# Education Sciences

## Introduction to the subject area

Education is a multidisciplinary subject informed by a range of foundation disciplines such as Psychology, Sociology, Philosophy, Applied Linguistics, Curriculum Studies, Social and Policy Studies, Social Anthropology and History. In the case of Teacher Education, various teaching subjects (e.g. mathematics, languages and literature, science, social sciences, arts, etc.) are also used to explicate the nature of teaching, learning and assessment for all subjects in a wide variety of socio-cultural-economic contexts. Because of the human focus of the subject, it is one where moral and ethical values are highly prioritised.

The subject is divided into two broad but closely linked fields, Teacher Education and Education Sciences[1].

### Teacher 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.

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

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[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.

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 agree 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.

**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.

## 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.

## 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. |
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| **2** Second Cycle | 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.<br>In many countries a wholly research based second cycle degree is available, often, but not always, linked to third cycle study. |
| **3** Third Cycle | Doctorate 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.  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.<br>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.  These professional doctorates include an assessed component of advanced subject study and a thesis based on original research similar, but shorter than, the doctorate by research. |

## Typical degrees offered in Education Sciences

| **1**. First cycle | 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. Programmes 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. |
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| 2 Second Cycle | As with teacher Education second cycle degrees, in 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 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 |
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| 3 Third Cycle | Similar to the description of Teacher Education above. |

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

| 1. First cycle | **Teacher Education**<br>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).<br>**Education Sciences**<br>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.. |
|---|---|
| 2 Second Cycle | **Teacher Education**<br>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)<br>**Education Sciences**<br>Access to promotion to more senior positions in their chosen fields, or to new positions related to their chosen specialization; researchers. |
| 3 Third Cycle | **Teacher Education & Education Sciences/Sciences**<br>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; R&D jobs in the administration of education at the national or municipal level (National Board of Education, Regional Developmental Centres), Quality Assurance Agencies; senior posts in curriculum development. |

## Role of subject area in other degree programmes

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

- o   Teachers must have a subject base in their studies and so all subjects related to the school curricula have some relationship with Education.

- o   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.

- o   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.

o 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 requirements to be able to practice as Educational Psychologists.

o Education units may form part of a wide range of programmes concerning Social and Human Sciences.

## Learning outcomes & competences - level cycle descriptors ç

The competences identified in Education Sciences are compatible with the European Framework and the Dublin descriptors. The Education working group wish to emphasize, however, that the competences identified are indicative only. The list is not intended to be either exhaustive or definitive, and should 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 at 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** |
| **Common to Both Teacher Education and Education Sciences/Studies**<br>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:<br>• work with information and knowledge of subject to be taught, and of educational issues and their theoretical bases<br>• 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;<br>• 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<br>Abilities for reflection include the ability to reflect on their own and other's value systems, development and practices<br>**Teacher Education**<br>• competence in a number of teaching/learning and assessment strategies and understanding of their theoretical bases;<br>• ability to create an equal and fair climate conducive to learning for all learners regardless of their socio-cultural-economic context. | **Common to Both Teacher Education and Education Sciences/Studies**<br>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 analyze, synthesize, evaluate, to identify problems and work out solutions; firm knowledge of the profession in practice; |

| Second Cycle | |
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| **Key subject specific competences** | **Key generic Competences** |
| **Common to Both Teacher Education and Education Sciences/Studies**<br>• Competence in collaborative problem solving of educational issues in a variety of contexts;<br>• Ability to adapt practices to specific educational contexts;<br>• 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;<br>• ability to use research appropriate to discipline to inform their practices;<br>• Ability to reflect on values appropriate to educational activities. | **Common to Both Teacher Education and Education Sciences/Studies**<br><br>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. |
| **Third Cycle Teacher Education & Education Sciences** | |
| **Key subject specific competences** | **Key generic Competences** |
| Acquisition and understanding of a substantial body of knowledge which is at the forefront of a field of learning in the field of Education;<br>Exercise personal responsibility and largely autonomous initiative in complex and unpredictable situations, in professional or equivalent contexts related to Education as a broad field;<br>Learn to critique the broader implications of applying knowledge to particular educational and professional contexts;<br>Scrutinise and reflect on social norms and relationships within their particular field of Education and lead action to change them;<br>Capacity to conduct (original) research;<br>Demonstrate the ability to perform independent, original and ultimately publishable research in the different fields of Education and/or school pedagogy. | 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;<br>Ability to demonstrate a significant range of the principal skills, techniques, tools, practices and/or materials which are associated with a field of learning;<br>Develop new skills, techniques, tools, practices and/or materials;<br>Respond to abstract problems that expand and redefine existing procedural knowledge;<br>Communicate results of research and innovation to peers;<br>Engage in critical dialogue; lead and originate complex social processes within their professional domain; critical competences, i.e. critical and self-critical abilities;<br>Presentation and defence in public of scientific studies;<br>Creativity. |

**Subject Specific Competences in Education Sciences**

The following list of subject specific competences was developed by the Education Sciences working group and evaluated in a survey of former students, academics and employers.

**Education Sciences**

1. Ability to analyse educational concepts, theories and issues of policy in a systematic way
2. Ability to identify potential connections between aspects of subject knowledge and their application in educational policies and contexts
3. Ability to reflect on one's own value system
4. Ability to question concepts and theories encountered in Education Sciences
5. Ability to recognise the diversity of learners and the complexities of the learning process
6. Awareness of the different contexts in which learning can take place
7. Awareness of the different roles of participants in the learning process
8. Understanding of the structures and purposes of educational systems
9. Ability to do educational research in different contexts

10. Counselling skills
11. Ability to manage projects for school improvement/development
12. Ability to manage educational programmes
13. Ability to evaluate educational programmes/materials
14. Ability to foresee new educational needs and demands
15. Ability to lead or coordinate multidisciplinary educational teams

**Teacher Education**

16. Commitment to learners' progress and achievement
17. Competence in a number of teaching/learning strategies
18. Competence in counselling learners and parents
19. Knowledge of the subject to be taught
20. Ability to communicate effectively with groups and individuals
21. Ability to create a climate conducive to learning
22. Ability to make use of e learning and to integrate it into the learning environments
23. Ability to manage time effectively
24. Ability to reflect upon and evaluate one's own performance
25. Awareness of the need for continuous professional development
26. Ability to assess the outcomes of learning and learners' achievements
27. Competence in collaborative problem solving
28. Ability to respond to the diverse needs of learners
29. Ability to improve the teaching/learning environment
30. Ability to adjust the curriculum to a specific educational context

## 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 an indicative list of competences listed. 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 counseling organisations, teacher unions, ministry of education officials, local education administrators and so on.

## **Workload and ECTS**

It is difficult to outline this issue without differentiating between pre- and post- Bologna structures. The pre-Bologna first cycle may contain up to 300 ECTS equivalents, 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 Sciences working group. It should be borne in mind that Teacher Education presents an anomoly with regard to Bologna implementation.

| 1**. First cycle** | **Teacher Education**<br>180 to 240 ECTS if wholly located at first cycle level; where divided between first and second cycles the total is concomitantly greater. 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 is a first cycle 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.<br>**Education Sciences**<br>180 – 240 ECTS |
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| 2 **Second Cycle** | **Teacher Education & Education Sciences**<br>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'. |
| 3 **Third Cycle** | **Teacher Education & Education Sciences**<br>120 *post second cycle where the second cycle award is linked to the doctoral work,* 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. |

## **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:

o   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.

o   Teaching in higher education institutions is also emerging as a distinct field of research.

o    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.

o   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.

o    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.

o   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

o   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.

o   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.

o   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)

o   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.

## 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 is already well established in areas of Education such as Teacher Education, and valuable pedagogical practices founded on principles of adult learning and competence development have evolved.  What are listed below are three indicators of good practices taken from Education Sciences which may have wider relevance across other disciplines.

### *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 how incidents are observed;
- 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.

*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.

### *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.  The assessment achievement is based on a student developed research plan often used later as the basis for their research proposal.

## Quality enhancement

- o   One of the distinctive ways in which both Teacher Education and Education Sciences can 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.
- o   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.
- o   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.
- o   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.

o   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.

o   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.