to higher education in general; in that of Tuning with respect to degree profiles.

In the summer of 2006 the European Commission launched a European Qualification Framework for Life Long Learning (LLL). Its objective is to encompass all types of learning in one overall framework. Although the concepts on which the EQF for HE and the EQF for LLL are based differ, both are fully coherent with the Tuning approach. Like the other two, the LLL variant is based on the development of levels of competences. From the Tuning perspective both initiatives have their value and their roles to play in the further development of a consistent European Education Area.

This brochure reflects the outcomes of the work done so far by the **Education** Subject Area Group (SAG), encompassing both Teacher Education and Education Sciences. The outcomes are presented in a format that was developed to facilitate readability and rapid comparison across the subject areas. The summary aims to provide, in a very succinct manner, the basic elements for a quick introduction into the subject area. It shows in synthesis the consensus reached by a subject area group after intense, prolonged and lively discussions in the group.

The Tuning Management Committee

2 Education as a discipline

Education is a multidisciplinary subject found in all the member states of the EU, and is informed by a range of foundation disciplines such as Psychology, Sociology, Philosophy, Applied Linguistics, Curriculum Studies, Social and Policy Studies, Social Anthropology and History.

The subject is divided into two broad but closely linked fields, Teacher Education and Education Sciences¹.

In the case of Teacher Education, various teaching subjects (e.g. mathematics, languages and literature, science, social sciences, arts, etc.) are also involved since all teachers teach a subject or subjects. The focus for teacher education is on teaching, learning and assessment in a wide variety of socio-cultural-economic contexts.

Because of the human focus of the subject in both Education Sciences and Teacher Education moral and ethical values are highly prioritised.

2.1 Teacher Education

Teacher Education is strongly regulated in most member states of the EU, and internal regulations may not always be fully in tune with other regulations influencing higher education. Today in Europe all secondary school teachers, almost all primary school and many pre-school teachers are educated to first degree level or equivalent. In many, if not most, countries the curricular components and standards of achievement follow national guidelines set by Ministries of Education or professional bodies such as Teaching Councils, lending a degree of homogeneity to programmes. In others university autonomy takes precedence and there may be great disparities between courses in different universities. However, future teachers must acquire a range of competences including the knowledge, values and skills necessary for achieving the highest academic standards in their subject or areas of the curriculum, as well as being fully aware of the theory and practice of education relevant to the age-group they are to teach; of national priorities in education; and of teachers' roles as professionals in fast changing and unpredictable social contexts.

Initial teacher education courses at first or second cycle level is also provided for university teachers, vocational college teachers, nurse tutors, in 50% of the countries represented in the Education Sciences working group.

Most countries provide programmes of continuing professional development for teachers, other education professionals, health workers and others (which may be compulsory), but which do not always lead to a higher qualification. However, degrees at second and third cycle level are widely available for those who wish to take them up.

¹ ISCED 1997 classification; see http://www.unesco.org/education/nfsunesco/doc/isced_1997.htm

Education

14 Teacher training and education science

Teacher training for pre-school, kindergarten, elementary school, vocational, practical, non-vocational subject, adult education, teacher trainers and for handicapped children. General and specialized teacher training programmes. ***We shall not use the term teacher training but the more commonly used term Teacher Education.***

Education science: curriculum development in non-vocational and vocational subjects. Educational assessment, testing and measurement, educational research, other education science.

The Education working group has identified an anomalous situation with regard to Teacher Education within the context of the implementation of first and second cycles of degree awards. This anomaly is particularly evident in consecutive models of teacher education where students study one or two academic disciplines (180-240 ECTS) prior to a postgraduate teacher education component of their studies (60-90 ECTS). Although students may have accumulated a total of 240 – 320 ECTS in order to obtain their initial teacher education qualification, in a number of countries 300+ ECTS accumulated in this way does not result in a second cycle award. This is in spite of the fact that the postgraduate component may, to a significant degree, meet the level descriptors for second cycle.

In order to ensure that Teacher Education should be compliant with Bologna first and second cycle degree structures, and that it has comparability with other disciplinary areas, the Education working group recommends that the structures of Teacher Education first and second cycle degrees should facilitate this. A number of possible pathways to second cycle awards are suggested:

- A first cycle degree in the chosen subject(s) of 180-240 ECTS, followed by a consecutive Teacher Education award of 90-120 ECTS (a minimum of 90 ECTS where subject didactics or pedagogy is included in the first cycle degree), and including a research training component.
- A first cycle degree in the chosen subject(s) of 180-240 ECTS, followed by a second cycle consecutive Teacher Education award of 60 ECTS, followed, within a specified time limit, by a second cycle award in Education Sciences or structured induction (to include research training) of 60 ECTS.
- A first cycle integrated degree where the teaching subject(s) and education components are offered concurrently of 240 ECTS, followed by a second cycle award in Education Sciences/structured induction (to include research training) of 60 ECTS.

2.2 Education Sciences

There is considerable diversity in Education Sciences courses at first cycle level but all involve the intellectually rigorous study of educational processes, systems and approaches, and the cultural, societal, political and historical contexts within which they are embedded. Across Europe there is a broad similarity in content and focus of the core components of Education Sciences first degrees, taking into account that the particular content and focus of any given programme will vary according to its stated aims and rationale, but will be demonstrably appropriate to the needs of the students. While there are second cycle programmes in Teacher Education, many take a broader remit and might more properly be called Education Sciences, as is the case with doctoral studies.

3 Degree profile(s)

A range of practice is currently seen in Education programmes with regard to the Bologna model of three cycles. While some countries adopted a three cycle model many years ago, (UK, Ireland) others are at different stages of development, but in Education there are no countries represented within the subject group where the Bologna process is not being discussed with a view to implementation. Solutions to how the implementation differ according to local academic traditions and practices.

In Croatia, for example, a solution compatible with local culture and tradition has been attained in which professional education for classroom teachers from grades 1 to 4 (primary) is provided

in new Teacher Faculties (former Teacher colleges) in integrated programmes of 5 years (300 ECTS) which can lead directly to a research doctoral programme in Education. On the other hand subject teachers (upper primary school grades 5 to 8, and secondary school teachers) are educated at the faculties offering academic programmes (humanities, sciences, arts etc.) with two cycle programs (model 3 years+ 2years) giving access to research doctoral studies in Education or other subject academic fields.

Typical degrees offered in Teacher Education

1. First cycle	Programmes for the preparation of pre-school, primary and secondary school teachers, and teachers from other sectors, include Education Sciences, subject-specific and/or domain specific pedagogical studies appropriate to the target learning domains, and an element of supervised teaching practice in the target domain, the length of which varies across the EU. Students also normally study one or two academic disciplines either concurrently (more often in pre-school/primary/ secondary) or prior (more in often secondary) to the Education component of the programme. All secondary school teachers must be educated to first degree level in their chosen teaching subject, and this may be prior to the teacher education element, as in the consecutive teacher education model of a degree followed by a one-year intensive education programme such as is found in the U.K., Ireland and Spain. In some countries teachers must be educated to second cycle level in order to be awarded Qualified Teacher Status, e.g. Finland. In others primary and pre-school teachers may be educated to sub-first degree level initially. The trend, however, throughout Europe is towards an all graduate teaching profession at all levels of the Education sector.
2 Second Cycle	<p>A wide range of specialist programmes of continuing professional development are offered in Teacher Education, often leading to a Master's degree, but sometimes offering mid-points of completion at Diploma level. Second cycle study normally allows professionals to specialize further in their chosen fields or to obtain a qualification in a new area - e.g. a graduate in (pure) Mathematics (1st cycle) continues (2nd cycle) to become teacher of Mathematics. Typical second cycle degrees in Teacher Education include among others, Special Needs Education, Nurse Education, didactics related to specialist subjects in the curriculum, Teaching and Learning in Higher Education, Adult Education, Guidance and Counseling. Most second cycle programmes have a strong taught component, supported by an empirically and/or theoretically based thesis or dissertation which accounts for the final third (or more) of the programme. The taught component may include the development of professional skills such as systematic observation, testing, diagnosing and counseling, as well deepening or extending of knowledge and understanding.</p> <p>In many countries a wholly research based second cycle degree is available, often, but not always, linked to third cycle study.</p>

3 Third Cycle	<p>(See pages 19 to 23 for a fuller discussion of doctoral study in Education). The traditional doctorate was gained wholly by research, usually requiring examination and defence of a substantial and original piece of research at an international level of excellence described in a comprehensive thesis. This type of academic doctorate is still the predominant model, although the ways in which it is supported have changed over the years. There is an expectation in many countries that part of the earlier years of study will comprise a taught element associated with the development of research knowledge and skills and the practical design of a research project for the empirical and or theoretical element of the degree.</p> <p>In a few countries (Denmark, Portugal, Ireland, UK) a new form of doctoral degree has been, or is being, introduced, with a strong professional focus. Although these professional doctorates have a strong research basis and require the production of a thesis based on original research similar, but shorter than, the doctorate by research they also include an assessed component of advanced subject study.</p>
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Typical degrees offered in Education Sciences

1. First cycle	<p>First degrees in Education Sciences tend to be multidisciplinary, with a strong other-subject element. In other countries e.g. Spain first degrees in Education Studies are single subject and focus on Education from a broad point of view and in all its complexity.</p> <p>Programmes may draw on a wide range of intellectual resources, theoretical perspectives and academic disciplines to illuminate an understanding of education and the contexts within which it takes place. Typical degrees would include Educational Principles, History of Education, Sociology of Education, Adult Education; Educational Psychology; Youth and/or Community Work; Curriculum Development; Educational Administration; Healthcare related work; Human Resource Management; Management of Information and Library Studies; Social Education; Special Needs Education; Educational Policy, Educational Innovation, School Management. There is an increasing trend for there to be a specific component of Educational Research at first degree level, including subjects such as Methodological Basis of Educational Research, Methods and Models of research in Education, and basic Statistics.</p>
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2 Second Cycle	As with teacher Education second cycle degrees, Education Sciences second cycle study normally allows professionals to specialize further in their chosen fields. Specialisms include Educational Psychology, Management of Education, Primary Health Care, Educational Anthropology, Philosophy of Education, and Educational Sociology. Most second cycle degrees contain a taught component, but at least 30%, consists of a research based dissertation or an applied project. In some countries e.g. Spain, Finland, Ireland, UK (the latter only for second cycle degrees in Educational Psychology), some second cycle degrees include practical work in professional settings. As with Teacher Education, it is possible to complete a second cycle degree wholly by research. Typical second cycle degrees in Education Sciences are: Special Education Needs, Third Age Education, Intercultural Education, Educational Evaluation, School Management, Adult Education, Leisure Education, Social Pedagogy
3 Third Cycle	Similar to the description of Teacher Education above.

4 Typical occupations of the graduates in Education Sciences (map of professions)

1. First cycle	<p>Teacher Education</p> <p>Teaching in schools, nurse education, universities/other higher education institutions, vocational education. Teachers of certain school subjects (e.g. mathematics, computer sciences, languages,) may find jobs outside education (communication, business etc).</p> <p>Education Sciences</p> <p>Education programmes of all kinds develop ways of thinking and doing that are highly transferable, and graduates of Education programmes are found in a wide range of professions. Education graduates are found in museum work, youth leadership, community work, publishing (designing and evaluating educational materials), local and national educational administration, counseling in education, educational management; educational services; teaching specific groups, such as adults, third age support, immigrant support work, and personnel management, the latter particularly salient in Sweden..</p>
2 Second Cycle	<p>Teacher Education</p> <p>Teachers in schools (e.g. in Finland); Leadership and management roles; more specialist roles and supervisory roles in educational institutions; researchers; Guidance Counsellors; Special Education co-ordinator, Educational Psychologists (UK)</p> <p>Education Sciences</p> <p>Access to promotion to more senior positions in their chosen fields, or to new positions related to their chosen specialization; researchers.</p>

3 Third Cycle	<p style="text-align: center;">Teacher Education & Education Sciences/Sciences</p> <p>University, Polytechnic and College lecturers; researchers; Ministry and teacher education agency professionals; an increasing number find employment as researchers in independent research and developmental institutes; Research and Development positions in the administration of Education at national or municipal levels (National Board of Education, Regional Developmental Centres), Quality Assurance Agencies; senior posts in curriculum development.</p>
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5 The Role Of The Subject Area In Other Degree Programmes

Education Sciences and Teacher Education are connected with many other degree programmes.

- Teachers must have a subject base in their studies and so all subjects related to the school curricula have some relationship, direct or indirect, with Education.
- In some countries the professional education of teachers of subjects for secondary or higher secondary teaching, occurs in subject departments.
- Education Sciences may form part of a degree study programme in another subject area e.g. in history, business; or with a range of other subjects e.g. with history and business administration in Museum studies.
- In many universities across Europe, students now have a free choice of a small component in their degree course, and many choose Education modules to fulfil this element, e.g. students from psychology, other social sciences (sociology, anthropology, political science), or subject areas where students may be considering the option of going into teacher education after completing their first degree.
- In some areas of Education, e.g. Educational Psychology, an initial first-degree qualification in Psychology is followed by master's level work in educational psychology. Some professional clinical or teaching experience is also normally a requirement to be able to practice as Educational Psychologists.
- Education units may form part of a wide range of programmes concerning Social and Human Sciences.

6 Learning outcomes & competences - level cycle descriptors

The competences identified in Education Sciences are compatible with the European Framework and the Dublin Descriptors (DDs)². The Education working group wish to emphasize, however, that the competences that have been identified in the subject area are indicative only, and can and will change over time. What has been captured is a common core currently agreed to in the countries participating in the project. An important omission with regard to first cycle competences in Education in the DDs is that they make little or no mention of three competences considered to be central for Education.

- Teamwork and interpersonal skills (do not appear overtly in the DDs).
- Critical and self-critical competencies (are not made explicit enough).

² See appendix 1

- Firm knowledge of a profession is not generic and so is not included in the DDs, although it is a competence of great importance in teacher education, emphasizing in particular social and ethical competences.

The Education group wish to state that the list of competences identified is not intended to be either exhaustive or definitive, and should not be used as such.

First Cycle	
Many competences (generic and specific) are common to both teacher education and Education Sciences; some competences are specific to teacher education. Not all competences will be fully developed by the end of first cycle studies and will continue to develop over the continuum of professional life, often focused on during periods of in-service education and training, but not necessarily developed in a context of formal education.	
Key Subject Specific competences	Key Generic Competences
<p>Common to Both Teacher Education and Education Sciences/Studies</p> <p>Teachers and trainers should be able to work effectively in three overlapping areas, as should graduates of Education Sciences programmes. They should be able to:</p> <ul style="list-style-type: none"> • work with information and knowledge of subject to be taught, and of educational issues and their theoretical bases • work with their fellow human beings - pupils/trainees, colleagues and other partners in education. This includes the ability to analyse complex situations concerning human learning and development in particular contexts; • work with society - at local, regional, national, European and broader global levels including the development of appropriate professional values and the ability to reflect on practices and contexts • Abilities for reflection include the ability to reflect on their own and other's value systems, development and practices <p>Teacher Education</p> <ul style="list-style-type: none"> • competence in a number of teaching/learning and assessment strategies and understanding of their theoretical bases; • ability to create an equal and fair climate conducive to learning for all learners regardless of their socio-cultural-economic context. 	<p>Common to Both Teacher Education and Education Sciences/Studies</p> <p>Capacity to learn; communication skills; team working skills; information technology skills; problem solving; autonomy; reflection skills; interpersonal skills; planning and time management; problem solving; decision-making; appreciation of diversity and multi-culturality; ethical commitment; critical and self-critical abilities; capacity to improve their own learning and performance, including the development of study and research skills; ability to analyse, synthesize, evaluate, to identify problems and work out solutions; firm knowledge of the profession in practice;</p>

Second Cycle (Masters)	
Key Subject Specific competences	Key Generic Competences
<p>Common to Both Teacher Education and Education Sciences/Studies</p> <ul style="list-style-type: none"> • Competence in collaborative problem solving of educational issues in a variety of contexts; • Ability to adapt practices to specific educational contexts; • Development of knowledge and understanding in their chosen area of professional specialization in a major educational field – educational management and administration; curriculum studies; educational policy; adult education; learning difficulties; children's literature; • Ability to use research appropriate to discipline to inform their practices; • Ability to reflect on values appropriate to educational activities. 	<p>Common to Both Teacher Education and Education Sciences/Studies</p> <p>Research skills; leadership skills; communication skills, including ability to communicate in advanced professional registers; ability to reflect upon and evaluate own performance; development of advanced cognitive skills associated with knowledge development and creation.</p>
Third Cycle Teacher Education & Education Sciences (Doctoral)	
Key Subject Specific competences	Key Generic Competences
<p>Acquisition and understanding of a substantial body of knowledge which is at the forefront of a field of learning in the field of Education; Exercise personal responsibility and largely autonomous initiative in complex and unpredictable situations, in professional or equivalent contexts related to Education as a broad field;</p> <p>Learn to critique the broader implications of applying knowledge to particular educational and professional contexts;</p> <p>Scrutinise and reflect on social norms and relationships within their particular field of Education and lead action to change them;</p> <p>Capacity to conduct (original) research; Demonstrate the ability to perform independent, original and ultimately publishable research in the different fields of Education and/or school pedagogy.</p>	<p>The creation and interpretation of new knowledge, through original research, or other advanced scholarship, of a quality to satisfy review by peers at national and international levels;</p> <p>Ability to demonstrate a significant range of the principal skills, techniques, tools, practices and/or materials which are associated with a field of learning;</p> <p>Develop new skills, techniques, tools, practices and/or materials;</p> <p>Respond to abstract problems that expand and redefine existing procedural knowledge; Communicate results of research and innovation to peers;</p> <p>Engage in critical dialogue; lead and originate complex social processes within their professional domain; critical competences, i.e. critical and self-critical abilities;</p> <p>Presentation and defence in public of scientific studies;</p> <p>Creativity.</p>

9 Subject Specific Competences in Education Sciences

A fairly large scale survey of former students, academics and employers (see below) conducted by the Education Sciences working group endorsed the following list of subject specific competences.

9.1 Education Sciences	9.2 Teacher Education
<p>Ability to analyse educational concepts, theories and issues of policy in a systematic way</p> <p>Ability to identify potential connections between aspects of subject knowledge and their application in educational policies and contexts</p> <p>Ability to reflect on one's own value system</p> <p>Ability to question concepts and theories encountered in Education Sciences</p> <p>Ability to recognise the diversity of learners and the complexities of the learning process</p> <p>Awareness of the different contexts in which learning can take place</p> <p>Awareness of the different roles of participants in the learning process</p> <p>Understanding of the structures and purposes of educational systems</p> <p>Ability to do educational research in different contexts</p> <p>Counselling skills</p> <p>Ability to manage projects for school improvement/development</p> <p>Ability to manage educational programmes</p> <p>Ability to evaluate educational programmes/materials</p> <p>Ability to foresee new educational needs and demands</p> <p>Ability to lead or coordinate multidisciplinary educational teams</p>	<p>Commitment to learners' progress and achievement</p> <p>Competence in a number of teaching/learning strategies</p> <p>Competence in counselling learners and parents</p> <p>Knowledge of the subject to be taught</p> <p>Ability to communicate effectively with groups and individuals</p> <p>Ability to create a climate conducive to learning</p> <p>Ability to make use of e learning and to integrate it into the learning environments</p> <p>Ability to manage time effectively</p> <p>Ability to reflect upon and evaluate one's own performance</p> <p>Awareness of the need for continuous professional development</p> <p>Ability to assess the outcomes of learning and learners' achievements</p> <p>Competence in collaborative problem solving</p> <p>Ability to respond to the diverse needs of learners</p> <p>Ability to improve the teaching/learning environment</p> <p>Ability to adjust the curriculum to a specific educational context</p>

10 Consultation process with stakeholders

In the first phase of the Tuning project the Education Sciences Working Party consulted former students, employers and other Education academics to ascertain their views on the range of generic and subject specific competences that relevant to the subject areas of Teacher

Education and Education Sciences. As noted above this consultation resulted in endorsement of an indicative list of competences. The Working Group also consulted other academics from time to time during the Tuning phases one and two to elicit feedback from colleagues on issues as they arose, e.g. calculating student workload.

The professions related to Education are represented by a wide range of professional bodies, learned societies and regulatory bodies, many of which belong to European networks. Teaching Councils have now been established in several countries with remits similar to those of other regulatory professional bodies, such as Medical Councils. Where such Councils or other accrediting bodies exist, higher education institutions running teacher education and educational sciences programmes which require professional accreditation must consult with these bodies and facilitate accreditation visits. Student stakeholders include national student bodies who may have representation on review and accreditation boards at national level in many countries.

The close links between Teacher Education Programmes and field-based student placements have continuously provided opportunities to consult stakeholders, i.e. teachers in schools or school principals about the relationships between theory and practice, and regarding which parts of the Teacher Education programmes might be improved to better fit to the 'realities of today's schools'.

Other stakeholders include the users of educational services, e.g. parents, who, as 'consumers' choose schools for their children in an increasingly market-oriented society, thereby putting pressure on schools and higher education institutions to respond to their demands and educate teachers accordingly.

Universities offering Education Science (possibly combined with studies in psychology, sociology, political science, journalism) are increasingly making use of questionnaires to former students, and consequently to their employers, to find out which professions they join, in order to be more targeted to the needs of the labour market.

Other stakeholders routinely consulted in teacher education and educational sciences are employers' groups such as national organisations of school principals or of educational psychologists, guidance and counselling organisations, teacher unions, ministry of education officials, local education administrators and so on.

11 Workload and ECTS

The European Credit Transfer System has been developed over a number of years with the participation of all of the countries which are also involved in Tuning. One credit is approximately equivalent to 20 to 30 hours of study, and this includes all student work. A student workload for one year would comprise approximately 60 ECTS (see the accompanying Tuning Booklet for a fuller discussion of this).

It is difficult to briefly outline this topic without differentiating between pre- and post- Bologna structures. The pre-Bologna first cycle could comprise up to 300 ECTS equivalents, i.e. at least five years of study, and new legislation leading to the figures noted below are only partially implemented. However, the following information has been collected from members of the Education working group. It should be borne in mind that Teacher Education presents an anomaly with regard to Bologna implementation.

First cycle	<p>Teacher Education</p> <p>180 to 240 ECTS if wholly located at first cycle level; where divided between first and second cycles the total is concomitantly greater, e.g. the 300 mentioned from Croatia, above). For teaching at secondary school level, this may comprise a first degree of 180 to 240 ECTS plus a one-year Diploma course focused on preparation to teach of equivalent 60 – 80 ECTS. This Diploma course may be a second cycle element, but in some countries it counts as a first cycle level Diploma even though it is taken after a first cycle degree. For primary school qualified teacher status an integrated degree of 240 ECTS is more usual, although in some countries the consecutive model is also available for future primary school teachers, e.g. UK.</p> <p>Education Sciences</p> <p>180 – 240 ECTS</p>
Second Cycle	<p>Teacher Education & Education Sciences</p> <p>60 – 120 ECTS. Not all countries have separate first and second cycle programmes yet, as noted above. The one-year Diploma noted above can be a second cycle qualification, but is not always weighted in terms of ECTS credits. In some countries, e.g. Greece, the term ‘teacher education’ only exists at first cycle level, thereafter the term used for all is ‘Education Sciences’.</p>
Third Cycle	<p>Teacher Education & Education Sciences</p> <p>120 ECTS <i>post second cycle where the second cycle award is linked to the doctoral work</i>, otherwise, 180 ECTS, normally associated with 3 years’ full-time study. In many countries the length of doctoral studies has not yet been specified in terms of credits, and normal completion times may be as long as 4-6 years’ full-time study or longer.</p>

12 Learning, teaching & assessment (TLA)

Education Sciences are centrally concerned with TLA, with many academics having a strong practitioner background. It has also long been the tradition for academics in Education Sciences to consciously demonstrate good practices in their own teaching. The Tuning approach of developing curricula and approaches to TLA around student competences has been well established in areas of Education such as Teacher Education for a considerable time, and valuable pedagogical practices founded on principles of adult learning and competence development have evolved over a number of years. What are listed below are three examples of good practices taken from Education Sciences which may have wider relevance across other disciplines.

12.1 Example one: first (or second cycle): Learning and teaching

Observation skills development

Competences developed

- o Ability to analyse complex situations of human learning and development in particular contexts, including their own learning;

- o Describe objectively what is observed, categorize and analyse this, and make theoretically well founded evaluations based on the observed incidents;
- o Appreciate how own values and beliefs can influence observation;
- o Use evidence from reading and research to support development of analysis and evaluation.

Method of TLA

This is a method often associated with a task-based or problem-based approach to teaching and learning.

Observation is a key element of work placements and school practice. Practice in developing the different competences making up observation skills can begin with very concrete, easily observed and easily described (low inference) phenomena (who talks to whom, how many times does x occur, etc.) and gradually include events much less easy to 'see' or describe (high inference), such as what kinds of roles people are playing, what the aims of an activity is.

From tutor led observation activities, students can then move to real time observation in their placement area. Each early observation task is followed by an exercise in reflection in which students are required to share descriptions, categorise phenomena (analysis) and evaluate what has been observed and the role of their own values in influencing how they observe. Literature search is an important part of the follow up, particularly at second cycle level. Placement observations also have follow-up sessions with peers and placement tutors.

A wide range of formative assessment techniques can be developed, ranging, for example, from simple categorization exercises in which students list what has been observed and then categorize them, to real life observation activities in which the basic observed features are assessed, or their categorization, or their links thereafter to underlying theory etc, to academic assignments which encourage greater understanding of observation based on an in-depth study of the literature.

12.2 Example Two: first (and second cycle) Learning and Assessment

Portfolio assessment

Competences developed

- o Reflection;
- o Autonomous decision making as part of self directed learning;
- o A range of competences appropriate to the unit or programme which is the basis of the portfolio.

Method of TLA

Portfolio assessment normally forms part of a programme of study or section of a programme rather than a single module, and is based on a purposeful sample of student work, selected on the basis of defined criteria related to the competences focused upon. Portfolios are constructed to highlight and demonstrate students' knowledge and skills in a range of competences. The portfolio also provides a means for reflection, offering the opportunity for auto-critiquing the student's own work and evaluating the effectiveness of interpersonal interactions in selected contexts.

A typical use might be on work placements, where the portfolio provides a record of the student's engagement with a range of learning activities. The completed portfolio may later be used to support preparation for job interviews.

Portfolios are usually selections of the total collection of data collected by the student (which may include assessed work, artefacts, learner profiles, diaries etc.) and demonstrate the *development* of competences over time. More recently IT has been used to produce web-based portfolios to demonstrate student development of IT skills as well as other competences.

12.3 Example Three: (second and third cycle) Teaching, Learning and Assessment Research Methods Training

Competences developed

- o Understanding of research methods and the paradigms in which they fit;
- o Familiarity with a range of commonly used methods in educational research, and
- o Practice in how to set these up, analyse data etc;
- o Ability to develop feasible and researchable questions and select appropriate methods of researching them.

Method of TLA

In Education most students undertake independent research projects, and do not work as part of a research team. Coming from working backgrounds outside academia, many require initial support in developing an appropriate research proposal. Typical macro activities are:

- o discussing the nature of educational research; giving and seeking information about the main approaches to research in educational research;
- o examining the nature of research questions;
- o discussing the main methods, techniques and instruments used to collect and analyse data, in accordance with the object and objectives of a particular research;
- o discussing how to design a research plan.

Students engage in a range of practical activities, such as defining research questions and objectives; developing appropriate instruments for data collection; developing and using methods of analysis for analysis of data, researching methods in the literature and evaluating their relevance to their own needs.

Grading of achievement is often based on a student developed research plan which can be used later as the basis for their research proposal.

13 Quality enhancement

One of the distinctive ways in which both Teacher Education and Education Sciences enhance the quality of their programmes is through active partnerships with employers and professional bodies. The former, through collaboration in work placements, turn a practical eye on the relevance of courses to the social needs of the time. The latter, through their gate keeping and regulatory functions may ensure that standards are upheld at national and, increasingly, international levels. Such interaction with external partners is not yet true in all EU countries.

Academics from Education departments and faculties participate or lead in most research into the processes of quality assessment and enhancement in higher education (as well as other sectors of education) and so practices in Education are based on evidence.

The processes of quality assessment are rather complex and therefore demand a variety of tools and participants. Consequently students are increasingly involved in quality assurance and improvement processes as part of their development as reflective practitioners.

A wide range of internal monitoring procedures are fed into open systems where implications for improvement are discussed, such as student satisfaction questionnaires; student discussions and focus groups, staff views, reviews of student assessment etc.; annual programme review which may include students as well as the teaching team; non-judgemental peer observation. In some countries (e.g. UK, Ireland) external examiners at all degree levels are involved in this process to some extent.

In many Education departments academic staff undertake continuing professional development through attendance on short courses, conferences and seminars. Teacher education for university teachers is becoming a common way of improving quality as part of a continuing learning strategy used by many institutions.

External evaluation by national quality assurance agencies, developed on a consultative basis, provides a focus for departmental and personal reflection and improvement, although most educationists in the European Tuning group favour a light external touch. It was felt that external agency evaluations are too often linked to future funding and 'value for money' or to the impressions of the political moment rather than to enhancement of student learning.

14 Doctoral Study in Education

Until approximately ten years ago the only type of doctorate available in Education Sciences and Teacher Education in Europe was what is commonly known as the 'academic' doctorate. This was widely available across all EU member states, and remains the most common type of doctoral programme across all countries. In Education this was usually a wholly or nearly wholly research based degree - although a range of structures actually existed with a greater or lesser extent of taught elements available either compulsorily or optionally. Candidates were normally under the guidance of one, or occasionally two, academic(s). The time taken to complete the doctorate was often in excess of seven years, and few countries imposed a time limit.

Academic doctorates are changing in Education Sciences, with a strong trend towards a structured taught component for a varying proportion of the total in all countries (sometimes quite a small component); with much stricter regulations for completion within a stipulated time frame (normally 3 to 4 years of full-time study); with the creation of doctoral schools to provide a research vibrant interdisciplinary context for candidates; and with more rigorous frameworks within which supervision takes place and supervisors are appointed.

Professional doctorates in Education have emerged over the past ten years, notably in the UK where there are now more than forty programmes in Education, but also in Portugal, Denmark, Sweden and Ireland among others. Some countries have looked at the possibility of introducing professional doctorates and have decided not to do so, e.g. Slovenia. The professional doctorate in Education has developed alongside a range of professional doctorates in other professional areas, such as engineering, clinical psychology, nursing, pharmacy, business administration and a growing number of other professional areas. The professional doctorate emerged in response to a number of pressures, including demands from professionals themselves and professional bodies for higher forms of learning and qualification, the perceived inadequacy of the existing academic doctorate for careers outside academia, pressures on universities to diversify, and demands for the recognition of other forms of knowledge and learning, particularly those of practitioners.

Admission criteria (e.g., second cycle degree, one year second cycle studies.....)

For both types of doctoral degree the requirement is normally a second cycle degree of a good standard. For professional doctorates a substantial period of professional work is also normally required. Although in other subject areas students in some countries with first class first cycle degrees can be admitted directly to doctoral study, this is rare in Education, where a second

cycle degree is the normal requirement, often with evidence of relevant professional practice. There is relatively little formal use of APL/APEL (accreditation of prior learning/accreditation of prior experiential learning) although it does exist.

Duration in years of full time study

Normally 3 or 4 years fulltime; 5 to 7 years part-time.

Percentage of full time/part time candidates

No information is available for ratios of part-time or full-time candidates. Academic doctorates and professional doctorates may have different profiles, since most of the latter are offered in part-time modes to suit the professional needs of the type of person who wishes to undertake doctoral study in order to undertake more specialist professional work (normally senior professionals).

Credit allocation, if any (total or partial)

In Education most countries describe the numbers of ECTS credits allocated to academic doctorates at between 180 and 240, but this may be a construct drawn from the credit weighting of first and second degrees. There was no feeling among the Education group that any sustained investigation into the award of credits for research work had been undertaken. Because professional doctorates have been developed recently it is more likely that they were credit rated from the outset. Similarly, the part-time taught part of the professional doctorate programme lends itself to quantification of workload as with other degree programmes. Again there may be some ambiguity (perhaps considerable) with regard to the research component in terms of credits.

Learning outcomes, if any

The Education SAG is almost unanimous in stating that the **academic** doctoral programmes do not yet have a set of learning outcomes as Tuning has come to understand them. However, most have a set of general expected outcomes, often written into prospectuses, sometimes merely tacitly understood. Nevertheless, implicit understandings, student Handbooks, and criteria for assessment closely reflect the DDs for study at this level.

*“Qualifications that signify completion of **the third cycle** are awarded to students who:*

- have demonstrated a systematic understanding of a field of study and mastery of the skills and methods of research associated with that field;*
- have demonstrated the ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity;*
- have made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, some of which merits national or international refereed publication;*
- are capable of critical analysis, evaluation and synthesis of new and complex ideas;*
- can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise;*
- can be expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement in a knowledge based society.”*

(Dublin Descriptors, 2004)

Professional doctorates tend to have clearer and more detailed statements of aims, which are usually accompanied by statements of learning outcomes, also closely linked to the Dublin descriptors. The specific approach to developing intended learning outcomes in professional doctorates may help to inform the development of the highest levels of Lifelong Learning qualifications under the Lisbon Declaration. **The Education Sciences SAG expressed a strong recommendation that there be a discernible coherence between Life Long Learning Qualifications and Higher Education qualifications.**

One example from a professional doctorate (EDD) in Educational Psychology in the UK illustrates how the specificity of ILOs is closely tied to the general DDs as well as reflecting the professional imperatives of a particular group of educators.

“The expected learning outcomes are that, by the end of the programme candidates will:

- have current, relevant and confident knowledge of research evidence which informs professional practice.*
- develop skills of analysis and reflection in relation to the design and interpretation of research.*
- understand a wide range of theoretical issues affecting the growth and development of children.*
- be able to justify their own professional practice in terms of evidence-based educational psychology.*
- become familiar with theoretical models of supervision.*
- develop skills of analysis and reflection in relation to professional practice.*
- understand contrasting perspectives and role tension in the supervisory process*
- develop strategies for generating effective supervision within their own professional contexts.*
- be aware of current research and case law underpinning professional judgements.*
- explore ethical dilemmas in relation to professional practice.*
- analyse the status of evidence-based psychology applied to education.*
- develop understanding of the ethical parameters affecting professional conduct.*
- become familiar with theoretical frameworks for consultation drawn from systemic-interactionism.*
- acquire knowledge of elements, skills, and issues in relation to consultation and professional practice.*
- have considered case examples of consultative frameworks.*
- develop strategies for generating effective consultation skills within their own professional contexts”*

(EDD University of Bristol, UK)

Other results expected, if any (e.g., publication of thesis.....)

The issue of publication of new knowledge and research is central to doctorates of all types. A key criterion in the assessment process in all countries, in all doctorate types, is whether the results of the research are publishable in peer-reviewed outlets, in whole or in part.

Some countries insist on the submission of multi-copies of the dissertation which are then given to all university libraries. (e.g. Sweden) Others put all doctoral theses on a website (Finland). All countries expect that the candidate will be able to defend the thesis in an oral debate, whether with a small audience of external and internal examiners, or with a wider audience of examiners, peers and invited personnel.

In some countries, (e.g. Denmark), an added result is the accumulation of teaching experience as all doctoral candidates in Denmark are required to engage in Teaching and supervision of first and second degree students as part of their doctoral programme. However, the amount of time that full-time doctoral candidates can spend in such professional work is normally strictly limited in all EU countries.

Learning activities provided (e.g., taught courses, seminars.....)

Structural learning experience such as taught courses and/or seminars, presentations, workshops and learning groups are included in all doctoral programmes in different combinations. Most doctoral programmes attach 30 to 90 European credits for these activities.

Most universities provide some research training, although some insist that any research training should have been completed satisfactorily by the end of the second cycle (e.g. Croatia). Some countries expect candidates to undertake professional work as a credit rated part of the programme, either as teaching assistants or in other academic work within the university (e.g. Denmark).

Learning environment provided (e.g., doctoral schools....)

A range of environments exists. An increasing number of countries now provide Graduate Schools where candidates can participate in joint seminars, other learning activities and joint participation in a multi disciplinary setting. Such schools may also provide research-training seminars.

Research teams in departments increasingly provide rich and supportive learning environments for the candidates they have selected, including access to current research project teamwork. At best, candidates work in a richly supportive and mixed learning environment, enriched by access to a range of seminars, senior researchers, projects and other candidates. At worst, but progressively less frequently in Education, the candidate works in virtual isolation with one supervisor.

Supervision (e.g., who, how, how much.....?)

Supervision is provided by an academic research active in the area of the candidate's research. This supervisor may act alone, or be one of several, particularly whether the research is interdisciplinary. Appointment is normally approved by a committee, either at Departmental or University level. Few universities give specific details of how much supervision can be expected, and the actual amount is negotiated between candidate and supervisor. The tables show that some countries allocate a minimum that all candidates can expect during the year, this number including all reading the tutor can be expected to do. This is an area where there are undoubtedly great inequalities of provision in most countries, and even within the same university in a country, and where existing good practice can and should be shared.

There has been a steady increase in the use of virtual environments for supervision, including for candidates in the third cycle. At this level the use of electronic and other modes of distance supervision complements face to face modes. Further research is needed in this area in Education Sciences before a definitive statement can be made.

Assessment (e.g., who, when, how.....?)

Practices vary. In academic doctoral study, there may be a system of annual or biannual review of progress, which may be assessed through a formal assignment by internal examiners. All such programmes have a final assessment of the thesis through a viva voce examination, usually with external examiners as well as internal ones. Professional doctorates and all programmes with coursework elements have continuous assessment of coursework as well as the normal viva voce examination of the final thesis.

The viva voce examination or public defence of the thesis may also include a formal lecture or presentation to an external audience, with or without a system of formal opponents.

Funding (e.g., self, institutional, national....)

There is a marked contrast between countries within the EU in the matter of funding. Scandinavian countries tend to target set numbers for doctoral studies who are then fully funded, and in Denmark, for instance, these candidates are full academic members of staff. Other countries admit on the basis of merit but candidates have to find their own funding, e.g. from competitive sources within or outside the university. Some countries do not charge fees, while others charge full fees. In some countries which enrol both full time and part time candidates, while full time candidates are fully funded, part time candidates have to find their own source of funding.

In most countries in Education Sciences there is a picture of limited sponsorship from government at this level.

Employment opportunities (e.g., universities, research institutions, industries....)

Academic doctorates will normally lead into careers in universities or similar institutions, perhaps governments or government agencies at senior levels, research institutes, public administration and so on.

Professional doctorates normally lead to senior levels of employment in the field in which the candidate works.

There are some indications that employment of professions with doctoral degrees may be a problem in some countries. Portugal, for example, is one country where candidates who receive grants to continue to third cycle studies are finding it difficult to enter at appropriate points in the professional market. In countries with an ipso facto quota system this may be less problematic. It may be that this is an issue with academic doctorates, since most candidates in professional doctorates either have sponsorship or have a clearly perceived career need for undertaking the study.

15 Trends and differences within the European higher education area in this subject area.

Education and training are priorities of policies of the Council of the European Union. Strategic objectives for the development of education and training systems in the European Union have been defined and decisions taken on a detailed programme at European level. The European Commission, DG Education and Culture, sees teacher education and educational research as 'vital' to the achievements of the Lisbon objectives. This position was reiterated at the Madrid Council meeting, and also in the joint Council and Commission report *Education & Training*

2010. Knowledge-based and dynamic learning societies depend on highly qualified education staff in a rich variety of contexts (e.g. lifelong learning, @-learning, inclusive education, university education). As a consequence, the initial education and continuous professional development of educators and those in education-related professions have become subject to rapid expansion, diversification and professionalization. Trends that have become apparent are:

- The role of Education academics in the preparation of university teachers. In 50% of the countries represented in Tuning initial education for teaching is now essential for university teachers.
- Teaching in higher education institutions is also emerging as a distinct field of research.
- While there are apparent national differences at a surface level in Education Sciences and Teacher Education across the member states, there are as many similarities and commonalities at a deeper level structure. This makes the possibility of cross-European modules or courses feasible, and this is a trend that is beginning to be seen.
- Although traditionally, and currently in many countries, teacher education has been based on theoretical and practical knowledge, many governments are now prioritising classroom-based research, assuming that it will be directly relevant for educational practice. This has led to a growth in evidence-based practice as the informing philosophy of teacher education.
- Consequently a research component is included in programmes of initial teacher education in an increasing number of countries, although this element has not yet become an integral component of all models of initial teacher education in Europe at first degree level. However, a research component normally forms an integral aspect of all programmes at second cycle level.
- There is a growing trend in Education for part-time studies at all degree levels, especially for second and third cycles. This is associated with the parallel trend of self funding of post-first cycle study, already well established in some EU countries but spreading inexorably across Europe
- The range of candidates entering Teacher Education is widening. Influenced by teacher shortage, economic downturns or altruism, mature professionals from other fields are turning to teaching. These candidates are normally educated to degree level in other subjects, and often obtain accredited entry to the Teacher Education programme they choose. There is evidence that such mature candidates are positively regarded by academics and employers.
- Professional doctorates are beginning to appear within Europe (UK, Ireland, Portugal). This may be the beginning of a trend related to the development of lifelong learning opportunities for professionals in the fields related to Education.
- Another trend within doctoral studies is a movement to limit the length of study to a reasonable number of years/workload (largely motivated by analysis of the real costs of supervision in universities)
- There is a growing trend to offer on-line elements of programmes at second cycle level, and to make use of internet resources as part of teaching and learning strategies.

Membership of the Education Subject Area group

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REPORT ON:

A FRAMEWORK FOR QUALIFICATIONS OF THE EUROPEAN HIGHER EDUCATION AREA

...

3.3 Descriptors of learning outcomes and competence

1. A key element in contemporary qualifications frameworks is the specification of outcomes. There are various ways in which the range of outcomes can be categorised and specified. Traditionally higher education was relatively explicit about the knowledge (outcomes) to be achieved, or at least the knowledge covered by the curriculum. It was however somewhat less explicit on the skills or competences required for the award a given qualification. Competences, such as those of critical evaluation, were and are embedded or implicit in the assessment values and practices. It is becoming increasingly widespread practice that as wide a range of the outcomes as possible are specified. Such explicit specification facilitates the comparison of qualifications.
2. The generic outcomes for a qualification, that is the learning outcomes common to all holders of a particular type of qualification, may be expressed in a 'qualification descriptor'. The descriptors for a European framework must of necessity be quite general in nature. Not only must they accommodate a wide range of disciplines and profiles but they must also accommodate, as far as possible, the national variations in how qualifications have been developed and specified. For practical purposes, the descriptors should be short and easy to understand. They should avoid technical language, bearing in mind that they will be used in reference to national qualifications systems expressed in a variety of languages.
3. After the Prague Ministerial Conference (2001), it became increasingly clear that the structure of cycles introduced through Bologna would have to be supplemented by more detail on the outcomes of these cycles if the objectives of transparency, recognition and mobility were to be met. An informal group of higher education specialists from a variety of countries met under the umbrella of the Joint Quality Initiative (www.jointquality.org). This grouping developed a set of descriptors that have come to be referred to as the 'Dublin Descriptors'. The initial descriptors for the first and second cycle were commended to the ministers' meeting in Berlin by the Amsterdam Consensus. Subsequently the group has developed a descriptor for the third cycle. Recently, a descriptor for a short cycle (within

the first cycle), following the pattern of the other three cycles, has also been produced. These descriptors (especially for the first and second cycles) have been found to be useful in various ways by national quality assurance agencies, developers of higher education standards, and designers of higher programmes. So far, no significant revisions have been proposed.

4. Qualification descriptors are usually designed to be read as general statements of the typical achievement of learners who have been awarded a qualification on successful completion of a cycle. The concept of typical qualification cycle descriptors was developed within the Joint Quality Initiative. This concept found wider acceptance and applicability than possible use of broader level descriptors. Level descriptors are typically more comprehensive and attempt to indicate the full range of outcomes associated with a level.
5. The Dublin descriptors have been developed as a set and are intended to be read with reference to each other. They are primarily intended for use in the alignment of qualifications and hence national frameworks. National frameworks may themselves have additional elements or outcomes, and may have more detailed and specific functions.
6. The Dublin descriptors were built on the following elements:
 - knowledge and understanding;
 - applying knowledge and understanding;
 - making judgements;
 - communications skills;
 - learning skills.
7. The Dublin Descriptors offer generic statements of typical expectations of achievements and abilities associated with qualifications that represent the end of each of a Bologna cycle. They are not meant to be prescriptive; they do not represent threshold or minimum requirements and they are not exhaustive; similar or equivalent characteristics may be added or substituted. The descriptors seek to identify the nature of the whole qualification. The descriptors are not subject specific nor are they limited to academic, professional or vocational areas. For particular disciplines the descriptors should be read within the context and use of language of that discipline. Wherever possible, they should be cross-referenced with any expectations/competencies published by the relevant community of scholars and/or practitioners. In adopting the Dublin descriptors the Working Group recognise that further elaboration of the existing elements and/or introduction of new elements will be part of the evolution of them as reference points to the framework for higher education qualification of the EHEA.
8. The Dublin descriptors (December 2004) include:

*Qualifications that signify completion of the **higher education short cycle (within the first cycle)** are awarded to students who:*

- *have demonstrated knowledge and understanding in a field of study that builds upon general secondary education³ and is typically at a level supported by advanced*

³ General secondary education also includes vocational education with a sufficiently general component.

textbooks; such knowledge provides an underpinning for a field of work or vocation, personal development, and further studies to complete the first cycle;

- can apply their knowledge and understanding in occupational contexts;*
- have the ability to identify and use data to formulate responses to well-defined concrete and abstract problems;*
- can communicate about their understanding, skills and activities, with peers, supervisors and clients;*
- have the learning skills to undertake further studies with some autonomy.*

Qualifications that signify completion of **the first cycle** are awarded to students who:

- have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education²⁷, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study;*
- can apply their knowledge and understanding in a manner that indicates a professional⁴ approach to their work or vocation, and have competences⁵ typically demonstrated through devising and sustaining arguments and solving problems within their field of study;*
- have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues;*
- can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences;*
- have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.*

Qualifications that signify completion of **the second cycle** are awarded to students who:

- have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with the first cycle, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research⁶ context;*
- can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study;*

⁴ The word '**professional**' is used in the descriptors in its broadest sense, relating to those attributes relevant to undertaking work or a vocation and that involves the application of some aspects of advanced learning. It is not used with regard to those specific requirements relating to regulated professions. The latter may be identified with the profile / specification.

⁵ The word '**competence**' is used in the descriptors in its broadest sense, allowing for gradation of abilities or skills. It is not used in the narrower sense identified solely on the basis of a 'yes/no' assessment.

⁶ The word '**research**' is used to cover a wide variety of activities, with the context often related to a field of study; the term is used here to represent a careful study or investigation based on a systematic understanding and critical awareness of knowledge. The word is used in an inclusive way to accommodate the range of activities that support original and innovative work in the whole range of academic, professional and technological fields, including the humanities, and traditional, performing, and other creative arts. It is not used in any limited or restricted sense, or relating solely to a traditional 'scientific method'.

- *have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements;*
- *can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously;*
- *have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.*

Qualifications that signify completion of **the third cycle** are awarded to students who:

- *have demonstrated a systematic understanding of a field of study and mastery of the skills and methods of research associated with that field;*
- *have demonstrated the ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity;*
- *have made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, some of which merits national or international refereed publication;*
- *are capable of critical analysis, evaluation and synthesis of new and complex ideas;*
- *can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise;*
- *can be expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement in a knowledge based society.*

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Visit the Tuning website for more information at <http://tuning.unideusto.org/tuningeu> and www.rug.nl/let/tuningeu

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