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Initial teacher education in Europe: an overview of policy issues

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1. Initial teacher education: the heart of the matter

Initial teacher education (ITE) is the first crucial stage in a teacher's professional journey. It lays the foundations of a professional mindset and provides the new teacher with a basic toolbox to make meaningful learning happen in the classroom. As a taster of future daily practice, it offers the opportunity to experiment in the reality of the school within a 'safe' and supported environment where teachers can discuss, reflect, share ideas or experiences with peers and experts. Above all, building awareness of the complexities of teaching also helps to develop dispositions to learn, re-learn and un-learn, adjusting to specific situations and needs.

Initial teacher education is an intensive experience that requires student teachers to be both learners and teachers simultaneously – being supported in learning how to teach, and supporting pupils in how to learn. It is intellectually demanding as it requires analysing, questioning and reviewing ideas in the context of practice. It involves the whole person - attitudes, beliefs and emotions. The first and foremost resources teachers use are themselves; their personal characteristics can be catalysts for their own and others' learning, as much as their knowledge and competences.

All pupils have an entitlement to be taught by skilled professionals who can actually make a difference to their learning. The selection, preparation and guidance of teachers throughout initial teacher education and the following stages of their careers are therefore crucial. Public policy has an important role in ensuring this is achieved - having the right policy objectives in place, implementing them and evaluating results can help to create, monitor and maintain favourable organizational structures, conditions and opportunities for teachers.

2. Teacher quality matters

The need for more effective and equitable education systems, globally, has been underscored by wide variations in students' outcomes, both between and within nations, regions and schools. The latest PISA report confirms that students' socio-economic status has a strong impact on academic performance – accounting for 15% of performance variation in mathematics (OECD 2013a, 2013b, 2013c). Within education institutions, teachers are widely recognised in the research as the most powerful determinants of pupil achievement (Hattie 2003). However, they face unprecedented challenges in their role (European Commission 2012a).

Future world citizens need not only subject knowledge, but also a wide range of skills and attitudes - communication and collaboration skills, the ability to solve problems and make decisions, creativity, critical thinking and positive attitudes towards learning. These are competences which teachers and teacher educators themselves need to master, as models for their students (Asia Society 2011; OECD 2011). The sheer quantity of learning resources now available in the worldwide web also makes it essential for educators and pupils to be competent in retrieving and selecting reliable digital sources.

Teachers do matter – but so do the ways in which schools are organised and run (Conway et al. 2009). The teacher's task is made increasingly complex by the shifting role of school institutions, which compete with an increasing number of knowledge providers offering multiple, diverse opportunities for informal and non-formal learning. In this context, teachers need to build mental habits for innovating and adapting to different students or contexts. In order to bring about improvements in teaching as parts of a strategic agenda for change, teachers also need to be able to make value judgements about choices and trade-offs in specific situations, about specific students (Biesta 2012).

Such demands can be tackled only by teachers working together, in cooperation and dialogue, as researchers who reflect on their own and others' practices. Evidence links improvement in pupil learning with collaborative teaching that embeds professional dialogue and enquiry in everyday practice - by peer coaching and experimentation on specific strategies, content and outcomes (Cordingley and Bell 2012). For these to thrive, a supportive school context is fundamental: collective participation, good communication, regular observation and feedback – starting from school practice in ITE and going on with continuous professional development (OECD TALIS 2009; Day 2011).

The whole set of competences that teaching professionals require cannot be fully mastered by any individual, let alone at the very beginning of the career. It should rather be viewed from an incremental perspective (competences develop over the career), and within a teaching team and a system (not every member of a teaching team will need all the competences to the same degree). Across different cultures and school systems, there seems to be agreement on some **core competence requirements** that all teachers need (European Commission 2013a):

- *sound knowledge frameworks* (e.g. about school curricula, education theories, assessment), supported by effective knowledge management strategies;
- *a deep knowledge of how to teach specific subjects*, connected with digital competences and students' learning;
- *classroom teaching/management skills and strategies*;
- *interpersonal, reflective and research skills*, for cooperative work in schools as professional communities of practice;

- *critical attitudes towards their own professional actions*, based on sources of different kinds – students' outcomes, theory and professional dialogue – to engage in innovation;
- *positive attitudes to continuous professional development, collaboration, diversity and inclusion*;
- *the capability of adapting plans and practices to contexts and students' needs*.

Thus, the intellectual, cognitive and emotional demands of teacher preparation can often appear formidable to student teachers. These demands cannot be met simply by 'learning the tricks of the trade' in a working context. Teacher education cannot be boiled down to a short, intensive immersion in a school setting where future teachers, like apprentices, are placed to observe, imitate and acquire the 'craft of teaching' of expert practitioners (Korthagen et al. 2006).

3. The continuum of teacher education

In order to ensure teachers can and will keep working with the expertise and commitment required, a continuum approach to teacher education is required - aligning school and teacher education curricula is not enough. This entails ensuring cooperation and dialogue between policy makers, education institutions and professional communities. It also means a shift from piecemeal policy actions to consistent, comprehensive teacher policy that spans all stages of teachers' professional lives, with a pivotal place for initial teacher education. A continuum perspective should take into account all key roles and responsibilities: the education ministry, ITE providers, school leaders, teaching professionals and other education stakeholder groups.

The following cornerstones of teacher policy are suggested by research and peer learning¹:

- *a clear reference framework for the competences of teachers*, to provide common ground between different teaching/learning settings, stages (e.g. ITE, induction, CPD), activities and actors (European Commission 2013a);
- *multiple selection mechanisms*, placed at different points of teachers' professional continuum (e.g. entry/exit stages of ITE; induction completion; further career levels acknowledging advanced expertise), with flexibility in 'selection filters' to fit specific needs and contexts (European Commission 2012b)
- *consistency in teacher assessment and feedback* (across ITE, induction, CPD), with key structures and procedures that define *what, how, why and when* to assess and *who* should do it, in different settings and career stages (European Commission 2013b);
- *careful selection, preparation, professional development and support of teacher educators*, so that they can offer optimal conditions for developing teachers' potential, in school and university settings;
- *a common policy framework for effective school leadership*, to ensure quality school leaders who can monitor and support teachers' motivation and practice, for improvement in teaching and learning (European Commission 2012a, 2012b).

These policy cornerstones should be embedded in an overall strategy linking initial teacher education, selection, recruitment, induction and professional development, with clear roles and responsibilities for support and quality assurance.

The benefits of a continuum approach that aligns ITE with induction and CPD are confirmed by evidence (Eurydice 2011c; Vaillant and Manso 2013), which recommends:

- (induction) mentoring extended to ITE, with long-term guidance of student teachers by experienced mentors, who themselves undergo relevant training in the ITE institution (Schneider 2008);

¹ Peer learning outcomes of the Thematic Working Group 'Professional development of teachers' in the period 2010-2013 concern the topics of teacher selection and professional development, teacher competence frameworks, teacher educators and school leadership.

- dialogue and collaboration of school and university communities in ITE as a form of effective professional development – since collegial discussion, observation, inquiry and reflection on practice are found to boost school improvement (Day et al. 2006);
- innovation and creativity in teaching and learning by consistent approaches along the teacher education continuum – with a key role for informal, self-directed learning (Learnovation 2009).

4. The complexities of initial teacher education

Initial teacher education has been the subject of sustained reform and debate over the last decade. It is often defined as complicated, as it poses a number of challenges for policymakers and providers – within each country:

- the *fragmentation of responsibilities* for ITE, induction and CPD hinders the development of a long-term system strategy and implementation policy;
- related *employment and job market issues* – teacher supply and demand, broader economic issues, employment conditions, standards and access to the profession – can affect ITE priorities;
- the *selection of teacher candidates* is influenced by other policy strands (school/higher education; teacher status and recruitment);
- there can be *specific national requirements* for ITE, but also *varying degrees of autonomy* granted to ITE providers across countries;
- *diversity of regulations and priorities* about education, governance, teaching and teacher development – within and between countries – are reflected in the content and delivery of ITE;
- this *wide heterogeneity* in ITE programmes within a Member State can hamper professional quality and mobility;
- there are *organizational issues* of coordination, communication and consistency in ITE, across different contexts and teacher educators – schools and universities, presence and virtual environments;
- there is the *challenge of integrating subject knowledge, teaching practice and interdisciplinary aspects* in ITE curricula;
- *quality assurance* is key to ensure that an ITE programme is delivered according to stated objectives, actually meets teacher learning needs and yields expected results;
- *clear-cut structures and roles for monitoring* ITE programmes are needed, within a shared quality framework (about consistent aims, outcomes and assessment - e.g. threshold competence levels of teacher candidates) (Menter et al. 2010; Zgaga 2013).

Initial teacher education has been increasingly influenced by international developments such as the Education & Training 2020 strategies and the European Higher Education Area development (EHEA) (Biesta 2012). Becoming '*universitized*' and *increasingly master-level*, teacher education has been affected by the changes affecting universities across Europe, following the Bologna process. Trends of '*comparability and compatibility*' have meant pressure towards convergent teacher education practices, strengthening international academic cooperation – e.g. in the TUNING project, with EHEA-consistent guidelines for teacher education programmes and competence-based outcomes (TUNING 2005).

However, there have been *challenges for teacher education arising from the implementation of the EHEA, with diverse national interpretations*. This is due to the frequent mismatch between national teacher qualifications and general higher education requirements. There can also be *quality assurance issues* in teacher education, characterised by the competing pressures of international influences, university autonomy and state control. Student mobility in European teacher education is another major issue: it lags far behind other study areas, due to national obstacles of time frames and regulations (Zgaga 2013).

5. What counts for effective² initial teacher education

Teachers need “highly refined knowledge and skills for assessing pupil learning... and a wide repertoire of practice – along with the knowledge to know when to use different strategies for different purposes (Darling-Hammond 2006).” They must be prepared to recognize and address problems in a complex classroom, juggling the learning needs of all – continuing to learn themselves as adaptive experts.

If they need to become ‘practically wise’, making sound choices that fit education aims and specific needs, they can only learn in a wide range of practical situations, and by ‘studying’ mastery examples (Biesta 2012). Teachers must learn *for* practice but also *from* practice and initial teacher education must not only provide knowledge, but also help teachers to access it and reflect on their practice.

Initial teacher education needs to provide student teachers with the opportunity to engage in reflective discussions with experienced teachers and teacher educators. The knowledge that is necessary for expert teaching (planning and thinking before, during and after action) is embedded in the context of the classroom. It requires student teachers analysing and discussing ideas about teaching with experienced teachers and teacher educators – to make explicit what is often tacit for experts, and link it to their own learning to teach. Initial teacher education must also be powerful enough to break student teachers’ conditioning – helping them understand that teaching is different from what they remember from being students (Darling-Hammond 2006).

Such complexities suggest three key priorities in preparing for the profession:

- enabling teachers to acquire basic classroom teaching competence to do satisfactory work from the start of the career;
- preparing them for situations where they will need to keep on learning on their own, on the basis of classroom experience;
- preparing them to respond critically to demands for innovation and improvement (Hagger and McIntyre 2006).

Research suggests a number of factors for effective initial teacher education (Darling-Hammond 2006; Hagger and McIntyre 2006):

- (a) an *extensive, structured teaching practice*, with different learning opportunities (including informal work-based learning) and incremental levels of difficulty, to fit student teachers’ development;
- (b) *sustained, structured mentoring*, with set time and opportunities for modelling, practice, assessment, support and feedback, by school professionals who are trained for the task;
- (c) an *individualized focus* on student teachers as *reflective learners* – whose beliefs, experiences and concerns should be taken into account and discussed in ITE, in order to allow for successful learning;
- (d) opportunities for student teachers’ *‘reflective practice’* – critically examining their own ideas about teaching against a variety of sources – by observation of teaching, practice in class, debate with expert teachers and peers, research, dialogue with teacher educators and mentors;
- (e) an *integrated ITE curriculum* that can support student teachers’ critical thinking, teaching and learning with relevant knowledge, understanding and research;
- (f) *effective partnerships* between ITE providers/universities and schools, with joint responsibilities and structured roles for planning, management, monitoring and assessment.

These perspectives tie in with key aspects of effective initial teacher education programmes shown by case studies (Zeichner and Conklin 2008):

² Throughout the text, ‘effective’ means ‘related to intended results’ – what works in specific situations and contexts. Although research finds little hard evidence of causal links between teacher quality, teacher education and pupil outcomes, there is widespread professional agreement that they are related. The difficulty of connecting teacher preparation and pupil outcomes is due to the complex nature of factors in schooling and experimental studies (Menter et al. 2010).

- a common vision of good teaching and defined standards of professional practice;
- clarity and consistency of aims, outcomes and curriculum content;
- effective organization and coordination of activities and assessment,
- consistent selection procedures of candidates along ITE and across different roles or contexts;
- preparation and collaboration of quality teacher educators, in school and university;
- experimentation, reflection on innovation and practice-based research in instructional practices;
- extended teaching practice in a school's professional community that shares the vision and values of the ITE programme.

Implications and issues for key aspects are discussed in detail in the following subchapters.

5.1. Consistency of aims and organization

ITE programmes need clearly articulated aims so that all stakeholders (student teachers, university teacher educators, school educators and others) follow the same guiding principles and share a good awareness of the key programme components – providing student teachers with consistent support in all areas of their professional practice. **Connectedness and coherence** are extremely important, since the guiding ideas of the ITE programme have the greatest impact on teacher learning (Zeichner and Conklin 2008). Programme slogans, therefore, should be checked in the particular contexts where they are enacted.

In internal evaluation, an **effective use of a variety of evaluation data** at grassroots level is important for guiding programme improvement: decision making can be informed by surveys and interviews of staff and students, case studies, follow-up monitoring of student teachers' induction and retention, and observation of practices involving different institutions and actors (Kirby et al. 2006). A quality feedback loop, recurrently linking internal evaluation, improvement plans and external evaluation can bring further benefits (Harford et al. 2012).

5.2. Selection and support of candidates and teacher educators

The criteria for selecting teacher candidates into ITE should be clearly linked **with key programme aims**, processes and roles; the **degree of selectivity** applied at different stages also matters. In entry assessment procedures, academic excellence in subject knowledge should count as it has been proven to be beneficial to student learning (Goe 2007). Attitudes to teaching and young people should also be considered. The assessment of student teachers at the end of ITE should span knowledge about pedagogical practices, contents and environments, as well as professional skills and attitudes to help all students learn – against reference frameworks of competences (European Commission 2012b; Vaillant and Manso 2013).

Clear distinctions between formative and summative assessment should inform student monitoring throughout initial teacher education – separating formative assessment processes for orientation, support and growth (e.g. professional dialogues and reflection between teacher educators and student teachers) from summative assessment linked to selection stages (e.g. academic assignments) (Howe 2006).

The selection of qualified teacher educators should be based on their profiles as professional practice models in the academic and teaching field, including the capacity for self-assessment related to their students' learning and teaching. It should be followed up by **systematic monitoring of their performance** and **professional development support** (NCATE 2008; European Commission 2013b).

5.3. Integration of ITE curriculum areas

Teacher education curricula need to reflect the changing needs of the school system. The modern professional role involves "... teaching an increasingly diverse range of learners, values education, literacy and numeracy across the curriculum, using assessment data effectively, engaging in action research and self-review, collaborating in school teams (including inter-agency working) and integrating technology effectively" (Menter et al. 2010).

Three integrated core curriculum areas can generally be found in effective ITE curricula:

- subject area aspects/methodologies;
- transversal/pedagogical aspects (linking knowledge of pupils' ways of learning, school curricula and strategies to deal with diversity in the classroom);
- teaching practice and supervision (Snoek and Žogla 2009).

The integration of the three core areas is strategic for student teachers' learning, with a pivotal role for **reflective practice and dialogue**, addressing prior beliefs and experiences about schooling (Conway et al. 2009). The weight, balance and placement of the curricular areas also matter; they mirror views on education aims and the roles of teaching professionals (Snoek and Žogla 2009). A good balance between theory and practice enables teaching to be viewed as a problem-solving or research-in-action activity, closely linked to students' learning and progress (Garbe et al. 2009).

The way of dealing with fundamental aspects of teaching counts. For instance, the diversity issue ought to be infused into several programme elements; likewise, research should permeate different curricular areas – research methodologies, practice-based research in schools, supervised research project assignments (Niemi 2008). Initial teacher education is also crucial to provide teachers with knowledge of innovative approaches to ICT, encourage them to experiment with digital technologies and reflect on their impact in teaching specific subjects. The impact of ICT on effective learning seems to depend on the approach (Ala-Mutka, Punie and Redecker 2008); supporting teachers' use of ICT for learning 'as an aware choice' rather than an external imperative can boost their role as catalysts of innovation (Learnovation Consortium 2009). Consistency of pedagogies in curriculum delivery, the way student teachers are taught should reflect what is advocated for pupils: they should learn innovative teaching practices firsthand to compare and consider their value, and be assisted in implementing those practices themselves. Case studies say that effective programmes integrate learning about teaching and the actual problems of practice by means of strategies such as case studies, practice-based research, portfolios and performance assessments (Darling-Hammond 2006).

5.4. The key role of school practice and partnerships

Evidence strongly recommends an extended school practice (at least 30 weeks), interwoven with coursework and carefully mentored³ (Darling-Hammond 2006). Student teachers should be actively involved in planning the practice activities and defining learning outcomes (European Commission 2009). The amount and sequence of specific coursework, supervision and reflection activities in relation to teaching practice are key, to help develop teachers' 'practical wisdom' as related to professional values. Applying knowledge to practice experience can thus provide opportunities for reconstructing prior beliefs that are inconsistent with effective teaching (Darling-Hammond 2000).

The choice of teaching practice sites and mentors is crucial for effectiveness; it should align what is advocated in university courses about teaching and learning, and what is practised in school contexts (Hammerness 2006). Another relevant factor is the way each practice experience builds on the previous ones - in adding more responsibility and complexity, while fitting individual needs and development stages of the student teacher (Brouwer and Korthagen 2005).

Evidence suggests that teacher learning is enhanced in school practice contexts as professional communities - where teachers get along and have regular professional dialogue with one another, with strong leadership and adequate teaching resources. Sustained observation and feedback opportunities for student teachers - to observe and be observed, discuss teaching and get regular feedback on their performance - are of paramount importance in providing both instructional and emotional support. Teacher educators' joint planning and responsibility for practice, with mixed school-university steering teams, have proved to be effective, together with joint assessment of student teachers, in long-standing school-university partnerships (Hagger and McIntyre 2006).

³ Throughout the text, 'mentor' means 'school-based teacher educator', and 'mentoring' means the support of student teachers by expert teachers/teacher educators in schools.

6. A comparative overview on initial teacher education in Europe⁴

6.1. Main features of ITE

Qualifications and routes. ITE qualifications in Europe tend to be four- or five-year university degrees; ITE is mostly at master level for upper secondary teachers (Eurydice 2013). Flexibility in teacher education routes is provided by alternative pathways into teaching – shorter, employment-based, fast-track programmes (e.g. for career changers). However, they are not very widespread in Europe. They are present in eight countries (DE, LU, LV, NL, NO, PL, SE, UK en⁵), sometimes only for specific school levels or subjects, with the stated purpose of tackling the shortage or uneven distribution of teachers in disadvantaged schools. While small-scale providers, embedded in the local education community system, can better promote professional identity building and integrate teachers' learning experiences across career stages, larger higher education institutions can give knowledge input by high-level experts, access to research and superior resources (Lewin and Stuart 2003).

Structure. For teachers of lower school levels (ISCED 0-1), the concurrent model of ITE is largely predominant. The concurrent model provides general course components (e.g. subject and educational studies) and professional ones (with a specific focus on teaching, including school practice) at the same time, from the start of the programme. The consecutive model (providing professional components after general ones) is offered mostly to upper secondary teachers, usually after a subject specific undergraduate degree. The situation is more mixed for lower secondary education, where there can be either models, or both allowed across countries. The weight of professional components in the ITE programme is generally higher for lower level teachers, ranging from an average of 20 % (ISCED 2-3) to one third/one fourth of the whole programme (ISCED 0-1).

After ITE and teacher qualification, formal induction (structured, extended support for beginning teachers) is present to some degree in seventeen countries (in Luxembourg it is embedded in professional ITE, for secondary teachers). Induction mainly involves mentoring in schools with experienced teachers, who are sometimes specifically trained. It usually includes regular meetings, assistance or advice about lesson planning, job shadowing; it can often entail also course modules, seminars or workshops at ITE institutions. Although there is cooperation between school and university providers, its extent may vary. If formal induction programmes are absent, at least mentoring support measures for new teachers are generally in place.

6.2. Evaluation and quality assurance ⁶

In most countries, evaluation regulations for higher education apply to ITE. Evaluation is compulsory or recommended in most countries (Eurydice 2006, 2013). There can be specific criteria for ITE, sometimes about a specific stage or aspect (evaluation of school practice provision in Ireland; final 'on-the-job' phase in Germany). Regulations often entail more than one procedure, with external and internal evaluation. Given the complexity of ITE, there might be separate evaluations for different components, organization aspects, settings or stages.

External evaluation for ITE programmes is often carried out by independent quality assurance agencies for tertiary education. In four countries, responsibility lies only with top-level education authorities (the

⁴ The following overview draws on several sources, covering the period 2006-2013: Eurydice, European Schoolnet and Joint Research Centre reports; studies on ITE and the teaching profession funded by the European Commission; European project reports (TUNING, Teacher Education for Inclusion); studies supporting ITE policy reform in Ireland and Scotland; OECD studies on education, teachers and teacher education. Eurydice data refer to the 30 Eurydice countries; other documents may cover a smaller number. Efforts have been made for a representative picture to be as wide and updated as possible.

⁵ Where it is not specified, UK means the United Kingdom; specific distinctions for Scotland and England are noted.

⁶ This subchapter refers to the 30 Eurydice countries.

ministry) that in turn can appoint external evaluation teams (AT, DE, ES, TR). In some national contexts (CY, FR, NL, RO, UK en) the Inspectorate for school education is involved, or the Teaching Council (IE, UK sc). The external evaluation team can thus include peers, evaluation experts, inspectors and foreign experts; in some countries (BE nl, FI, NL, NO, SE) it is compulsory or recommended to include students.

External evaluation criteria usually refer to higher education legislation and ITE regulations; qualification standards for teachers are also used in ten countries (BE, DE, EE, LT, LV, NL, PL, RO, SE, UK). As for scope, many countries focus on almost all of the following: internal evaluation results, curriculum content and balance, instructional strategies, assessment, management of school practice and partnerships, human resources management (qualifications and CPD of teacher educators), infrastructures. Half of the countries also take into account students' attitudes and opinions. In four countries with no regulations about evaluation scope (AT, DK, FI, SE), it is decided by the external evaluator or evaluated institutions. In Finland, the evaluation body can agree evaluation details with the ministry, and receive suggestions from ITE institutions and student unions.

Internal evaluation results are often the bases for external evaluation, and have to be considered in almost all countries. In a feedback loop, internal evaluation is obliged or advised to take into account external evaluation results in thirteen countries. Guidelines about internal evaluation for ITE providers are given in many countries (e.g. BE fr, BG, EL, ES, HU, IS, LT, NL, PL, PT); on the other hand, no regulations about internal evaluation criteria exist in several cases (AT, CZ, DK, FI, LU, SE, SI, UK en).

External evaluation usually relies on site visits (interviews of students, staff and management) and internal evaluation reports. In Finland, additional methods are used (portfolios, peer evaluation, self-evaluation reports and benchmarking). In some countries, class observations of student teachers are compulsory (BE, BG, CZ, CY, EE, ES, LV, UK en). The frequency of external evaluation can vary greatly between and within countries; the highest frequency is one year (e.g. IE and UK en), the lowest twelve years (e.g. in CZ). Regular evaluation intervals are usually determined centrally, and linked to ITE accreditation or renewal; their timing is usually adjusted to tie with internal evaluations – whose highest frequency is one year (e.g. CZ, DE, HU, UK sc).

In most countries, external evaluation can be linked with penalties or incentives (accreditation and funding) as well as follow-up. In five countries, the purpose of external evaluation is mainly formative (BE nl, EL, FI, IE, IS). In internal evaluation regulations, an improvement plan is compulsory or recommended in several countries (seventeen), but it is not contemplated in many others (ten), due to institutional autonomy.

6.3. Competence frameworks

Teacher competence frameworks – reference sets describing what teachers should know and be able to do – exist in different forms and degrees of development in the vast majority of countries. Their value, use and recognition - as related to teacher education and other policy areas - widely vary, as do the roles of stakeholders (Eurydice 2013).

Usually, the competence areas in these statements include subject and pedagogical knowledge, assessment skills, teamwork abilities, the social and interpersonal skills necessary for teaching, awareness of diversity issues, research skills, as well as organisational and leadership skills; they all make references to the eight European key competences for lifelong learning.

The teacher competences may be grouped in thematic strands, according to the level of detail in the frameworks. These can be broad and consist of general statements or basic competence areas – e.g. assessment competences (e.g. BE fr, DK, FR, LT, IT, SI), which can be broken down into specific subject profile requirements (DE). At the other end of the range, competence frameworks can be detailed (e.g. ES, IE, NL, UK) - structured lists of knowledge, skills and attitudes, with indicators or can-do statements, distinguished by school level.

The majority of countries include the list of expected competences in guidelines for initial teacher education, as aims and outcomes – sometimes within an overall national education regulatory framework (AT, DK). In a few countries (EE, LV, NL, UK, RO), competence frameworks are issued as professional standards, and can be linked to career advancement or a teacher evaluation framework; in some cases they describe different levels of expertise, such as for provisional and full registration, career-long professional learning and middle leadership (e.g. UK sc).

A continuum perspective about teacher competences, linking initial teacher education, induction and CPD, can increasingly be detected in policy reform across countries, for instance in Austria, Ireland, Latvia and Sweden; a long-standing tradition of comprehensive competence frameworks can be found in the Netherlands and Scotland, where frameworks are regularly revised and monitored by the responsible stakeholder bodies (European Commission 2013a).

6.4. Selection of candidates

Admission criteria and selection methods vary for content and number; decision making and responsibilities can involve the education authority, the ITE institution, or both (Eurydice 2013). The main prerequisite - holding the final upper secondary qualification (the only requirement in Austria and Belgium) - is complemented by bachelor qualification for access to master-level ITE programmes. Performance in upper secondary education is taken into account in about half of the countries; the outcomes of bachelor studies are considered in fourteen countries.

Admission to initial teacher education seems to be governed mainly by entrance requirements for tertiary education – which entail a general examination in a large number of countries. Only a third of European countries have specific selection methods for ITE in place. Aptitude tests or interviews about candidates' motivation to become a teacher are not administered in many countries, and are generally entrusted to programme providers. Specific selection methods are centrally determined in three countries (IT, LT, UK sc); on the other hand, selection is only determined at institutional level in five countries (DK, FI, PT, RO, SK). In several countries, further admission criteria and tests can be added by providers to central minimum requirements – sometimes as audits with formative and orientation aims, and follow-up support (BE nl, NL).

In terms of competence in key skills such as literacy, numeracy, ICT, students' access to higher education institutions in ten countries is dependent on adequate outcomes of centrally developed tests or exams, about reading or the language of instruction (Eurydice 2011b). These tests set the competence requirements expected of students leaving secondary education or entering higher education; they do not only focus on reading skills but test other competences as well. In the United Kingdom (en), all student teachers, regardless of the training route, have to pass skills tests in numeracy, literacy and ICT before they can begin their induction period. The tests cover the core skills needed to fulfil a wider professional role in schools, rather than subject knowledge.

6.5. Selection of teacher educators

In most countries, teacher educators' profiles are extremely varied because they work in wide-ranging settings. In 21 countries, qualifications required of university teacher educators are the same as those required of other academic teaching staff (a master's or PhD degree). Teacher educators working in specific stages and settings (school mentoring, induction) are often expected to have specific training and experience (e.g. CY, EE, FR, PT). In half of European countries, teacher educators must have a teaching qualification themselves (in twelve countries, of the same school level as student teachers). In several countries, ITE providers have wide autonomy in deciding the qualifications of teacher educators (BE nl, CZ, LT, NL, SE, UK). In the Netherlands, the Dutch association of teacher educators (VELON) has set up a voluntary register and professional standards for teacher educators of all education levels.

6.6. Key features of the curriculum

In most European countries, ITE higher education providers enjoy a fair amount of autonomy in determining the curriculum, against national guidelines. These usually outline programme aims, contents

and outcomes, with varying degrees of detail - reflecting education policy priorities and links with school curricula. Some aspects of relevance are highlighted as follows.

Teaching literacy and numeracy. There is a growing awareness that developing pupils' reading skills is an important issue for teachers teaching subjects other than the language of instruction. In three countries (FR, SE, UK) there are explicit initial teacher education recommendations for teaching reading that apply to all prospective teachers of other subjects. The skill of reading electronic texts via communication technologies is increasingly recommended as important in initial teacher education (International Reading Association 2009). However, only five European countries (CY, LV, LT, PL, UK sc) have central guidelines that explicitly mention enabling teachers to make pupils more proficient in reading via the new media.

The maths subject knowledge of generalist teachers is assessed in about half of European countries - not only at the end of the ITE programme, but also with an entry examination (central exams in NL, FR, EL, UK). In countries where central regulations for ITE programmes specify curriculum areas and knowledge, mathematics teachers are often assessed also on subject teaching skills. The issues that are less frequently mentioned in math teacher education curricula include engagement with mathematical research and assessing students in mathematics (Eurydice 2011b).

ICT for teaching and learning. The effective use of ICT for teaching and learning is included in ITE studies in over half of European countries (Eurydice 2011a). References to digital skills are present in many official guidelines on higher education and ITE; however, practical ICT-related pedagogical skills are rarely addressed. Actual implementation depends on the national governance and quality assurance system, and on the autonomy granted to providers. Where ITE curriculum regulations about ICT exist, they usually concern pedagogical issues and in most cases subject specific training. Seven countries specify a range of ICT skills that should be acquired (AT, ES, FR, LT, HU, PL, SK).

European Schoolnet's country reports on ICT in education provide some additional pointers for reflection. In Austria, teacher education institutions focus on e-learning strategies development and the pedagogical dimension of ICT, integrating instructional and technical aspects; however, there are no requirements about ICT use in school practice. In Norway, although ICT is conceived as embedded in relevant subjects in ITE, stakeholders think that it is not sufficiently integrated, and that new teachers lack necessary ICT competences (European Schoolnet 2013a, c).

In Hungary, instead, ICT is included in the general, transversal methodological training module, regardless of specialist subjects. In Spain, ICT is compulsory in ITE for all levels of schooling; a mixture of theoretical and hands-on approach should enable teachers to use ICT in the classroom, reflect and investigate. In Switzerland, digital competences are considered as key, and integrated in the ITE curriculum as compulsory; ITE providers often have their own Media Centres for resources and support (European Schoolnet 2013b, d, e).

Assessment and diversity. As regards the development of assessment strategies and skills within the ITE curriculum, a European survey (SITEP)⁷ indicates that portfolio assessment (which can well suit a competence-based ITE approach) is not covered in about a third of the generalist (primary/lower secondary) ITE programmes and in about a quarter of specialist mathematics/ science ITE programmes (Eurydice 2011b). On the other hand, prospective teachers are often assessed using portfolios – which might prepare them to use this type of assessment in their teaching. This seems to indicate that innovative forms of assessment are practiced, but not explicitly discussed during teacher education. Furthermore, few

⁷ The SITEP survey on ITE Programmes in Mathematics and Science, carried out in 2010, included 815 higher education institutions across Europe that provide 2,225 ITE programmes for generalist primary/lower secondary education teachers. It aimed at information on the content of ITE programmes beyond official recommendations for higher education, and the way key competences for future math and science teachers are integrated in ITE programmes.

countries explicitly mention guidelines about preparing teachers to carry out various forms of literacy and reading assessment (Eurydice 2011c).

The role of research. In most countries, central guidelines for ITE programmes require the development of student-teachers' knowledge about and skills in educational research - understanding of research, methodologies and practice research work (often linked to a dissertation) (Eurydice 2011c). Involving student teachers in practice-based research is recommended in 12 countries.

The set of final competences to be mastered usually contains clear references to research skills - with Finland's foremost example of a research-based ITE curriculum. In Belgium (Fr), one of the competences to be developed relates to a critical overview of past developments and future trends in educational research. In Belgium (nl), one of the basic competences is linked to the idea of the teacher as researcher. In Spain, central teacher education requirements mention the capacity to critically analyse the teaching process on the basis of quality indicators; guidelines on research modules mention the ability to develop and implement research, innovation and evaluation projects.

In the United Kingdom, one of the professional standards for qualified teachers is the ability to evaluate the effectiveness of one's own teaching and identify areas for improvement. ITE providers usually set written assignments based on professional enquiry, underpinned by one's own and others' research. In Scotland, students are usually asked to undertake a research project on teaching practice, reporting results in a dissertation; in one-year ITE routes (e.g. Post-Graduate Diploma in Education), students are expected to plan an investigation, and encouraged to implement it during induction.

Only a minority of teacher education programmes report using partnerships with external stakeholders (e.g. schools) for carrying out research (Eurydice 2011b). Therefore, there seems to be further opportunities for enhancing collaboration with external institutions for research on innovative teaching approaches in educating teachers.

6.7. School practice⁸

School practice varies greatly between countries, and is usually longer for teachers of lower school levels (though it is the same for all levels in one third of EU countries). The minimum recommended length can range from 20 hours (HR) to 1,065 hours (UK en); in many countries it totals 200 hours, while it is below that figure in ten countries. In eight countries there is no regulation about the minimum length of practice, which is decided by ITE providers (Eurydice 2013).

Practice is considered an essential and integrated part of ITE in several countries, and is planned with incremental degrees of difficulty throughout the programme, under the joint supervision and assessment of university and school teacher educators; the final year often entails student teachers' experiencing the full range of teaching responsibilities. In some countries, university teacher educators carry out regular class observations and feedback discussions with student teachers; school practice assessment may condition programme completion (DK, IE). Practice schools may be selected by ITE institutions and/or the ministry, according to the country; regulations can define several criteria for school selection (e.g. the availability of experienced mentors), such as in Lithuania. In some countries student teachers have a say in the choice of the school, among a range of options (e.g. BE nl, EE) (EADSNE TE4I Country reports 2010).

In Denmark (compulsory education) school practice is defined as an individual subject (36 ECTS), and integrated with coursework, with joint implementation and review by university and school. A close integration between pedagogical courses in ITE and school practice is prescribed also in Finland and Norway. In Austria, where school practice is usually organized in weekly blocks, monitoring and support

⁸ The information in this section comes from Eurydice 2013 key data, complemented by country reports from the 'Teacher Education for Inclusion/TE4I' project, based on 2010 data. Country examples are given when relevant for effective ITE aspects mentioned in chapter 5.

processes have been developed by ITE institutions to allow a close interaction of theory and practice (e.g. whole-day practical experience with after-school supervision) (EADSNE TE4I Country reports 2010).

In Estonia, regular feedback on teaching practice and self-assessment support by teacher educators are complemented by student teachers' construction of a portfolio, finally discussed with peers and teacher educators. A final discussion on the practice experience, involving all actors (student teachers, teacher educators and mentors, school administration) is also prescribed in Lithuanian ITE. In Germany, the so-called 'second stage' of ITE, of variable length in different regions (usually more than a year) integrates guided and independent teaching practice in schools with subject-related didactics seminars at ITE institutions. In Sweden, an ITE institution for compulsory schooling (Borås University College) integrates the standard 30-week supervised practice with small 'mentor groups' where student teachers, led by a mentor, regularly reflect and discuss their development, teaching experiences and issues. Cyprus links school practice and induction through the ESF-programme 'Mentor', which trains expert teachers as mentors for new teachers in schools (EADSNE TE4I Country reports 2010).

6.8. Policy context

Governance. At the system level, the balance between autonomy/trust (in ITE providers) and control/prescription (by education authorities or other bodies) reflects prevailing traditions and trends of centralized or decentralized administration in each country.

In 24 countries, general national guidelines about ITE are centrally provided by the ministry and are mainly concerned with issues of programme length, qualifications, overall content, outcomes and implementation frameworks (e.g. ECTS credits for each module and the whole programme), within the Bologna process and national qualification framework. In federal countries (AT, DE, ES, UK) each state has a specific ITE jurisdiction, against the national legislation background. In three countries only, ITE institutions have full independence in defining ITE curricula (EL, LU, MT); at the other end of the range, ITE curricula in France and the UK are largely defined at national level (Finnish Institute for Educational Research 2009).

Countries' accountability cultures, together with policy priorities about teacher quality, retention and the attractiveness of the profession, are relevant for their approaches to ITE implementation and reform – against the background of European policy trends. In countries where the national accountability system supports innovation on the local and school level backed by strong leadership, with the alignment and synergy of aims and goals in different education subsystems, the chances of successful implementation of reforms about ITE and teacher quality are higher (Michel and Halász 2011).

Recruitment, employment status and the labour market. Open recruitment – where the responsibility for screening and selecting teachers for posts is decentralized and lies with the school or local education authority – is becoming predominant across Europe. Competitive recruitment is still present as the only method in a minority of countries (EL, ES, FR, MT, TR) – usually in the form of central, selective examinations. Candidate lists submitted to education authorities are used in few countries (e.g. BE fr, CY, LU, PT), sometimes as parallel to other recruitment forms (IT). In many countries, teachers are employees with contractual status; in a number of others, teachers have civil servant status, sometimes alongside other contractual options. Teacher demand/ supply ratios usually reflect issues of shortage and retention in those countries where teachers have more freedom to apply for jobs, choose or change schools (open recruitment), while surplus of supply is predominant where teachers are selected and appointed to schools according to selective examination results and national grading systems (competitive recruitment).

6.9. Policy reform and the teacher education continuum: country examples

Some countries have endeavoured to develop and implement ITE policy as embedded in comprehensive education system reforms, with the involvement of key stakeholders.

In **Sweden**, national reform of ITE study programmes with the 2010 Education Act 'Top of the Class', following up Bologna requirements, has led to a clearer definition of the three main ITE curriculum areas - subject studies, educational studies (60 ECTS), practice (30 ECTS) - with four professional degrees according

to school levels. Within decentralized governance, initial teacher education is steered by centrally determined goals and learning outcomes under the responsibility of higher education institution providers. Since July 2012 new teachers completing ITE and induction have to register to get permanent employment; registration certifies teachers are able to carry out assessment and mentoring, and can be withdrawn in case of misconduct or neglect. A related 2010 Education Act introduces career progression for senior teachers with advanced qualifications who demonstrate excellent teaching for at least 4 years, and tightens requirements for permanent teacher employment. Recent legislation also links national quality assurance for higher education providers with incentives in order to promote better learning outcomes, intensifying the frequency of regular quality evaluations by the HEI national agency.

Finland has developed a successful model for research-based ITE (in place for 30 years now) within an overall collaborative system of curriculum reform, based in education institutions (schools and universities). The system is founded on flexibility and loose standards - building on good practices and innovations, the setting of learning targets and networking - through steering by information and support. Intelligent accountability policies have gradually built a culture of trust-based professionalism which values the judgement of teacher educators, teachers and school leaders. ITE entry selection is high stakes, due to the high professional status and application rate; assessment emphasis during ITE, however, is on formative support for reflective practice. Student teachers are asked to complete small-scale inquiries before submitting a practice-based research MA thesis; although induction is not compulsory, there are national mentoring programmes to support new teachers, as well as professional development schools. Studies highlight Finnish ITE's successful elements: student teachers' practice research in the classroom and teacher educators' variety of methods to prepare teachers who reflect and experiment, with a focus on pupil learning (Menter et al. 2010).

Ireland is another country where teacher professional status is quite high. A 2009 study commissioned by the Teaching Council underpinned recent ITE policy development, outlining key recommendations for effective, career-long teacher learning (Conway et al. 2009). The drive for change did not originate from widespread pressure for major reform, but rather from national reviews recommending greater coherence and integration for the teacher education continuum. The establishment of the Teaching Council in 2006 boosted debate and strategic planning on how to link the three I's – Initial Teacher Education, Induction and In-service professional development. The continuum of teacher education framework in Ireland is focused on five linked dimensions – teachers' roles, quality teaching, the professional life-cycle, teacher learning and relationships. It highlights teacher's expanding, collegial professionalism and interactive work, the need for multiple context-related career pathways, and the key role of induction. The development, implementation and revision of a teacher competence framework was managed by the Teaching Council, and reflects the ownership and involvement of the profession by means of repeated consultation rounds. It comprised the development of a professional code of conduct, a strategy for the review and accreditation of ITE programmes (inputs, processes and outcomes), and developing competence standards for the career entry stage (standards for full registration). The guidelines for accreditation of ITE programmes were aimed at setting a limited number of general, flexible, accessible programme outcomes and achievable, measurable, assessable student learning outcomes.

The Netherlands' tradition of decentralized education governance leaves responsibility for curriculum content to ITE providers, within national frameworks for teacher competences and the knowledge base of ITE curricula (subject specific and general requirements). The two frameworks aim to provide common theoretical ground for ITE curricula, highlighting basic requirements for teachers' competences (interpersonal, organizational, pedagogical, subject teaching) in working with others, in workplaces and on their own. The competence frameworks are subjected to regular evaluation processes, with clear definitions of roles and responsibilities of stakeholders involved. Teachers' professional development and recruitment are entrusted to school institutions – against the background of the professional standards and register, which give a key role to unions and professional bodies. Current education policy (the Teacher 2020 action plan) aims at raising the standard of education from good to outstanding, addressing teacher recruitment and retention, employment conditions for teachers and education governance. It includes a

teacher development grant (for additional university qualifications, or special needs education), more job diversification about posts and salary scales, as well as a register for teachers' professional development (compulsory from 2017). Other related strategies for teacher quality include action plans for school improvement, secondary education and vocational education, tightening up examination requirements, as well as boosting the quality of school leaders.

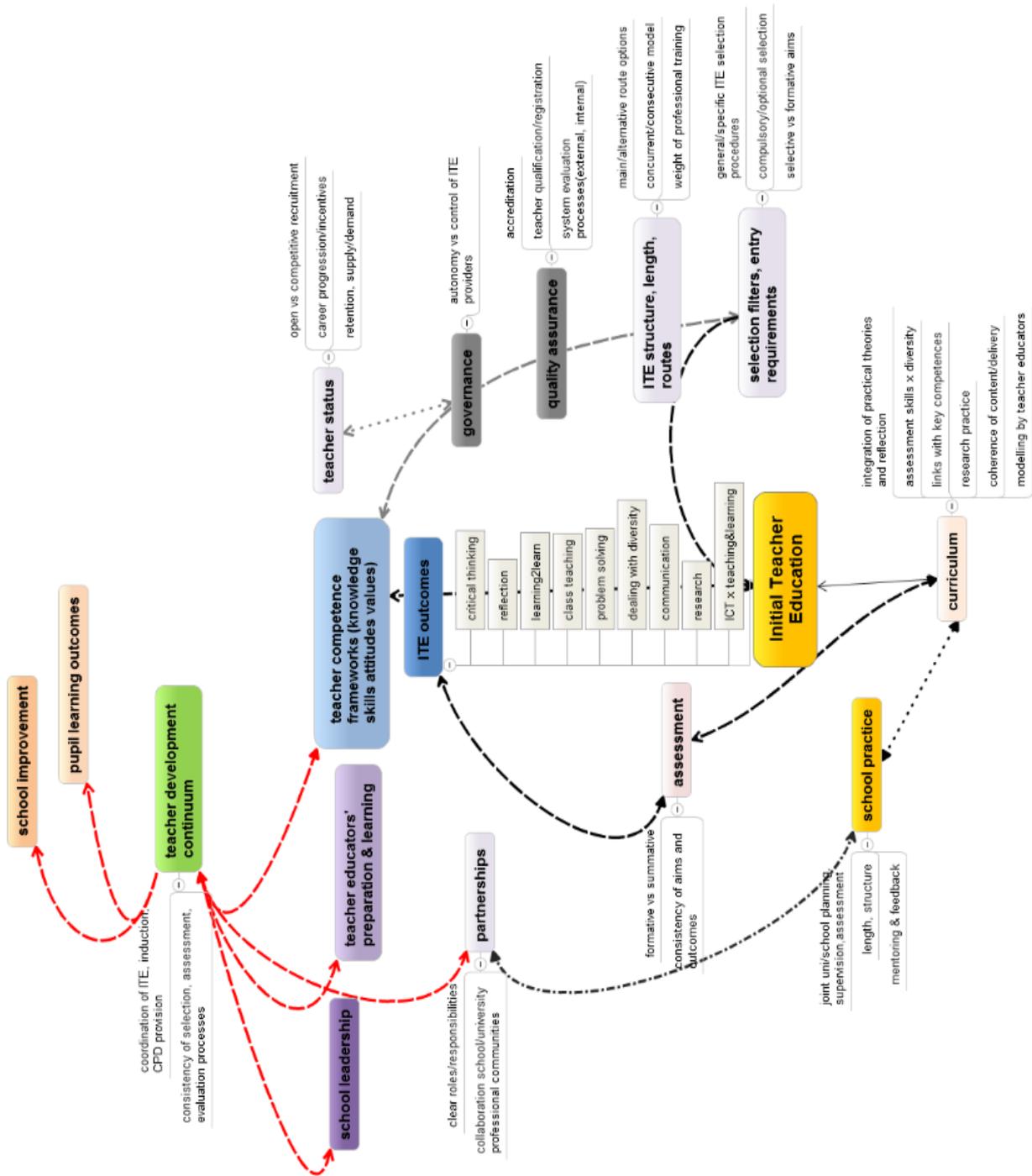
Scotland's initial teacher education is embedded in a system characterized by the action of the General Teaching Council (since 1996) and the presence of four sets of professional standards describing career stages (introduced in 2000, revised in 2013) – with an emphasis on research, attitudes and values (such as social justice) rather than on technical skills. With a continuum perspective, the 2001 agreement *Teacher Education for the 21st century* introduced CPD entitlement of 35 hours per year for all teachers, a professional learning scheme, an induction scheme and a two-stage review of ITE. The 2001 agreement involved government, employers and unions, reflecting a high level of trust and respect among policy stakeholders. Peer-based policy evaluation characterizes teacher education, together with the promotion of self-evaluation, cooperation and reflection. Local and national education authorities (including inspector bodies) have supported teachers' learning communities to promote change in teaching and assessment, as well as school-university collaborative projects. The induction system established in 2002 provides structured mentoring and continuing support after induction. Career progression options were introduced with the chartered teacher programme (about MA or vocational qualifications) and the programme for headship development. The introduction of the 2010 *Curriculum for Excellence* school policy action has influenced teacher education at all levels, increasing teachers' responsibilities, with a focus on links between teacher education, curriculum and educational outcomes. Scotland's ITE has been praised for its 'developmental' approach focused on teacher learning rather than on a regulatory use of professional standards (Conway et al. 2009).

7. Policy pointers

The following pointers highlight priorities and recurring issues of initial teacher education as embedded in the wider education system. They are concerned with roles, responsibilities and strategies for effective policy implementation and improvement.

Policy priorities	Recurring issues in member states
<ul style="list-style-type: none"> • clear reference frameworks for selection along teacher education, with basic competence requirements for different stages, linked to education priorities; • attracting a wider, diverse pool of teacher applicants – e.g. by flexible, multiple entry and exit pathways along teacher education; • effective mechanisms for (re-)orientation and support of weak/struggling candidates and professionals along the teacher education continuum • close links between teacher education institutions and schools (with a two-way flow of expertise and knowledge on learning and teaching) 	<ul style="list-style-type: none"> • lack of shared, clear, effective indications about key pre-requisites of teacher candidates' knowledge, skills and attitudes • absent/inadequate ITE entry selection • ITE selection focus on subject/academic requirements (overlooking professional attitudes) • selection filters in few, fixed stages of teacher education • teacher demand/supply mismatch (lack/surplus of ITE candidates, retention issues) • teaching career/attractiveness issues (professional incentives, working conditions, age profiles)
<ul style="list-style-type: none"> • a consistent use of teacher competence frameworks along the teacher education continuum, with a focus on teacher, school and pupil improvement • stakeholders' agreement on key teacher competence requirements – starting with core/threshold competences as ITE outcomes • consistent, realistic teacher assessment mechanisms in ITE, actually shared by schools and university providers (linking ITE aims and outcomes, assessment criteria and learning opportunities) • alignment of key assessment criteria/ mechanisms in ITE, induction and CPD • this requires policy on ITE to be embedded in a broader policy on the whole continuum of teacher education 	<ul style="list-style-type: none"> • teacher competence descriptions in regulations remain on paper • diversity, inconsistency or autonomy in ITE, induction and CPD provision • fragmentation of responsibilities and roles across the teacher education continuum • diversity of teacher educator profiles, preparation, coordination and commitment in ITE, induction and CPD • low professional/academic mobility of teaching candidates/professionals abroad
<ul style="list-style-type: none"> • quality control of ITE with a focus on: <ul style="list-style-type: none"> ○ ITE outcomes (core teacher competence requirements) ○ key ITE curriculum features: <ul style="list-style-type: none"> - integration of areas - research on practice - reflective practice - ICT - inclusion - delivery. ○ ITE organization: <ul style="list-style-type: none"> - school practice length - mentoring - school partnerships, with clear roles/responsibilities - teacher educator selection and professional development. • an overall quality assurance system for ITE and education improvement, with: <ul style="list-style-type: none"> - regular quality loops linking internal and external evaluation of ITE providers - flexible criteria, to fit context needs and stakeholder requests - links between teacher, school and system evaluation (aims and outcomes) - alignment of key evaluation aims, roles and processes on different levels (ministry, teacher education providers, school leaders, teacher educators) - specific preparation/training of school leaders and teacher educators in assessing/supervising student teachers' school practice. 	<ul style="list-style-type: none"> • bureaucratic approaches to teacher competence requirements or standards, focused on compliance to regulations and procedures • fragmented or weak responsibilities of key stakeholders for ITE quality control, monitoring and improvement • bureaucratic or weak quality assurance approaches in education

Finally, the following mind-map gives a system view of Initial Teacher Education as linked with other subsystems, such as school education, quality assurance and governance.



The Initial Teacher Education System

8. References

- Ala-Mutka K., Punie Y. & Redecker C. (2008). ICT for Learning, Innovation and Creativity. Policy brief prepared by the Institute for Prospective Technological Studies (IPTS). Joint Research Centre, European Commission. Luxembourg: Office for Official Publications of the European Communities. <<http://ftp.jrc.es/EURdoc/JRC48707.TN.pdf> >
- Asia Society Partnership for Global Learning (2011a). *International summit on the teaching profession - Improving teacher quality around the world*.
- Biesta G. (2012). The Future of Teacher Education: Evidence, Competence or Wisdom? *Research on Steiner Education* 3 (1): 8–21.
- Brouwer N. and Korthagen F. (2005). Can teacher education make a difference? *American Educational Research Journal*, 42 (1): 153-224.
- Conway P.F., Murphy R., Rath A. & Hall K. (2009). *Learning to Teach and its Implications for the Continuum of Teacher Education: A Nine-Country Cross-National Study*. Report Commissioned by the Teaching Council. University College Cork and Teaching Council of Ireland.
- Cordingley P. & Bell M. (2012) . *Understanding What Enables High Quality Professional learning. A Report on the research evidence. CUREE report*. Coventry: Pearson School Improvement.
- Darling-Hammond L. (2000). How teacher education matters. *Journal of Teacher Education*, 51(3): 166-173.
- Darling-Hammond L. (2006). Constructing 21st-Century Teacher Education. *Journal of Teacher Education*, 57 (3): 1-15.
- Day C., Stobart G., Sammons P. & Kington A. (2006). Variations in the work and lives of teachers: relative and relational effectiveness. *Teachers and Teaching*, 12 (2): 169 -192.
- Day C. (2011). MTL(Master in Teaching and Learning): Evidence used in design, and some early lessons learned. TERN/ESCR seminar, 26 January 2011, University of Manchester.
- Deakin Crick R. (2008). Key competencies for education in a European context. *European Educational Research Journal*, 7(3): 311-318.
- European Agency for Development in Special Needs Education/EADSNE (2010). *Teacher Education for Inclusion/TE4I Country Reports*. Brussels. <<http://www.european-agency.org/agency-projects/Teacher-Education-for-Inclusion/country-info>>
- European Commission (2009). *Report of a Peer Learning Activity in Vilnius. Practical classroom training within Initial Teacher Education*.
- European Commission (2012a). *Supporting the Teaching Professions for Better Learning Outcomes*. Strasbourg, 20.11.2012. SWD (2012) 374 final.
- European Commission (2012b). *Report of a Peer Learning Activity in the Hague. Policies to select the best for teaching*. Brussels: EC.
- European Commission (2013a). *Supporting teacher competence development for better learning outcomes*. Brussels: EC.
- European Commission (2013b). *Supporting Teacher Educators for better learning outcomes*. Brussels: EC.

- European Schoolnet (2013a). *Country report on ICT in Education: Austria*. Brussels.
- European Schoolnet (2013b). *Country report on ICT in Education: Hungary*. Brussels.
- European Schoolnet (2013c). *Country report on ICT in Education: Norway*. Brussels.
- European Schoolnet (2013d). *Country report on ICT in Education: Spain*. Brussels.
- European Schoolnet (2013e). *Country report on ICT in Education: Switzerland*. Brussels. < <http://insight.eun.org/ww/en/pub/insight/index.htm> >
- Eurydice (2006). *Quality Assurance in Teacher Education in Europe*. Brussels: EACEA.
- Eurydice (2011a). *Key Data on Learning and Innovation through ICT at School in Europe*. Brussels: EACEA.
- Eurydice (2011b). *Mathematics in Education in Europe: Common Challenges and National Policies*. Brussels: EACEA.
- Eurydice (2011c). *Teaching Reading in Europe: Contexts, Policies and Practices*. Brussels: EACEA.
- European Commission/EACEA/Eurydice (2013). *Key Data on Teachers and School Leaders in Europe. 2013 Edition. Eurydice Report*. Luxembourg: Publications Office of the European Union.
- Finnish Institute for Educational Research (2009). *Education and Training 2010: Three studies to Support Teacher Policy Development. Teacher Education Curricula in the EU. Final report*.
- Garbe C., Holle K. & Weinhold S. (2009). *ADORE project: Teaching adolescent struggling readers. A comparative study of good practices in European countries. Scientific report*. Lüneburg, Germany: University of Lüneburg.
- Goe L., Bell C. and Little O. (2008). *Approaches to evaluating teacher effectiveness: a research synthesis*. Washington DC: National Comprehensive Center for Teacher Quality.
- Halász G. and Michel A. (2011). Key Competences in Europe: interpretation, policy, formulation and implementation. *European Journal of Education*, 46 (3): 289-306.
- Hammerness K. (2006). *Seeing Through Teachers' Eyes: Professional Ideals and Classroom Practices*. New York: Teachers College Press.
- Hagger H. and McIntyre D. (2006). *Learning teaching from teachers. Realizing the potential of school-based teacher education*. Maidenhead: Open University Press.
- Harford J., Hudson B. & Niemi H. (Eds) (2012). *Quality Assurance and Teacher Education. International Challenges and Expectations*. Bern: Peter Lang.
- Hattie J. (2003) Teachers make a difference – what is the research evidence? *Professional Learning and Leadership Development*, NSW DET.
- Howe E. R. (2006) Exemplary Teacher Induction: An international review. *Educational Philosophy and Theory*, 38(3): 287-297.
- IBF (2013). *Study on Policy Measures to Improve the Attractiveness of the Teaching Profession in Europe. Final Report, Volumes 1-2*. Brussels: EC.
- International Reading Association (2009). *New Literacies and 21st-century technologies: A position statement of the International Reading Association*. Newark, DE: IRA.

Kirby S., McCombs J., Barney H., & Naftel S. (2006). *Reforming teacher education: something old, something new*. Santa Monica-CA: Rand Corporation.

Korthagen F., Loughran J. & Russell T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education* 22: 1020-1041.

Learnovation Consortium (2009). *Inspiring young people to become lifelong learners in 2025*. <<http://learnovation.files.wordpress.com/2010/10/learnovation-vision-paper-1-school-education.pdf> >

Lewin K. M. and Stuart J. M. (2003). Insights into the policy and practice of teacher education in low-income countries: the multi-site teacher education research project. *British Educational Research Journal* 29(5): 691-707.

Menter I., Hulme M., Elliot D. & Lewin J. (2010). *Literature Review on Teacher Education in the 21st Century*. Edinburgh: Educational Analytical Services, Scottish Government Social Research.

Musset P. (2009). Initial Teacher Education and Continuing Training Policies in a Comparative Perspective: Current Practices in OECD Countries and a Literature Review on Potential Effects, *OECD Education Working Papers*, No. 48, OECD Publishing.

NCATE (2008). *Professional standards. Accreditation of Teacher Preparation Institutions*. Washington D.C.: NCATE.

Niemi H. (2008). Advancing Research into and during Teacher Education. In B. Hudson and P. Zgaga (Eds), *Teacher education policy in Europe: a Voice of Higher Education Institutions*. (183-208). Ljubljana: Universities of Umeå and Ljubljana.

OECD (2009). *Creating Effective Teaching and Learning Environments. First Results from TALIS*. Paris: OECD Publications. <http://www.oecd.org/dataoecd/17/51/43023606.pdf>

OECD (2011). *Preparing Teachers and Developing School Leaders for 21st Century - Lessons from around the world* (Background Report for the International Summit on the Teaching Profession). PISA: OECD Publishing.

OECD (2013a). *PISA 2012 Results in Focus. Volume I, What students Know and Can Do*. PISA: OECD Publishing.

OECD (2013b). *PISA 2012 Results. Excellence through Equity. Giving every student the chance to succeed. Volume II*. PISA: OECD Publishing.

OECD (2013c). *PISA 2012 Results. Volume IV, What Makes Schools Successful? Resources, Policies and Practices*. PISA: OECD Publishing.

Schneider R. (2008). Mentoring New Mentors: Learning to Mentor Preservice Science Teachers. *Journal of Science Teacher Education*, 19(2): 113-116.

Snoek M. and Žogla I. (2009). Teacher Education in Europe: Main Characteristics and Developments. In A. Swennen and M. van der Klink (Eds). *Becoming a Teacher Educator. Theory and Practice for Teacher Educators*. The Netherlands: Springer.

TUNING (2005). *Reference Points for the Design and Delivery of Degree Programmes in Education*. Bilbao and Groningen: University of Deusto and University of Groningen.

Vaillant D. and Manso J. (2013). Teacher Education Programmes: Learning from Worldwide Experiences. *Journal of Supranational Policies in Education*, 1: 94-115.

Zeichner K. and Conklin H. (2008). Teacher Education programs as sites for teacher preparation. In M Cochran-Smith, S. Feiman-Nemser & D. Mc Intyre (Eds). *Handbook of Research on Teacher Education. Enduring questions in changing contexts*. New York/Abingdon: Routledge/Taylor & Francis.

Zgaga P. (2013) The future of European teacher education in the heavy seas of higher education. *Teacher Development: An international journal of teachers' professional development*.