ETF Working together Learning for life

POSITION PAPER ON CONTINUING PROFESSIONAL DEVELOPMENT FOR VET TEACHERS AND TRAINERS

ETF POSITION PAPER

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FOREWORD

This paper aims to set out the ETF's understanding of Continuing Professional Development (CPD) for vocational teachers and trainers in relation to policy, research and the current practice in the ETF's partner countries. Building on this it offers guidance for ETF's work in supporting policy development and implementation. It is aimed primarily at ETF staff.

The paper examines recent research on CPD with the intention of providing a scientific understanding of its elements, its impact and processes. In consequence, the paper draws heavily upon research into CPD of general teachers simply because there is a strong research base (in particular, there are a number of systematic reviews of research). However, the paper also considers specialised research into CPD for teachers and trainers working in vocational education and training (VET), where this is available, which raises particular issues relating to the dual professionalism of VET teachers and trainers.

The paper attempts to provide principles to support the work of the ETF and its partners, both in terms of particular interventions and building systems. The paper goes on to draw out implications for how the ETF should act, in concert with different partners, in order to be successful. Where possible, potential actions are illustrated by concrete examples.

Unfortunately, there are no simple recipes. It is the ambition of this paper to establish ETF's approach upon what is known about CPD and what has been tried. It is hoped that this will encourage colleagues to grasp opportunities and to explore needs, support, innovation and partnership with respect to CPD.

KEY MESSAGES

Professional development is the enhancement of competence in relation to personal, social and organisational objectives that are interlinked. Continuous professional development refers to planned learning that takes place during the career (rather than before or at the start of the career).

Continuing professional development (CPD) is an important tool for increasing the internal and external efficiency of VET systems. There is robust research evidence that CPD can impact upon the learning outcomes of students. Without appropriate and timely CPD, other reforms, such as that of curriculum or assessment, are unlikely to succeed. On the other hand, improved CPD by itself will not lead to greater economic productivity or growth: there are other important factors within the education and training system and the labour market. Improvement of professional development for teachers and trainers is one of the five Medium Term Deliverables set out for the period 2015-2020 in the Riga Conclusions and it is also a tool for contributing to the achievement of the other four deliverables.

Systematic reviews of research have clarified the principles that should guide policy makers seeking to improve systems of CPD. CPD should be:

- Incentivised and well-matched to needs of learners
- Job-embedded
- Instructionally focused
- Critical
- Collaborative
- Ongoing and intensive
- Coherent with respect to professional and organisational expectations

- Evaluated
- Delivered effectively
- Consistent with social inclusion and equity.

With respect to vocational teachers and trainers, a further principle is that their work implies a dual professionalism: that of teaching and that of their vocation or employment sector. From this it follows, that CPD for VET teachers and trainers should address their competences as teachers and trainers and their competences as workers in the world of work outside of education, for example, their vocational identity and possession of up to date knowledge of work practice.

Experience and research suggest the following building blocks for the development of national systems of CPD:

- A legal framework
- An effective and responsive governance
- A process for identifying and communicating needs and priorities that CPD will address
- A process for assigning the CPD offer to organisations and to individual teachers and trainers
- Quality assurance of programmes and providers
- Capable, sufficient, responsive, equitable and efficient provision and design
- Adequate funding in relation to policy commitments, efficiently channelled and monitored
- CPD is recognised or accredited and users understand how it will help them to reach their goals
- CPD is evaluated, reviewed and recorded and this information feeds back into decision making.

Commitment to CPD builds on the principle that life-long learning can equip teachers and trainers to improve and adapt their performance and thereby renew and enhance their professional life. CPD, conceived as life-long learning, should be integrated into professional life: it should connect to daily professional tasks and address concrete work problems; it should be connected to the institutional goals and the culture of the school, enterprise or training centre where teachers or trainers work.

Efforts to improve CPD should be closely linked to efforts to improve the institutions, governance, resources, norms and processes that shape the professional life of teachers and trainers. CPD provision needs to match closely with the needs of teachers and VET schools and it should take into account the needs of learners and employers. In systems where CPD fails to address these needs, where, for example, attendance at training events has become a purely formal requirement, CPD is unlikely to contribute to systemic improvement and may be regarded by teachers as an additional burden.

Many actors can help to improve CPD: ministries, specialised agencies, schools, municipalities, companies, universities, international funding agencies, professional associations and trade unions. The ETF can facilitate development at multiple levels and encourage communication and coordination between multiple actors.

Currently, key opportunities to address the development of CPD for VET teachers and trainers include:

- the high profile that CPD enjoys amongst policy makers in some partner countries
- the power and the challenge posed by digital and on-line learning
- the contribution that business can make to the design and provision of CPD for VET teachers and trainers
- better matching of CPD provision to training needs
- greater empowerment of VET institutions to plan and organise CPD for their own staff.

INTRODUCTION

This position paper is concerned to explain why and how the ETF is addressing the issue of continuing professional development (CPD) for teachers and trainers of VET. With this end in mind, it examines CPD in the light of EU policy and the ETF's specific mandate. It aims to summarise recent research and thinking about continuing professional development. As well as drawing on research, it offers learning from recent experiences of policy development and implementation. It proposes guidance on the building blocks and the processes that contribute to a system of continuing professional development. The ETF's mission is to support the development of capacity to drive, shape and implement policy amongst its partners. With this in mind, the last part of this paper explores strategies and actions for different actors and explores the challenges of development in complex, heterogeneous and dynamic contexts.

1 CONCEPT AND SCOPE

1.1 Defining professional development

Professional development can be defined with respect to its **purposes**, the **competences** targeted or the **modes** through which it takes place.

Purpose

Cedefop defines professional development as 'any action undertaken to improve professional performance' (Cedefop,2014) however, it is widely accepted that professional development implies personal and social as well as occupational dimensions.[1] ETF's preferred definition is: *Professional development is the enhancement of competence in relation to personal, social and organisational objectives that are interlinked.* It has become normal to distinguish professional development from 'training' on the grounds that the term 'training' might be taken to imply an exclusive focus on occupational performance – with the neglect of knowledge, social skills and higher order competences such as autonomy and values.

Competences

Professional development can be designed to enhance specific competences, such as the teaching of particular skills or of particular units of a new curriculum, or it may target a more complex competence, such as a new pedagogical approach or induction into a distinctive school culture.

Modes

Professional development is usually understood to be planned learning, it is therefore distinguished from informal learning that comes about through work or social interaction. However, professional development can follow many modes, for example, formal lessons, interactive workshops, work-based learning, peer learning, e-learning. In addition there are blended or non-formal modes, e.g. mentoring, coaching, networking. Of course, informal learning, i.e.the knowledge, skills and attitudes, that are acquired by teachers and trainers through their work are likely to be of great importance. However, it is difficult for the ETF to exert much influence upon informal learning. Nevertheless, consideration should be given to informal learning as it may facilitate or constrain professional development (see

[1] E.g. OECD defines the purpose of CPD as to 'Update, develop and broaden the knowledge teachers acquired during the initial teacher education and/or provide them with new skills and professional understanding' (OECD 2005). According to Guskey (2000): Teachers' professional development can be defined as those processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students.

3.2.6) and, further, because communication technologies are reshaping informal learning, making it easier for the ETF to support.

1.2 Phases of professional development

We can distinguish the types of professional development that are designed to serve different stages or phases of the career of a teacher or trainer. In the case of teachers it is conventional to distinguish between in-service and pre-service training. This distinction is usually understood to refer to the contractual status of the teacher or trainer. While the basic sense of this distinction is clear, comparisons are difficult because there are different systems for contracting teachers in different countries, e.g. should we regard school-based training as pre-service or in-service where beginning teachers do not have contracts? In this paper we will use the term Initial Teacher (or Trainer) Education to refer to the professional development that teachers and trainers receive at the start of their careers and Continuing Professional Development to refer to professional development they receive during the course of their careers.[2] In practice, there is some blurring, for example, in some countries initial teacher education is understood to include initial work experience in schools. It is also useful to identify an intermediate phase, 'induction': professional development that bridges the phases of initial and continuing professional development.

The purposes, competences, modes and phases of professional development can be separated analytically but, in practice, they will be inter-connected. Traditionally, initial teacher education was more likely to be formal and to address knowledge rather than skills. New thinking about the purpose of initial teacher education has led to calls for changes in both the modes and the competences that are desirable at this stage (EC 2015)

Policymakers looking to enhance the contribution of teachers and trainers will be concerned with both initial and continuing professional development. However, this paper focuses on the continuing professional development of teachers and trainers in VET, including measures that are associated with induction. To do justice to initial teacher education (ITE) it would be necessary to address the work of higher education institutions, which, historically, has not been the concern of the ETF.

1.3 Teachers, trainers and instructors

This paper is concerned with CPD of the VET workforce (active in teaching and training), at all levels,[3] with diverse responsibilities and in many environments. The terminology of VET teachers and trainers is complex[4] but for the purposes of this paper we can distinguish the following environments and roles:

Environment	Type or function
School-based (public and private sector)	VET subject teachers or lecturers (technical teachers), teachers of general subjects, instructors (demonstrators, practical teachers), technicians (workshop and laboratory assistants), assessors, managers and leaders (including principals and pedagogic advisors), coordinators of practice
Company-based (public and private sector)	Specialist trainers, workers that carry out some training or support as part of their function, supervisors, apprenticeship masters, human-resources staff, managers, mentors, tutors, training co-ordinators
Training centres and training providers (private and public sector)	Trainers providing post-secondary VET programmes, trainers providing continuing VET to employed or unemployed adults, trainers contributing to alternance training, trainers contributing to labour market activation programmes, trainings providing specialist technical or other skills (languages, ICT)

[2] Some writers prefer the term 'Continuous Professional Development'. This might be taken to imply an uninterrupted process rather than simply an on-going process. The term 'Continuing Professional Development' is preferred in this paper because it is simpler and does not suggest this expectation.

[3] For the most part, vocational higher education is not considered.

[4] Parsons et al (2009) discusses the manner in which alternative definitions connect to different national traditions.

The term 'VET teachers and trainers' is used in this paper to refer to all of those that are somehow involved in the formal development of vocational competences whether in schools, work-places, training-centres or elsewhere. Within a given environment, such as a school, we can distinguish further distinct roles, such as teacher, instructor and assessor. These roles are usually defined in terms of functions, qualifications and status.

The teaching and training workforce for VET is, in most countries, more heterogeneous than that for general education. Moreover, VET teachers and trainers work in a variety of different kinds of institution, with different regulation, norms, finances, management and cultures. Potentially, this permits a great variety of pedagogies, systems and approaches for professional learning in VET and it also implies complexity and unequal opportunities. Where VET is delivered by more than one actor in several environments, for example, through alternance, there is a need for coordination, which may itself be supported through CPD. Clearly the learning needs of teachers and trainers will depend upon prior learning, job role and work environment. In many of the ETF's partner countries, pedagogical learning does not form part of initial teacher training for vocational teachers: consequently CPD may be regarded as a means to compensate for this gap.

The work of vocational teachers and trainers implies a dual professionalism: that of teaching and that of their vocation. From this it follows, that CPD for VET teachers and trainers should address both their competences as teachers and trainers and their competences as workers, for example, their vocational identity and possession of up to date knowledge of work practice.

While this paper intends to address the professional development of all staff working in VET, more attention is given to CPD for VET teachers than for company-based trainers, trainers working in vocational training centres or practical instructors working in schools. This imbalance reflects an international emphasis in policy, research and practice – which is reflected within the ETF's partner countries. However, there is a growing concern to attend to the professional development needs of non-teachers, for example, trainers, principals, instructors.

There are other actors that play a role in the professional development of the VET workforce, at national and at sub-national level, for example, regulators and teacher educators. It may be appropriate for the ETF to support capacity for building for such actors (see Section 7 below).

2 POLICY BACKGROUND

2.1 EU Policy with respect to CPD

Generally, EU policy documents conceptualise CPD as a driver which can help member states to support the economic and social goals of education and training; the policy logic is that challenges for education and training imply changes in the behaviour and capability of teachers. This thinking fits with the EU commitment to use lifelong learning as the means for reconciling individual and collective objectives. In 2006 the European Commission reported to the Council of Ministers and the European Parliament that improving the quality of teacher education was an efficient means to achieve the Education & Training 2010 objectives. *Improving the quality of teacher education* (EC, 2007) set out common principles for teacher competences and qualifications and promised EU support through funding, creation and dissemination of new knowledge in the field of teaching and teacher education and monitoring. *Rethinking Education* stated that 'Teachers need a strong commitment to training: in the use of new technologies; to improve learning-to-learn competencies; how to cater for diversity and inclusion; and to meet the needs of disadvantaged learners, such as Roma, children with disabilities or those from a migrant background.' (EC, 2012, p10).

A cluster on teachers and trainers was set up within the context of Education and Training 2010, which, in its reports and publications, drew attention to the need to improve professional status, to make differentiated training provision to different kinds of teacher and trainer and to support permeability and communication. (EC, 2009) From 2010-2013, a Thematic Working Group met with a focus on Teacher Professional Development, whose outputs included '*Supporting teacher competence development for better learning outcomes'* which sets out the case for methodology of competence profiles and provides advice on their use. In 2014 the Council of the EU published a set of conclusions confirming the policy recommendations set out above, but placing a particular emphasis upon measures to develop teacher educators, for example, through the development of competence frameworks and networking. The Council invited the Commission to build communities of teachers and to support cooperation with partners, networks and organisations with a view to designing effective teacher education programmes. (Council of the EU, 2014).

A parallel Thematic Working Group focused on company-based trainers and the training of trainers publishing principles and sharing good practice.[5] In the Bruges Communiqué, professional development was identified as a key method of increasing the quality of teachers, trainers, mentors and counsellors. 'Flexible training provision and investment' and 'traineeships for teachers and trainers in enterprises' are particularly recommended (EC, 2010, p 9). There were no national level short-term deliverables for the period 2011-2014 with respect to professional development, although the Communiqué committed the EU to 'Work on best practices and guiding principles with respect to the changing profiles of VET teachers and trainers (together with Cedefop).' In line with the method of open coordination, CPD was subsequently identified as a policy option for seven different short-term deliverables (STDs).[6] This approach was reflected in the most recent Bruges Report (Cedefop, 2014) which draws attention to deficiencies in CPD in relation to other specific deliverables, e.g. adult learning.[7]

The Presidential Conclusions confirmed in Riga in June 2015 explicitly identify improvements in initial and continuing professional development for VET teachers and trainers as a medium term deliverable for the period 2015-2020. This policy enhances the policy profile of professional development because professional development has become a target rather than merely one of several policy options serving other targets. The Riga document also defines policy options which will shape policy development and monitoring of outcomes. (EC & EU & MESRL, 2015)

2.2 ETF's commitment to working on CPD for VET teachers and trainers

2.2.1 CPD as a strategic objective of ETF

The ETF's Vision for 2017 is to make vocational education and training in its partner countries a driver for lifelong learning and sustainable development, contributing to competiveness and social cohesion. Working in the context of EU's external relations policy and the national policies of its partners, the ETF seeks to support the use of CPD as one tool, among others, for wider human capital development. The ETF supports stakeholders and actors in partner countries to develop and improve CPD by providing advice, by analysing policy development and by sharing knowledge. The ETF is committed to operating in a way that encourages ownership and participation amongst stakeholders and favours holistic policymaking that integrates different policy objectives and tools. The ETF has set

[5] For a summary of the work see: http://www.cedefop.europa.eu/en/events-and-projects/projects/teachers-and-trainers-professional-development

[6] STDs 2, 4, 7, 14, 15, 17, 18

[7] Accordingly, at the level of the country fiches that accompany the Bruges report, training is reported in relation to other STDs

the strategic objective for 2014-17: 'modernise VET systems' and specified that in 2016: 'particular attention will be paid to investing resources in enhancing the professional development of teachers and trainers'[8]

Professional development of VET teachers and trainers has been identified by the ETF as a driver for the improvement of VET systems for two kinds of reason:

1. Teachers and trainers are the single most important input in the VET system. Therefore investment in the quality of teachers and trainers can be expected to have a relatively large impact upon VET outcomes as upon all educational outcomes.[9]

2. Teachers and trainers are critical to the successful implementation of other reforms, for example, changes in organizations, curriculum, technology and pedagogy (Villegas-Reimers, 2003). Furthermore, the contribution of teachers and trainers is becoming more important as VET processes and purposes change, for example, teachers can help to tailor VET provision to the diverse needs of learners. It follows that system reform of VET depends upon the capability and readiness of teachers and trainers to implement reform. Nielsen (ETF, 2009) argues that teachers and trainers are key change agents and that professional development is at once the means to equip teachers and trainers to carry through change and to empower them to encourage reform.

The Torino Process focuses attention upon progress in professional development: partner countries are invited to monitor opportunities, incentives and effectiveness of CPD for teachers and trainers,[10] The ETF's Strategic Project Entrepreneurship and Enterprise Skills monitors and supports the development of entrepreneurial teaching, in conjunction with the European Single Business Act, because it has been identified as a means to increasing enterprising behaviours (EC, 2011). The ETF's commitments to support the development of work-based learning and quality assurance imply a commitment to harness CPD to support these objectives.

2.2.2 Professional Development is one element of a VET system

The World Bank's SABER methodology identifies professional development as one of eight policy dimensions that contribute to a high performing education system, along with recruitment, management, monitoring etc.(World Bank, 2013). From the ETF's perspective of capacity development, CPD is a tool to develop the competences of teachers and trainers. CPD offers a mechanism through which the VET system can be steered towards greater relevance, innovation and sustainability. A systemic understanding of capacity development implies that work on CPD will be closely associated with other themes: for example, leadership, career structure, school development, teacher qualifications and digital learning. It follows that there are opportunities for ETF to coordinate actions across thematic areas and across strategic projects, for example, the Bruges Communiqué identifies CPD as a means to ensure that digital technologies are fully exploited in education and training. The challenge for the ETF and its partners is to construct and implement multi-thematic actions which benefit from synergies without becoming overloaded.

VET capacity is itself part of the larger political and economic system so that policies to address CPD should take account of environmental factors, for example, whether there is a surplus or a shortage of VET teachers and the character of the labour market for VET graduates.

[8] ETF Work Programme 2016, p25

[9] The importance of investment in teachers has been evidenced by OECD's PISA studies.

[10] ETF (2016) The Torino Process 2016: Guidelines

2.3 Wider policy context for professional development for VET teachers

UNESCO-UNEVOC's *Hangzhou Declaration* (UNESCO-UNEVOC, 2004) demanded greater attention and innovation in the field of teacher and trainer education, with a particular emphasis on pedagogy and scientific and international approaches. The follow up conference, *Strengthening TVET teacher education* (UNESCO-UNEVOC, 2012) recommended personal professional growth plans and closer collaboration with industry. This recommendation was incorporated into UNESCO's *Shanghai Consensus*: 'develop policies and frameworks for professionalizing TVET staff, and develop and strengthen teaching standards for all levels' (2012, p 8). OECD's *Teachers matter: attracting, developing and retaining effective teachers* (2005) identifies CPD as a tool to improve the performance of educational systems. ILO's *Vocational teachers and trainers in a changing world: the imperative of high quality teacher training systems,* 2015) places particular emphasis upon innovation and the empowerment of VET teachers and trainers, along with other stakeholders, in shaping policy and practice.

3 RESEARCH INTO PROFESSIONAL DEVELOPMENT

3.1 A paradigm for professional development

Policy and practice with respect to professional development of teachers and trainers have been influenced by research and by new models for initial and continuing professional and adult education. Research and theorising about professional learning have flourished over the last 50 years, in tandem with the expansion of professional employment in advanced economies.[11] Kolb's work on experiential learning (1984) and Schön's on reflective practice (2003) have encouraged approaches that place emphasis upon the agency and practice of the professional learner. The work of Eraut (2008), Fischer & Rauner (2002) and others have encouraged the view that the development of professional competence and performance involves practical skills as well as general and theoretical knowledge and that it engenders the application of that knowledge in particular contexts. Boreham et al. (2002), among others, have drawn attention to the workplace and the organisation as learning environments and the manner in which the process and the conditions of work can constrain or afford professional development. Research into the development of expertise and emotional intelligence have led to a greater emphasis on affective, tacit and interpersonal elements of professional competence in addition to explicit and cognitive elements.

Argyris and Schön (1978), Lave and Wenger (1981) and Nonaka & Takeuchi (1995) stimulated a shift of focus away from the learning individual towards the way that learning goes on in organisations. This way of thinking has encouraged development work according to which networks of professionals (known as 'communities of practice') can serve to enhance the practice and competence of their members. Researchers, such as Engerström (1995), have explored the manner in which experience and competence might be shared between diverse communities, organisations and professions. These ideas connect to debates about the professionalization, that is about the manner in which high-level knowledge brings with it advantagous status, remuneration, employment rights, self-governance and market power.

[11] Of course, there is a question about whether concepts that apply to new professions apply equally well to old professions.

The growing acceptance that professional learning is situated in social groups or organisations has converged with research that draws attention to the way that external change makes demands upon organisations. Organisations, it is reasoned, must adapt to environmental changes if they are to survive and achieve their objectives. It follows that organisational and individual learning will become particularly important in a dynamic, knowledge-based, globalised economy and that the character of external change will, to some extent, inform the character of the learning necessary.

It would be wrong to imply that a unified paradigm is accepted by all those involved in professional development across all countries and professions. However, most of the ideas outlined above are widely accepted and they inform the development and delivery of professional development globally. To take one example, because the current paradigm places emphasis on both individual agency and social context it is widely accepted that professional development should employ individualised coaching but also that such coaching must be connected to organisational objectives and collaborative ways of working (Hargreaves & Fullan, 2012).

3.2 The professional development of teachers and trainers

3.2.1 Professional development as a tool for educational improvement

Researchers have increasingly drawn attention to the quality and behaviour of the teaching workforce as an engine for educational improvement and, furthermore, to CPD as a potential driver of workforce development. OECD's *Teachers matter* (2005) argued that teachers were the single most important factor in explaining educational achievement. An OECD literature review published in 2009 concluded: 'Research shows that the most effective way to raise educational quality is to modify initial teacher education and recruitment, and to develop the means to train teachers that are already in-service; indeed, teacher education has a significant impact on teachers' behaviours and teaching skills, and on the student outcomes.' (Musset, 2009, p3) The American management consultancy firm McKinsey & Company investigated successful education programmes in Asia, Europe, North America and the Middle East concluding that some education systems achieve substantially better outcomes than others because 'they have produced a system that is more effective in doing three things: (i) getting more talented people to become teachers; (ii) developing these teachers into better instructors; and (iii) ensuring that these instructors deliver consistently for every child in the system' (McKinsey, 2008).

While policy makers appear to be enthusiastic about professional development as a tool for the improvement of educational performance, evidence of impact of system-wide changes is more limited than evidence for the impact of individual interventions (Borko, 2004 and Hill, 2007). Hattie's meta-analysis of research findings (2009) confirms that professional development is an important factor affecting student achievement (effect size 0.62). Hattie has also drawn attention to the wide range of effect sizes associated with different kinds of pedagogical intervention and has proposed that an effect size of 0.40 should be a threshold measure, below which interventions may not be worthwhile (unless perhaps they offer other advantages, such as low cost). Other meta-reviews of research confirm that design, delivery and leadership are important factors in determining the success of CPD (Timperley et. al. 2007, Cordingley et al, 2015).

3.2.2 Research into VET teachers and trainers

CPD for VET teachers and trainers has not received as much research attention as CPD for general teachers. This is to be regretted because research suggests that there are differences between effective CPD for different subjects. OECD's synthesis report, *Learning for Jobs,* identified key issues for the TVET workforce in the context of OECD countries: ageing, an absence of workplace experience and insufficient pedagogical preparation for work-based trainers (OECD, 2008). The European QualiVET project investigated the way in which teachers and trainers change and improve

their performance: the research draws attention to the way that collaborative approaches can support innovation and contrasts this to the barriers faced by VET teachers working alone (ITB, 2005). This finding places value on collaboration as an outcome and a tool for CPD. The European Centre for the Development of Vocational Education's (Cedefop) study *Curriculum Reform in Europe* (2012) demonstrated that the introduction of competence-based approaches to the design of curriculum does not lead to the expected changes in outcomes for learners if teachers and students fail to change their teaching and learning behaviours. A follow-up study describes how teachers interpret and implement written curricula and shows that if teachers are effectively trained and supported this can lead to innovations in pedagogy which are associated with improved outcomes for learners (Cedefop, 2015).

Researchers focusing on vocational teachers argue that they belong to *two* professional communities – a community of teachers and a community of profession or a vocation. They argue that vocational teachers need to be able to actively participate in two communities and to make links between them, in particular because it is part of their job to support the transition of learners from one community into another (Andersson & Köpsén, 2015). Increased emphasis on work-based learning, in both Sweden and Finland, has provided opportunities to study how the role and the identity of vocational teachers may adapt and to explore the distinctive contribution that school-based teachers can make to work-based VET (Vähäsantanen & Eteläpelto 2009; Isopahkala-Bouret, 2010). In particular, they can connect work-place learning to the wider curriculum and champion the *learning* needs of work-based learners in the work place.

3.2.3 A competence-based approach

European Teacher and Trainer Networks (TTnets) collaborated from 2005, with the support of Cedefop to propose a framework of competences for VET professions (managers, teachers and trainers) that recognises new and emerging skills, knowledge and attitudes, to reflect new pedagogies, changes in labour markets, changed governance and new forms of collaboration (Volmari et al, 2009). Such a framework could be used to help set standards, to inform reflection or review the design or planning of professional development. Recent research suggests that competence standards in Europe have different aims and uses, different levels of detail and different ownership (European Commission, 2013a). When competences are defined in such a manner that they can serve as norms to regulate occupational performance and qualifications they are usually described as professional standards. Within ETF's partner countries, competence frameworks and professional standards for teachers are emerging at national[12] and regional levels (Vidović & Velkovski, 2010). These developments are at an early stage and it is difficult to judge their impact. In Serbia, for example, standards are said to contribute to the harmonisation of initial teacher education across universities and to inform CPD (EC, 2013). In general, there is not a great deal of evidence, as yet, that professional standards are actually used in quality assurance or that they contribute greatly to innovation. In centralised systems there is a danger that standards will be interpreted as a tool for control rather than development (Vidović & Velkovski, 2010, EC, 2013).

It may be helpful to focus upon the particular competences that particular VET teachers and trainers need, whether or not a framework or a standard of competences has been established. Where, for example, VET teachers qualify for employment as teachers if they hold a technical university degree, with a minimal pedagogical component, they are likely (at least at the start of their careers) to lack teaching skills, as well as skills in assessment, curriculum design and in the preparation of teaching and learning materials. Recognition of this deficiency has led, for example in Albania, to the introduction of CPD designed to provide a basic pedagogical competence and to a complementary strategy to systematically address the professional development needs of teachers in each school.

[12] Serbia (2011), awaiting approval in Albania (2013), Kosovo (2004) but still not implemented in 2013, FYRM (2005) reported not to be in use (EC, 2013)

The International Labour Organization's (ILO) *Teachers and trainers for the future* (2010) commented on the greater range of skills and functions that are currently asked of TVET teachers, for example different pedagogical and assessment skills, working in both school and work-based modes. An enlarged competence implies changes in CPD.

3.2.4 New pedagogies

Research into learning has led to calls for a greater emphasis on what are known as 'learner-centred' or 'experiential' pedagogies, such as 'project' work, 'personalisation', 'problem-solving' and 'group work' (Ileris, 2003). Some researchers have sought to connect teaching and learning more closely to the work-process (Fischer & Rauner, 2002). This approach has contributed to calls for 'authentic tasks', linking of theory and practice, coaching and reflection. Other developments, for example, the introduction of key skills such as communication skills and more ongoing or continuous assessment, have also encouraged 'project work' and more facilitative teaching approaches. Increased access to the web and to information technology has made digital and on-line learning a major stimulus for pedagogical change.

Research suggests that heavy reliance on teacher talk conceived as knowledge transmission is not an effective method of motivating learners or developing their competences. Research into effective vocational teaching and learning suggests that a multi-dimensional approach is required implying that teachers have a wide repertoire of skills and have access to different learning resources and environments (City and Guilds, 2010; de Bruijn & Baartman, 2011; Cedefop, 2015). However, changing the pedagogy of experienced teachers is not easy and it requires the coordination of curriculum, assessment, management, technology and infrastructure as well as the development of teacher competences.[13]

Research into cognitive science and learning is beginning to demonstrate the extent to which distinctive components of pedagogy contribute to student learning. For example, research into mathematics education has demonstrated that both general and subject-specific pedagogical knowledge contribute to student attainment and further that professional development that focuses on student thinking and cognitive development is relatively effective (OECD, 2017).

3.2.5 Provision of CPD

Meta-reviews suggest that the quality of external input is important because outside experts provide novel and diverse perspectives, challenging orthodoxies. There is evidence that successful CPD facilitators combine specialist subject knowledge and knowledge of professional development processes. Successful CPD facilitators empower teachers to take on leadership within CPD and they are able to mobilise peer support. Successful CPD specialists are able to share values and beliefs with participants but also challenge them (Cordingley et. al., 2015).

Reviews of research show that the most effective CPD specialists support teachers by modelling, coaching and providing observation and feedback. Specialists introduce new knowledge and skills and, in particular, make links between professional learning and learner progress and achievement. Research does not show that any particular kind of CPD activity is universally effective; teachers benefit from variety and multiple perspectives. However, the mode of CPD should be consistent with

[13] The TALIS report discovered a gap between teachers' beliefs about the kind of pedagogy they thought desirable and their own practice. This finding was confirmed in a Dutch study that focused on TVET teachers which found that changes in teachers' understanding were not sufficient to change behaviours and that sustained support, collaboration and mentoring might be required to bring about improvements in teaching and learning.

the principles behind it: highly prescriptive modes of CPD which are not connected to learner outcomes have little impact.

3.2.6 Communities and organisations

There is evidence that groups or networks of teachers (known as 'professional communities') can act as agents or transmitters of professional development, helping to bring about change (Imants, 2003). Professional communities learn and solve problems through collaborative reflection: they share practices between institutions and territories. Analysis of TALIS suggests that professional collaboration, including participating in networks and professional development, is associated with high job satisfaction and self-efficacy and is one factor that contributes to better learning outcomes for students (OECD, 2016). The ETF's interventions relating to professional development have commonly sought to develop such professional communities.

School-based approaches, like the professional community model, link professional learning to the work environment, taking account of institutional behaviour, shared values and routines. The school-based approach to CPD emphasises the contribution of school management and governance to CPD: managers should seek to organise schools so that they facilitate learning and should harness professional communities to achieve organisational goals. The ETF's Teacher Training Network in the Western Balkans encouraged a joined-up approach between school development and CPD (ETF, 2011) as did the ETF's support for quality assurance systems in Montenegro (ETF, 2013a).

School-based CPD has a number of virtues: delivery can be on-going over time; it can focus on the day-to-day concerns of teachers and learning is relatively easy to share learning between colleagues. In addition, it can feed into broader organisational learning. So for example, problem solving in relation to pedagogy can inform decisions about curriculum or investment in resources (Imants & van Veen, 2009). However, schools also benefit from remaining open to new skills, ideas, knowledge and practices coming from outside, which implies that schools should aim for a combination of school-based and off-the-job training including, for example, participation in wider professional communities (Little, 2006). This approach is exemplified when a 'specialist' or 'lead' teacher is trained through intensive workshops and then expected to provide regular and continuous support or training to teachers in their own schools or even in neighbouring schools. In general, we can summarise by saying that peer collaboration is a necessary dimension of CPD but that it is not sufficient in itself.

3.2.7 Characteristics of effective professional development

The following features are associated with CPD that has relatively high effect size in relation to learner outcomes (Hattie, 2007, Timperley 2007, Cordingley et al, 2015). However, none of these features in isolation is necessary or sufficient for a positive effect. Research suggests that CPD is most effective when it connects together subject and pedagogical knowledge, so that teachers can effectively assess learners' starting points and their progress and can make connections between learning processes and outcomes (Hattie, 2007, Timperley 2007, Cordingley et al, 2015).

Feature	*Implications*	*Rationale*
Incentivised and well matched to needs of learners	Integrates personal, professional and institutional needs; well-tailored to the needs of participants; incorporates recognition of teachers' starting points and achievements. Need not be 'voluntary' at start but must achieve engagement, e.g. through experience of impact upon learner outcomes and	Adult learners want a voice in determining the direction and pace of their learning; they want to draw on their life experiences; they have their own goals.

	shared sense of purpose.	
Job-embedded	Connects to daily responsibilities and tasks; contextualised to school; and to current problems of practice and teachers' aspirations for learners. Successful CPD explicitly addresses application: teachers implement by experimenting in the classroom.	CPD must have relevance and value for teachers and for managers; teachers are very busy! CPD must be implemented in teaching.
Instructionally focused	Focus on both subject knowledge and pedagogies (integrated as 'pedagogical content knowledge'); makes use of assessment, addresses outcomes for learners.	CPD depends on new concepts, technologies or research but it must integrate theory and practice
Critical	Dependent on new concepts and external expertise; challenges existing theories of practice and prevailing discourses. Successful CPD implies understanding a rationale, analysis of evidence and reflection on practice.	Changes in practice depend upon new understanding, evidence and reflection. Teaching is a self-regulatory activity: success depends on adapting practice to response of learners.
Collaborative	Makes use of professional communities and peer learning. CPD can take the form of joint reflection and problem solving, peer feedback, modelling, mentoring and management.	Work behaviour and innovation, are, to a large degree, social. Communities can contribute towards self-regulation.
Ongoing and intensive	Extended over time and adapted to practice and context, e.g. study groups, mentoring, summer schools, long workshops. Where aim is to trigger substantive changes in teacher understanding, the programme should be more intensive and frequent.	Lasting change typically demands development from 6 – 24 months upwards) (Yoon et al, 2007)[14]
Coherence	CPD goals cohere with professional standards and with school improvement plans. Implementation is supported by school leadership. CPD coheres with other policies. Teachers should understand rationale and theory behind new practices and be able to apply themselves in different contexts.	There can be a gap between beliefs and practice (TALIS, 2010) so it is not sufficient to change the beliefs of teachers. Changing deeply rooted practice depends upon changing underpinning theories of practice.
Evaluated	Individual and collaborative evaluation of the impact of CPD upon teachers and upon learners. Evidence about learner outcomes resulting from CPD contributes to purpose and understanding.	CPD programmes vary in impact and efficiency. Evaluation helps to make CPD sustainable.
Good delivery	Activities should be sequenced; multiple activities are desirable; learning must be assimilated to practice. Multiple instances of ongoing support and follow up activities. Opportunities to apply new practices in different contexts.	New ideas need to be assimilated by teachers into a new understanding and a new practice – which is likely to involve self-regulation of own learning by teachers.

3.2.8 Governance of CPD

[14] Yoon et al. (2007) examined nine controlled studies of professional development efforts to determine how much time is necessary for an impact. In general, the more time invested, the better the results. Yoon and colleagues noted that when efforts were less than 30 hours, they showed no significant effects on student learning. Efforts that ranged between 30 and 100 hours, with an average of 49 hours, showed positive and significant effects on student achievement.

Evidence from Europe suggests that CPD can be effectively governed at the level of school, local authority, region or nation or through some combination. Powers with respect to CPD, teacher recruitment, budget and curriculum can be devolved to different levels making for complexity. International surveys (OECD, 2014; Eurydice, 2013) document that schools and teachers have a significant role in the process of choosing professional development in the majority of surveyed countries. However, CPD should not only meet teachers' needs but should be consistent with other dimensions of system reform. For example, California's decade-long campaign to improve elementary mathematics teaching succeeded when there was alignment between curricula, assessment and professional development leading to changes in classroom practices (Cohen & Hill, 2001). Locally steered induction of teachers (as in the Netherlands and England) is likely to be well integrated into school development, however, the quality and focus may vary between institutions. In some countries, professional associations and/or teachers unions make a considerable contribution to CPD. In a few countries, (typically where work-based learning is well established) employer organisations, including Chambers, contribute to CPD at sectoral or local levels. Federations or networks of vocational schools may provide a basis for shared formal and non-formal professional development as in Germany and the UK.

Choices about governance should take account of efficiency and effectiveness. While it is true that school-based provision of CPD may be relatively costly with respect to trainers' fees, it may, depending on context, reduce travel costs, save time and lead to a better match between CPD and need for teachers.

3.2.9 Technology

Research suggests that new technologies provide both opportunities and challenges for CPD. The capacity of teachers to exploit new technologies and to develop their own roles in relation to these opportunities is a key target for CPD (NMC, 2014). New digital pedagogies are emerging which, through professional development, could enhance the strategies available to teachers and trainers. Professional development can be the means to promote methodologies associated with the 'flipped classroom', lesson design informed by analytics, the use of hand-held devices and 'massive open social learning' (Sharples et. al. 2014).

Digital Learning is also a medium for CPD. On-line learning is extended by the use of social media and the use of hand-held devices. These technologies facilitate access, interaction and adaptability. New technologies can be adapted to existing structures, for example, 'flipped professional learning' proposes that self-directed web-based learning is complemented by school-based, collaborative review and application (Eduplanet 21, 2014). Digital tools such as on-line platforms, webinars, e-portfolios, virtual learning environments and open learning resources can help to reduce cost, motivate engagement, personalise and extend access for CPD.

European Schoolnet's survey of the use of ICT in European Schools reported that the aspirations of Europe's teachers to improve their own understanding of ICT are high and that the majority of European teachers engage in personal learning related to ICT (European Schoolnet, 2015). Further, the survey shows that those teachers that are more confidence about ICT make greater use of ICT in teaching and learning, even in those schools which are poorly equipped.

At the level of policy, the digital competences of teachers can be placed within a broader strategy of resource development, investment and stakeholder mobilisation for digital learning (Opening Up Education, 2013). There is evidence that mentoring approaches are particularly efficient as a mode for supporting take up of new technology as indeed are other methods that build confidence and ownership. (Ottenbriet-Leftwich, 2010) There is a growing offer of web-based CPD for teachers and trainers which is freely available for teachers and trainers (mostly in English), for example, from Future Learn, e-twinning, European Schoolnet Academy.

3.2.10 Induction

Professional development at the start of a teaching career or at the start of employment at a particular school is concerned to adapt past experiences, to learn new processes and to cope with initial difficulties. Induction may be linked to a formal probationary period. Systemic and comprehensive induction for teachers is associated with successful performance of the education system. Ingersoll and Strong (2011) found that induction programmes raised teacher retention and student achievement. Research suggests that induction works well when it combines formal and informal elements, well defined roles for mentors and administrators, opportunities for collaboration, adequate provision of time and financial support and strong quality assurance (NCTAF, 2005, EC, 2010). The EC has recommended four interlocking systems of support for beginning teachers: mentors, experts (e.g. universities), peers and self-reflection (EC, 2010).

3.2.11 Mentoring and Coaching

The terms coaching and mentoring are sometimes used interchangeably, but they can be defined more specifically or preferred in different contexts. Coaching is, for the most part, understood as individualised practice-based learning (City and Guilds, 2012). Mentoring is usually understood as personal guidance and support to a new entrant in a profession, or as a part of his or her professional development, provided by an experienced person who acts as a role model, guide, coach or confidante. Mentoring can be used both as a tool for on-the-job training, particularly for new recruits, and as open-ended support for professional and personal development and career advancement. In some countries, mentoring has become the dominant practice for placements during pre-service training (Ambrosetti, 2014). It is also a competence that of VET teachers and trainers may need to exercise with respect to their trainees or less experienced colleagues. Mentoring has benefits for mentees, mentors, and their organisations and is increasingly popular as a means of CPD for educational professionals.[15] There is evidence that more hours of teacher mentoring results in higher student achievement (Rockoff, 2008). The preparation of mentors can increase the effectiveness of mentoring (Ambrosetti, 2014). Mentoring is an important mode for teacher collaboration. The establishment of a mentoring system can serve as a tool to embed and sustain CPD in schools and companies systemically.

3.2.12 Evaluation

Evaluations of professional development can examine outcomes in terms of (a) programmes (b) impact upon teachers and (c) impact upon learners. Impact upon teachers is usually measured through surveys and interviews addressing attitudes, confidence, knowledge and behaviour. Outcomes for students are less commonly measured, although there are now many robust studies (Wei et al, 2009). Hattie's meta-analysis of educational interventions led him to conclude that generalised measures have a relatively low overall impact upon learners. He advocated a type of action research that he calls 'Visible Learning': that teachers, supported by their schools, should critically review the impact of their own teaching, to assess learning and to measure the impact of changes (Hattie, 2012). Further, he argued, that teachers and schools should seek to make learners active in assessing their own learning and signalling their learning needs. Hattie's work is convergent

[15] Developing Coherent and System-Wide Induction Programmes for Beginning Teachers – a Handbook for Policy Makers. Commission staff working document, European Commission, 28.04.2010, p. 16 http://ec.europa.eu/education/school-education/doc/handbook0410_en.pdf, Grey D and Goregaokar H (2013) The Mentor Handbook A Practical Guide for VET Teacher Training, Universities of Surrey and Greenwich and Cedefop; Quick, H., Holtzman, D. & Chaney, K. (2009). Professional development and instructional practice: Conceptions and evidence of effectiveness. *Journal of Education for Students Placed at Risk (JESPAR), 14*(1), 45-71.

with emphasis upon formative assessment and constructive feedback as tools to enhance the learning of both students and teachers (Black and Wiliam, 1998; Wiliam, 2014).

Action research is not only a mode of evaluation it is also a capability of teachers and trainers. If teachers can come to know and reflect upon the impact of their own pedagogy they will have a better understanding of teaching and learning, of their own development needs and of their own development as teachers as well as the development of their learners. Lesson Study methodology has its origins in Japanese education and involves collaborative planning and review as well as 'research lessons'. The approach has been used in Europe, Asia and the US (Dudley, 2014). As data on student performance becomes more readily available VET teachers and trainers require CPD to equip them to make effective use of it (Anderson, 2011).

3.2.13 CPD for company based trainers

Within the EU the policy commitment to improving productivity and latterly to apprenticeship and work-based learning has stimulated interest in the character of CPD available for company-based trainers (TWG Trainers, 2013). Cedefop advocates the development of professional standards for trainers based on competence profiles which will then serve as a basis for licensing (Cedefop, 2014, TWG on professional development of VET trainers, 2014). Validation of informal and non-formal learning could offer the means to recognise diverse modes of training and work-based learning for company-based trainers. The EU's thematic working group on the professional development of company trainers published 'Guiding Principles' as a final outcome of their sharing of good practice (2014). These principles are relevant for the support of company trainers outside of the EU:

1. The identity and contribution of workers that contribute to training (as well as that of full-time specialist trainers) should be recognised and valorised

2. The positive support of companies is vital, so SMEs should be supported to compensate for their limited capacity for company based training

3. CPD for trainers should include needs identification, flexible provision and the recognition and validation of competences. Concretely this suggests a system of minimum requirements for trainers, with collective (public or private) provision of training to meet this standard

4. A coordinating body is required to lead and distribute functions between actors to support professional development of trainers in companies

5. National and EU strategies for growth and employment should aim to put in place qualified and competent company-based trainers.

A Competence Framework for VET professions was published in 2009 (Volmari et al., 2009). This work was followed by a research report exploring the competence profile of trainers in Europe (Cedefop, 2013) and advocacy for investment in company trainers, for example, *EU, be proud of your trainers* (Cedefop, 2015). These principles could inform the work of the ETF in addressing the CPD of company trainers by means of advocacy, support for policy-making, development of standards, governance and provision. This raises the question as to whether the ETF should do more to address this agenda and, in addition, how to implement these principles in countries where policy on company trainers is at an early stage of development (ETF, 2013b).

The commitment to regulation and support for in-company trainers reflects the economic realities in each country. Within the EU, qualification requirements for work-based trainers are associated with workplace learning in initial VET, particularly where the 'dual system' is important. National qualification requirements for those working as company trainers operate in just five Member States (Parsons et. al, 2009) and participation of company trainers in CPD is voluntary in every country except Ireland.

State funding for the training of trainers is rare in Europe, although exceptionally in Finland the state trains almost 50% of company trainers. However, Cedefop's review of public support for training in SME's reported that while public support usually does not explicitly address in-company trainers, some 50% of in-company trainers do participate in free, publicly provided training courses (Cedefop, 2015). Cedefop proposes that the public and private sectors should share the funding of such training.

A survey commissioned by Cedefop provides a benchmark in terms of the provision of CPD for company trainers working in SMEs in Europe: informal learning predominated with 77% of trainers (N=218) participating over the last 12 months whilst 38% (N=208) reported that they had participated in some kind of formal training or education (Cedefop, 2015).

In some of the ETF's partner countries, particularly in the Maghreb, government departments are large employers that exercise a training function for their own employees including their own instructors. In Morocco this provision is tailored to individual needs through assessments.

Needs analysis and IS-TIT for Instructors in Morocco

The Centres for the Development of Competences (CDCs) in Morocco organize theoretical and practical skills assessments for TVET instructors employed by the largest single government department with a training role, the OFPPT. These assessments are analysed in relation to the modules that the instructors teach or would like to teach. The assessments lead to individual development plans which inform the offer of professional development. It is planned to give instructors the opportunity to take the skills assessment every third year. The average provision is reported to be eight days per trainer. Each training event lasts for an average of five days with assessments before and after to measure impact of the training. Successful participants gain internal certification that authorises them to deliver a particular training module. Occasionally, local CDCs bring in outside trainers to meet the particular needs of instructors (UNESCO, 2014, p 64).

German-Portuguese partnership to train company trainers

A three-year partnership project between the Portuguese Ministry of Education and the German Federal Ministry of Education and Research has led to the transfer of German experience and expertise in the training of company-based trainers in the form of a training of the trainers programme. The project involved research into training needs and it has also drawn on German guidelines that support the role of company based tutors, for example, planning training, motivating and supporting trainees (BWP, 2014).

4 Continuing Professional Development across ETF's partner countries

This section supplies a brief review of policy and practice regarding CPD for VET teachers and trainers in each of the main regions where ETF provides support. Although the Torino process does include CPD of VET teachers and trainers, it has not generated detailed evidence on systematic provision across partner countries.[16] It follows that an audit of policy and provision is dependent on other research and upon knowledge residing with experts. Currently the ETF is aiming to improve this research base.

4.1 South Eastern Europe and Turkey (SEET)

The evidence base in SEET is relatively strong, perhaps in part because of the work of the ETF in focusing attention on CPD in this region. Policy awareness and development with respect to CPD for teachers and trainers in VET is well-developed across all seven countries as documented in *Frame: Skills for the Future* (ETF, 2014) and in the most recent *Bruges Monitoring Report* (Cedefop & ETF, 2015). Evidence on implementation is weaker. The Bruges Monitoring Report states that progress on professional development for VET teachers and trainers has been limited with some examples of good practice (Cedefop, 2015)[17]. Early findings from ETF's ongoing action addressing CPD in this region suggest that Turkey, Serbia and Montenegro are relatively advanced in implementing systemic provision, while Kosovo, Albania and Bosnia Herzegovina are less advanced.

Common needs and issues in relation to CPD across the region include: the pedagogical competences of VET teachers and trainers, the provision and assignment of CPD that is designed to meet the priorities of VET schools, VET teachers, VET learners and employers, incentivisation, quality assurance and funding. With respect to company-based training, availability of qualified trainers, funding, quality assurance and partnership are common concerns (ETF, forthcoming).

4.2 South East Mediterranean (SEMED)

In general, the evidence base in SEMED with respect to the state of CPD for VET teachers and trainers is not strong. The Torino Process highlights that VET systems are fragmented, disconnected from the labour market and that VET suffers from low status with users. Stakeholders have concerns about the quality and mode of teaching and learning. A recent review of professional development for technical and vocational teachers in Arab countries found that planning and design of CPD was, in general, strongly centralised (UNESCO, 2014). Although there is some bottom-up needs analysis, this is not sufficient to ensure that the training offer is well designed to meet the needs of VET teachers and schools.[18] In addition, there are issues about the distribution, the mode and the volume of provision. In most SEMED countries there is limited CPD provision that is focused upon up-to-date knowledge of industrial practice, practical skills, careers knowledge or improved relationships with employers (however, there is some good practice in Morocco, Tunisia and Israel). Despite these deficiencies, CPD for VET teachers and trainers does not appear to have a very high policy profile in the SEMED region. While there have been a few initiatives relating to CPD for VET teachers and

[16] From 2016, the Torino Process will include a specific Evidence Indicator addressing CPD

[17] Cedefop Stronger VET for better lives, Cedefop's monitoring report on VET policies 2010-2014

[18] Needs analysis was reported to be completely absent in Lebanon and Algeria (UNESCO, 2014)

trainers, for example, in Israel, this does not appear to be a consequence of strategic policy making, except, to some degree, in Tunisia.

4.3 Eastern Europe (EE)

CPD has been identified as a tool to raise the quality of CVT and VET in Eastern Europe although CPD is not very high on the policy agenda. One exception is Georgia, where professional development standards for teachers are currently being revised. In Ukraine, legislation and ministerial orders require professional development and qualification profiles for VET teachers and training masters. There is a formal requirement for some professional development within a 5 year cycle although for some teachers this is perceived as an unproductive obligation. In Belarus and, to some degree, in Georgia (where professional development has been recently targeted by EU support) there is some good practice in CPD (ETF, 2013). In Russia, by contrast, CPD is neglected.

A recent review of teacher education across six Eastern European countries, commissioned by DGEAC, situated the challenges of improving initial and continuing professional development in the context of economic and cultural transition. Key themes included:

- modernising in-service teacher education to respond to teachers' preferences and the demands of the labour market;
- encouraging state educational bodies to more actively involve school networks and non-governmental organisations in designing and implementation of training programmes;
- widening the range of learning opportunities for teacher continuing professional development;
- prioritising teacher personal development;
- peer review and sharing of innovative practice;
- introducing induction programmes for teacher students graduating from higher education institutions through establishment of educational networks and appropriate financing (GHK, 2011).

4.4 Central Asia

According to the Torino Process policies for teachers and school management have a relatively high profile across Central Asia. The expansion of VET provision has led to a shortage of experienced teachers, which has led policy makers to examine salaries, recruitment, appointment and professional development (both initial and CPD). In Kazakhstan and Uzbekhistan policies have been adopted to raise the qualification profile of VET teachers.

Despite this high policy profile, ETF's interventions have, since 2008, followed a bottom-up approach of building networks of VET school leaders and the direct provision of leadership and management training. Since 2015, ETF has extended its strategy to explore the issue of professional development needs and is currently supporting clusters of professional development institutions in three countries. In 2015, the ETF organized a VET Academy which brought together networks, policy makers and international experts to share learning and explore developmental paths.

5 Principles for the establishment of systemic Continuing Professional Development of VET for Teachers and Trainers

The following principles are drawn from research and from the experience of practitioners. They are intended to inform policy-making and implementation but they do not provide a prescription. The application and priority given to each principle depends upon context and stage of development.

a. The development of CPD should include both top-down and bottom-up drivers; improvement is likely to involve both push and pull factors. While national agencies should set overall objectives, regulate, coordinate and monitor, local actors will be concerned to ensure that their own developmental needs and goals are met
b. Stakeholders, in particular employers, and social partners (including professional associations) should be involved in the development of CPD in appropriate ways, e.g. in governance, delivery, funding, design, evaluation
c. Partnership and networking should be used to plan and deliver CPD. Partnership and networking can involve collaboration between similar and diverse organisations, including employers
d. CPD should include both school-based and off-site training to ensure that professional development connects to organisational change and to challenges from outside, for example, from employers and from policy makers
e. CPD should include both formal and informal elements and should make use of the full range of methods and technologies available
f. Reform in CPD should be coordinated with other changes in VET, for example, changes in curriculum, working conditions, school organisation
g. Development of CPD should be linked to the enhancement of professional status of teachers and trainers: for example, teachers should see CPD as improving their capability to make complex decisions and they should regard improvements in their own professional capability as personally fulfilling
h. CPD should be targeted and the impact of CPD should be evaluated
i. CPD should be explicitly connected to key teaching challenges: developing and applying knowledge necessary to move students from their current position forwards to valued learner outcomes
j. CPD should serve social goals, such as cohesion and equity, as well as economic goals.

6 What are the building blocks to establishing a world-class CPD system?

The following table aims to summarise and illustrate key elements that should be in place for a national system of CPD for VET teachers and trainers to function effectively.[19]

Building block	Elaboration
Legal framework	Legal framework should empower stakeholders and secure consistent, inclusive, equitable and coherent provision which can be adapted to changing needs. While CPD can be made mandatory, this is not necessary to generate strong take up, e.g. Scandinavia.
Governance	Systems of governance should be designed to make decision-making responsive, inclusive, equitable, transparent and well-evidenced. Subsidiarity and multi-level approaches are ways of improving governance.
Identifying and communicating the needs and priorities that CPD will address	Needs and priorities should feed into design in a timely manner to ensure that CPD is responsive to local variations, to change and to policy making.
Distributionof CPD offer to organisations and to individual teachers and trainers.	Allocation (and design) of CPD should take account of individual, organisational and system needs, including those of end-users (leaners, employers).
Quality assurance (QA) of programmes and providers	QA may include systems of accreditation in relation to providers, programmes and certification.
Provision and design are sufficient, fit for purpose, responsive, equitable and efficient	Provision can be improved through investment, collaboration, capacity building, competition, innovation and evaluation. Design may be supported by a wider competence framework.
Funding is adequate in relation to policy commitments and efficiently channelled and monitored	The costs of CPD need to be shared in a manner that recognises social and private costs and benefits. The level and intensity of participation in professional development is greatest where there is monetary or non-monetary support. (OECD, 2014) Funding methods should support efficiency.
Recognition, accreditation and valorisation of CPD: users understand how it will help them to reach their goals	CPD is valued by teachers and trainers because it serves to improve their own performance and is externally recognised, for example, in relation to career progress, professional status, salary or through formal accreditation.
Evaluation and information	Impact of CPD should be known and should inform decision-making at national, organisation and individual levels. Planning and reform should be informed by knowledge of current and past provision, including data on distribution and take up.

Successfully integrating these building blocks may involve some trade-offs. For example, in many of the ETF's partners countries a central public agency exercises control over the funding, the provision

[19] Axmann, M, Rhoades, A., Nordstrum, L. (2015) offer a similar framework which encompasses all stages of teachers' professional development but which places a greater emphasis upon normative features.

and the regulation of CPD. Although, this agency may possess considerable expertise in these functions, nevertheless, such a system is not structured to be responsive to the changing needs of teachers and schools. Empowering VET providers by making them commissioners of their own CPD and encouraging a multiplicity of CPD providers is one strategy which, over time, could improve the quality of the CPD offer. Some of the ETF's partner countries in South Eastern Europe have set up regulatory systems that permit independent providers to be accredited to offer training; however, take-up of this opportunity remains, to date, relatively limited.

Typically countries that have highly developed provision for CPD for VET teachers and trainers have integrated the different 'building blocks' so that, for example, the processes for identifying needs, designing CPD programmes and recognising professional learning complement one another with the result that there are clear and accessible professional development pathways for different kinds of teacher and trainer.

7 Complementary strategies for multiple actors

The ETF's experience of professional development suggests that a focus on either policy development or upon institutional development is insufficient: 'only a strategy that integrates governmental policy and practice of VET institutions is able to realise sustainable reforms' (ETF, 2003, p 10). The ETF encourages multiple agents to contribute to VET reform and favours professional development that enhances the agency of teachers and school managers. In the past, this approach often focused on supporting school-based projects with a view to encouraging horizontal and bottom-up learning (ETF, 2013). This position paper argues that, depending on national context, agents at many levels can contribute to the enhancement of professional development. The ETF should facilitate pluralistic development and should encourage communication and coordination between actors. This section explores how ETF can improve the capacity of the following key actors to contribute separately and collectively to the advancement of CPD. This section is illustrated by examples drawn from ETF's recent work which show how these approaches can be tailored to particular agents serving particular types of teacher and trainer in particular countries.

7.1 European Directorates, Agencies and Working Groups, partner agencies

The ETF can:

a. Support policy development and dialogue – helping to engage stakeholders, enhance their contributions and improve policy resources, e.g. knowledge, capacity, networks
b. Support policy implementation, for example, through:
    i. advice on CPD methods and approaches and their relevance to local contexts, e.g. through Thematic Working Groups and with respect to programming and evaluation of EU interventions
    ii. collection and application of evidence about 'what works' and on 'value for money' to inform project development, e.g. responding to requests from DEVCO and DG NEAR
    iii. work with national and international partners to develop indicators that will measure progress towards national and international goals and targets
    iv. monitoring progress in CPD policy and practice in partner countries
    v. helping to facilitate and coordinate the contributions of national and international agents and institutions, e.g. through events and networks

7.2 National policy makers

The ETF can:

a. provide or commission expertise on policy development and implementation of CPD

b. provide or facilitate training to assist and inform policy making and implementation, for example, workshops, peer review, study visits, mentoring, coaching

c. support the development of tools for policy implementation, for example, action plans, road-maps, milestones, checklists, manuals, guidance

Example: Supporting action planning

In Tajikistan, the ETF supported the Ministry of Labour and the Centre for Quality in Education in the preparation of an Action Plan for CPD for teachers (2014)

d. facilitate and support dialogue and networking with a view to enhancing stakeholder participation and informing policy making and policy implementation

Example: Focus Group of policy makers for Professional Development

From 2010-2012 the ETF facilitated an international focus group for policy makers (including social partners) from seven countries. The group met three times per year to share experiences on policy relating to CPD for VET teachers and trainers. Over this period, two study visits were facilitated to Germany and to Austria addressing both school and company based CPD.

e. improve the knowledge-base for policy making by supporting and sharing research and facilitating national, regional and international benchmarking and policy learning

Example: Mapping the demand and supply of CPD

During the course of 2015 the ETF designed and executed, in partnership with national authorities, research that systematically mapped the provision and demand for CPD for VET teachers in Albania, Kosovo, Bosnia and Herzegovina, Serbia, Turkey, Montenegro and the Former Yugoslav Republic of Macedonia. This research has informed policy workshops in all seven countries and will inform action addressing the fifth medium term objective defined in the Riga Conclusions.

f. broker collaboration and partnership, to maximise impact, overcome barriers and encourage innovation to exploit new opportunities

Example: Supporting governance and QA for CPD

In Montenegro, ETF provided expertise to support the collaboration of the VET Centre and the Bureau for Professional Development in planning provision of CPD to VET teachers (2013-14).

g. recognise and review progress with respect to CPD

Example: External evaluation and CPD in Montenegro

The ETF commissioned a review of the evaluation of VET schools in Montenegro with a view to helping to make criteria more transparent and encouraging the use of CPD for VET teachers in preparation and response to evaluation (2014-15).

h. raise the profile of company-based trainers with policy makers and stakeholders.

7.3 Providers of CPD

The ETF can:

a. encourage the sharing of good practice within and between countries

Example: Community of practice for providers of CPD and initial teacher education

From 2015, the ETF supported three networks of providers of professional development in Kazakhstan, Kyrgzystan and Tajikistan. Each network, consisting of representatives of 6 – 10 institutions, meets three times per year to share practice and to address gaps between provision and needs for CPD.

b. support improved communication between the providers and consumers of CPD in order to improve responsiveness, e.g. through virtual platforms and through partnership projects
c. support the development of quality assurance, for example, through benchmarking and systems of accreditation
d. lead support professional development for teacher educators or trainers of trainers with respect to pedagogic, practical or other competences, including curriculum and programme development, for example, with respect to entrepreneurial teaching

Example: Quality Assuring Training Providers

The ETF's Strategic Project for Entrepreneurship and Enterprise Skills has developed a methodology to quality assure training providers in the area of entrepreneurship.
A good practice call is launched every year, targeted at training providers in the EU and ETF's partner countries. Training programmes are peer-reviewed which leads to wider recognition. The pilot was extended to all 29 partner countries in 2015.

e. support action-learning initiatives that serve to create, share and evaluate capability with respect to CPD

Example: E-Learning for teacher training
As part of the Euro-Mediterranean Partnership's Education and Training for Employment (MEDA-ETE) project the ETF commissioned an Italian e-learning company to work with CPD providers across the southern Mediterranean region through all stages of a training project addressing VET teachers working for the ICT and Tourism sectors. This approach encouraged learning through action and provided a framework for ongoing, tailored support. A handbook, which includes success stories and lessons learned supported replication and sustainability (ETF, 2009).

Example: pilot partnership to deliver CPD at provincial level

During the course of 2016, the ETF will support a partnership between the University of

Antalya, the Provincial Directorate and the vocational schools of this Turkish province that will supply professional development for 15 teacher trainers who in turn will train 300 teachers to use information technology in technical drawing lessons that reach 1600 VET students in Antalya. The pilot will generate materials and learning to inform national take up.

7.4 Vocational schools and training centres

The ETF can:

a. support the development of practitioner networks that empower VET school leaders and teachers or training organisations to share knowledge and good practice and to collaborate

Example: Communities of practice to sustain capacity building

The ETF project "School Development for Lifelong Learning" was launched in Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan in 2009. The ETF has provided training for school leaders, relating to management and school development. Networks have been used to share practice, disseminate innovation, conduct research and support the application of new skills and approaches. There are 11 of these 'communities of practice' across different regions of Kazakhstan, Kyrgyzstan and Tajikistan and their work informs policy discussion as well as practice.

b. provide training for VET school leaders or for other multipliers, for example, lead teachers or school-based CPD coordinators, with a view to enhancing the organisational capacity of VET schools to identify and meet their own training needs and to link professional development to organisational development

Example: Learn to LEARN

The ETF's LEARN project involved the development of communities of practice for VET teachers in South Eastern Europe between 2007 and 2009. The project arose from the VET Teacher and Trainer Network for South Eastern Europe, established in 2001.

The LEARN project supported peer learning through school-based networks, with a focus upon the development of new pedagogies and the teaching of key competences. The LEARN project used professional trainers to provide professional development to VET teachers, who in turn provided professional development for their colleagues in their own schools and in other schools. More than 1000 teachers received professional development.

The LEARN project gave a coordinating role to VET agencies with a view to developing their capability to steer the professional development of VET teachers in their countries. The project also sought to transmit learning from the projects into the policy making (ETF, 2011; ETF, 2010). The LEARN project informed the design of a handbook which sets out a model for school-based professional development in Montenegro. (ETF, 2013a)

A follow up pilot with the same methodology took place in the Occupied Palestine Territory in 2013.

c. Partnerships and governance

The ETF can encourage partnership and joint activity between the key actors in CPD: VET schools, CPD providers and enterprises. For example, universities can be encouraged to work with VET schools to enhance their capacity to provide CPD, providing complementary services such as accreditation. Governance can be enhanced at institutional or at cross-institutional levels, e.g. through VET councils.

Example: Federating Schools in the Former Yugoslav Republic of Macedonia

In 2016, the ETF is supportingthree vocational schools to jointly organise professional development and mentoring to encourage the use of ICT across different vocational subjects using a virtual learning environment. The teachers will be encouraged to share their experiences and learning materials and to establish a lasting learning network.

d. Mapping and research

ETF can support research to understand needs, opportunities and current provision.

Example: Digital and Online Learning in VET: Serbia

This project mapped digital learning in vocational schools in Serbia and disseminated findings and learning through a webinar. The case studies and discussion have served to draw out the opportunities and challenges provided by Digital and On-Line Learning for CPD in Serbia and for all of the ETF's partner countries.

7.5 Enterprises

The ETF can:

a. Support engagement of enterprises in CPD practice and policy making

Example: CPD for Masters in Turkey

Interviews with employer representatives, as part of the mapping of CPD in Turkey, revealed that employers believed that masters should receive mandatory CPD to ensure that there is an updating of their pedagogical and organisational competences. (ETF, 2015)

b. Support work-based provision of CPD and public-private partnerships

Example: Public-private partnerships for the provision of initial and continuing professional development

The Higher Training School for Textiles and Clothing in Morocco is a private limited company

managed by a board that includes departmental and sectoral representatives.[20] The Training School makes an assessment of the training needs of current teachers and trainers and it offers technical and pedagogical initial training for teachers and instructors, CPD and recognition of prior achievement (RPA).

In Turkey, the Bahçeshir University has set up sectoral boards and consultants are employed to organise training and networking events for local companies, which, at the same time, provide learning opportunities for teachers and students.

Example: Encouraging partnership between business and education

In 2016, the ETF will support the development of a partnership between national educational and business organisations in Montenegro to plan, design and provide 30 teacher placements in industry for vocational teachers. The pilot will inform the development of national policy making for teacher internships.

7.6 Donors and international development organisations

The ETF can work with donors and international development organisations to:

a. share research, good practice and evaluation

Example: Virtual Platform on CPD

https://connections.etf.europa.eu/communities/community/cpd

The ETF has developed an on-line platform through which it shares knowledge on CPD policy and practice in the SEET region. The platform includes literature reviews, statistics, analytical reports and comment. The Platform is supported by a newsletter and social media.

b. co-ordinate or collaborate where there are synergies and cost advantages
c. encourage joined-up approaches to ensure that current actions on CPD are informed by past and parallel actions, that they take into account other parts of VET strategy and that they can be sustained

[20] ESITH *(Ecole Supérieure des Industries du Textile et del'Habillement)* was founded 1997. Trainees pay one third of the costs of each

Example: Collaboration on Policy advice and policy implementation

ETF collaborated with GIZ in Albania in 2015 to jointly author a concept paper that addresses CPD for VET teachers and instructors. In 2016, ETF will support training and the creation of guidance to assist the development of school-based CPD planning and capability in three vocational schools and one training centre. During the course of 2016 it is anticipated that some of these schools will benefit from resources through IPA 2013 which will enable them to implement the training plans they will have generated.

8 Challenges

A number of challenges confront the ETF's ambitions for CPD for VET teachers and trainers. In particular, CPD is unlikely to bring about improvements in teaching and learning unless it is linked to complementary changes, for example, in career structure, curriculum and school management. Buy-in from national policy makers, institutional leaders, enterprises and from teachers and trainers themselves are essential if initiatives are to be sustained. This implies that ETF support for CPD must be tailored to the current agenda in each partner country. Raising awareness of the training needs of company-based trainers is a particularly challenging task: this should be connected to wider strategies which serve to enhance the capacity of the private sector to contribute to human capital formation.

The ETF lacks the resources to make a significant contribution to the delivery of CPD. Its focus must be to enhance national and local commitment and capacity for delivery which it can also assist through targeted country interventions as outlined above. However, capacity for CPD should be distributed across many CPD providers, training organisations, VET schools and companies. This implies that the ETF will be supporting its partners in the communication, multiplication and assimilation of new practices.

Further, the investment of time and resources involved in supporting implementation, implies that the ETF prioritises which countries it supports.

Example: Challenges to implementation

From 2010-2013 the ETF provided support for the development of school-based professional development in Montenegro. Working with both the VET Centre and the Bureau for Educational Services, teams of teachers in nine VET schools were invited to develop proposals for the implementation of key competences. These teachers received training and support and, subsequently, this school-based in-service training programme was included within the national catalogue (ETF, 2013).

While this intervention has helped to bring about formal recognition for school-based CPD in Montenegro and trained 20 trainers of trainers, in practice it has not yet led to extensive school-based CPD. There has been no subsequent take up of the key competences programme on the catalogue.

Example: A Framework for implementation

In the framework of the Riga Conclusions, the ETF invited candidate countries to prioritise medium term objectives and Turkey opted for objectives relating to work-based learning and professional development. An ex-ante policy analysis commissioned by the ETF will build on research (also commissioned by the ETF) supporting policy makers in Turkey to identify and evaluate policy options and then to make policy decisions for CPD. The ETF will subsequently provide support for implementation.

9 Conclusions

CPD is a key tool for increasing the internal and external efficiency of VET systems. Without appropriate and timely CPD, reforms of other elements, such as curriculum or assessment, are unlikely to succeed. Improvement of professional development is one of the Medium Term Deliverables defined by the Riga Presidency and it is also a tool towards achieving the other four deliverables.

CPD is important because it offers:

1. a way of empowering and motivating teachers and trainers in such a way that the role, contribution and status of VET teachers and trainers is enhanced
2. a way of coordinating the contribution of teachers and trainers with other changes in VET, for example, a greater emphasis upon work-based learning
3. a means to enable education and training to adapt to changes, for example, changes in the labour market and in learners
4. a means to take advantage of new opportunities, for example, new technologies, new opportunities for partnership and mobility, new funding, new pedagogies and new governance.

CPD builds on the principle that life-long learning can equip teachers and trainers to improve and adapt their performance and to renew and enhance their professional life. CPD, conceived as life-long learning, has the potential to be integrated into professional life: it can connect to daily professional tasks, it can address concrete work problems, it can take advantage of organisational support and social knowledge situated in the work place.

It follows that efforts to improve CPD should be closely linked to actions to improve the institutions, governance, resources, norms and processes that shape the professional life of teachers and trainers. It only makes sense to require a minimum number of days of CPD for every teacher and trainer, for example, if that CPD really does contribute to better outcomes for teachers, learners and employers. CPD provision needs to match closely the needs of teachers and VET schools. In systems where CPD cannot meet these needs, where for example, career structure or curriculum work against modernisation, it is less likely to contribute to systemic improvement.

10 Recommendations

1. The ETF should work with partners to develop indicators and tools to support countries addressing and monitoring the relevant Medium Term Deliverables endorsed as the Riga Presidential Conclusions of June 2015
2. The ETF should review with each of its partner countries whether existing CPD provision meets the needs of VET teachers and trainers (considering different types in different institutions), VET schools, training centres, employers and learners
3. The ETF should support policy exploration designed to assess the relative priority of reforms to CPD and the alternative strategies available. This policy exploration should consider complementary strategies for multiple actors and the means by which such strategies can be coordinated
4. ETF should, working with partners, ensure that policy development for CPD takes account of social as well as economic goals, for example, equity, social inclusion and social cohesion
5. ETF should, working with partners, experts and practitioners, encourage knowledge sharing and knowledge application in relation to current agendas on CPD in partner countries:
    a. How can digital and other technologies be exploited as modes of CPD and how can teachers and trainers be equipped to take advantage of these technologies and teach learners to do the same?
    b. How can CPD be effectively coordinated with organisational development so that professional development and school or organisational improvement become complementary?
    c. How can CPD for teachers and trainers benefit from and encourage partnership between VET schools, training organisations (including universities) and enterprises?
    d. How can VET teachers and trainers be helped to organise and manage learning and assessment successfully so that learners are equipped with relevant competences of enduring value?
6. ETF should consult internally and externally to identify the methodologies and activities through which it, together with its partners, can move forward on the recommendations above. However, activities should:
    a. empower actors, for example, by assigning responsibility and giving scope for creativity to VET schools, so that actions are tailored and driven by real needs
    b. support evaluation of impact in order that, over time, reform is informed by experience
    c. involve key stakeholders, so that changes in VET serve to make VET provision more responsive
    d. support coordination between different levels and different parts of the education and training system and the labour market
    e. encourage concrete change, for example, programme delivery, particular collaborations between schools and enterprises, since concrete action compels adaption to context.

11 Bibliography

Anderson, K. (2011) *Real-time decisions: Educators using formative assessment to change lives now*, Englewood, CO: The Leadership and Learning Centre

Ambrosetti, A. (2014). Are You Ready to be a Mentor? Preparing Teachers for Mentoring Pre-service Teachers. *Australian Journal of Teacher Education, 39*(6).

Andersson and Köpsén *(2015)* Continuing professional development of vocational teachers: participation in a Swedish national initiative, *Empirical Research Vocational Education and Training 7:7*

Argyris,C.& Schön, D. (1978). *Organizational Learning: A theory of action perspective*. Reading MA: Addison-Wesley

Ambrosetti, A. (2014). Are You Ready to be a Mentor? Preparing Teachers for Mentoring Pre-service Teachers. *Australian Journal of Teacher Education, 39*(6). Available: http://ro.ecu.edu.au/ajte/vol39/iss6/3

Axmann, M, Rhoades, A., Nordstrum, L. (2015) *Vocational teachers and trainers in a changing world: the imperative of high-quality teacher training systems*, International Labour Office, Employment Policy Department, Skills and Employability Branch. Geneva: ILO

Black, P. & Wiliam, D. (1998). "Assessment and classroom learning". *Assessment in Education: Principles, Policy & Practice* **5** (1).

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher, 33*(8), 3-15

Boreham, N. et al. (2002) *Work Process Knowledge, London:* Routledge

Cedefop (2013) Trainers in continuing VET: Emerging competence profile, Luxembourg: Publications Office of the European Union,

Cedefop (2014a) *Terminology of European education and training policy.* Luxembourg: Publications Office of the European Union.

Cedefop (2014b) *EU, be proud of your trainers: supporting those who train for improving skills, employment and competitiveness*, Luxembourg: Publications Office of the European Union, http://www.cedefop.europa.eu/EN/Files/TWG_Guiding_principles_on_professional_development_of_trainers_in_VET_FINAL.pdf

Cedefop (2015a) *Who trains in small and medium sized enterprises,* Luxembourg: Publications Office of the European Union

Cedefop (2015b) *Stronger VET for better lives, Cedefop's monitoring report on VET policies 2010-2014,* Luxembourg: Publications Office of the European Union. Available: http://www.cedefop.europa.eu/files/3067_en.pdf

City and Guilds (2010) *Vocational pedagogy,* City and Guilds Centre for Skills Development

City and Guilds (2012) *The role of coaching in vocational education and training, City and Guilds Centre for Skills Development*. Available at: http://www.skillsdevelopment.org/pdf/Insights-the-role-of-coaching-in-vocational-education.pdf

Cohen, D. K., & Hill, H. C. (2001). *Learning policy*, New Haven, CT: Yale University Press.

Council of the European Union (2014), *Conclusions on effective teacher education,* Brussels, 20 May 2014. Available: http://consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/educ/142690.pdf

Cordingley et al (2012) *Understanding What Enables High Quality Professional Learning. A report on the research evidence*. Centre for the Use of Research Evidence in Education & Pearson School Improvement. Available: http://www.curee.co.uk/files/publication/%5Bsite-timestamp%5D/CUREE-Report.pdf

Cordingley et al (2015), *Developing Great Teaching, Lessons from international reviews into effective professional development,* Teacher Development Trust. Available: http://www.curee.co.uk/files/shared/DGT%20Full%20report.pdf

Darling-Hammond, L., Holtzman, D.J., et al. (2005). Does teacher preparation matter? Evidence about teacher certification, Teach for America, and teacher effectiveness. *Education Policy Analysis Archives,13(42) 16-17, 20.*

De Bruijn, E. & Baartman, LKJ (2011) Integrating knowledge, skills and attitudes: Conceptualising learning processes towards vocational competence, *Educational Research Review* 6 (2), 125-134

Dudley, P. (Ed.) (2015) *Lesson Study: Professional Learning for our time*, London, Routledge

ETF (2003a) *Increasing the role of the teaching profession in VET Reform – a step by step approach for partner countries*, Focus Group, Learning Processes and Teachers in VET, Turin: ETF

ETF (2003b) *The teaching profession in VET reform: from neglect to participation*, Turin: ETF

ETF (2009a) *E-Learning for Teacher Training: from Design to Implementation.* Luxembourg: Office for Official Publications of the European Communities, Handbook for Practitioners

ETF (2009b) *Vocational teacher professional development in a policy learning perspective*, Inform, 4, European Training Foundation. Available: http://www.etf.europa.eu/etfblog.nsf/dx/issue04.htm.

ETF (2011) *Learning from 'Learn', Horizontal Learning in a Community of Practice in South Eastern Europe*, Luxembourg: Publications Office of the EU

ETF (2013a) *School-based in-service teacher training in Montenegro: Handbook for policy makers and practitioners,* Turin: ETF

ETF (2013b) *Continuing Vocational Training, Mutual learning in Eastern Europe,* Turin: ETF

ETF, *Torino Process 2014*, *Jordan*

ETF, *Torino Process 2014, Lebanon*

ETF, *Torino Process 2014, Southern and Eastern Mediterranean*, ETF

ETF, *Torino Process 2014: Eastern Europe*

ETF, *Processus de Turin 2014*

ETF, *Torino Process Maroc* 2015, ETF

ETF (2015) Continuing Professional Development for VET teachers and trainers in Turkey,

European Commission (2007) *Improving the quality of teacher education*, SEC (2007) 931, Brussels

European Commission (2009) *Peer learning activity on the professionalization of teachers and trainers in vocational education and training, Summary Report,* Brussels: EU

European Commission (2010 *Developing Coherent and System-Wide Induction Programmes for Beginning Teachers – a Handbook for Policy Makers.* Commission staff working document, European Commission, p. 16 http://ec.europa.eu/education/policy/school/doc/handbook0410_en.pdf

European Commission (2010) *Induction programmes for beginning teachers: a handbook for policymakers,* Staff Working Document SEC (2010) 538 final

European Commission (2011) *"Entrepreneurship Education: Enabling Teachers as a Critical Success Factor". A report on Teacher Education and Training to prepare teachers for the challenge of entrepreneurship education.*

European Commission (2012). *Rethinking education: investing in skills for better socio-economic outcomes*. COM (2012)

European Commission *(2013a)* Supporting teacher competence development *for better learning outcomes*. Available*: http://ec.europa.eu/education/policy/school/teacher-training_en.htm*

European Commission *(2013b) Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources,* Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions /* COM/2013/0654 final

European Commission/EACEA/Eurydice (2013c) *Key Data on Teachers and School Leaders in Europe. 2013 Edition. Eurydice Report.* Luxembourg: Publications Office of the European Union

European Commission, *Thematic working group on professional development of VET trainers* (2013d) Available at: http://www.cedefop.europa.eu/EN/Files/TWG_Guiding_principles_on_professional_development_of_trainers_in_VET_FINAL.pdf

European Commission (2015) *Strengthening teaching in Europe: New evidence from teachers compiled by Eurydice and CRELL, June 2015. Available at: http://ec.europa.eu/education/library/policy/teaching-profession-practices_en.pdf*

European Commission (2015) *Shaping career-long perspectives on teaching: A guide on policies to improve Initial Teacher Education.* http://ec.europa.eu/dgs/education_culture/repository/education/library/reports/initial-teacher-education_en.pdf

EC and EU and MESRL (2015) *Riga Conclusions on a new set of medium-term deliverables in the field of VET for the period 2015-2020, as a result of the review of short-term deliverables defined in the 2010 Bruges communiqué*. Available: https://eu2015.lv/images/notikumi/VET_RigaConclusions_2015.pdf

Eduplanet 21 (2014) How eLearning & Related Trends Are Impacting Teacher Professional Development. Available: http://gelponline.org/sites/default/files/members-documents/eduplanet21_-_e-learning_and_pd.pdf

European Schoolnet (2013). Survey of Schools: ICT in Education. Benchmarking access, use and attitudes to technology in Europe's schools. Executive Summary. Available: http://www.eun.org/c/document_library/get_file?uuid=9be81a75-c868-4558-a777-862ecc8162a4&groupId=43887

Engeström, Y. et al (1995) Polycontextuality and boundary crossing in expert cognition: Learning and problem solving in complex work activities, *Learning and Instruction* Volume 5, Issue 4, 1995, Pages 319–336

Eraut, M. et al. (2008). *Early career learning at work: insights into professional development during the first job.* Teaching and learning: research briefing, No 25,

Fischer, M., & Rauner, F. (Eds.) (2002): *Lernfeld: Arbeitsprozess. Ein Studienbuch zur Kompetenzentwicklung von Fachkräften in gewerblich-technischen Aufgabenbereichen*. Baden-Baden: Nomos.

Hargreaves, A. & Fullan, M. (2012) *Professional Capital*, New York: Teachers' College Press

GHK (2011) *Study on Teacher Education for Primary and Secondary Education in Six Countries of the Eastern Partnership: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine: Final report.*

Available :
http://eacea.ec.europa.eu/tempus/participating_countries/study/teacher_education_in_eap_countries_21-09-2011.pdf

Grey D and Goregaokar H (2013) *The Mentor Handbook: A Practical Guide for VET Teacher Training*, Universities of Surrey and Greenwich and Cedefop

Guskey, T. R. (2000). *Evaluating Professional Development.* Thousand Oaks, CA: Corwin Press.

Hattie, J (2003) *Teachers Make a Difference: What is the research evidence?* Australian Council for Educational Research Annual Conference on: Building Teacher Quality, University of Auckland

Hattie, J (2009) *Visible Learning: A synthesis of 800+ meta-analyses on achievement.* London: Routledge

Hill, H. (2007) Learning in the Teaching Workforce, *The Future of Children*, Volume 17, Number 1, Spring 2007, pp. 111-127. http://muse.jhu.edu/journals/foc/summary/v017/17.1hill.html

ITB (2005) *QUALIVET: Quality development and quality assurance with a labour market reference,* Bremen: ITB

Illeris, K. (2003). *Three Dimensions of Learning: Contemporary learning theory in the tension field between the cognitive, the emotional and the social.* Florida: Krieger.

ILO (2010) *Teachers and trainers for the future,* Technical and vocational education and training in a changing world, Geneva. Available:
http://www.ilo.org/wcmsp5/groups/public/@ed_dialogue/@sector/documents/meetingdocument/wcms_161661.pdf

Imants, J. (2003) Two basic mechanisms for organisational learning in schools, *European Journal of Teacher Education*, 26:3, 293-311, DOI:10.1080/02619760320001281 57A

Imants, J., van Veen, K, (2009) *Teacher learning as workplace learning* in Verloop, N. (Ed) International Encyclopedia of Teacher Education, Third Edition. Available:
jhttp://www.klaasvanveen.nl/texts/imantsvanveen2009.pdf

Ingersoll, R. and Strong, M. (2011). "The Impact of Induction and Mentoring Programs for Beginning Teachers: A Critical Review of the Research." *Review of Education Research*. Vol. 81(2), 201-233. Available: http://repository.upenn.edu/cgi/viewcontent.cgi?article=1127&context=gse_pubs

Isopahkala-Bouret, U (2010) Vocational Teachers between Educational Institutions and Workplaces, *European Educational Research Journal, Volume 9 Number 2*

Kolb, D. (1984) *Experiential Learning: Experience as the Source of Learning and Development*, London: Prentice Hall.

Lave and Wenger (1981) *Situated Learning: Legitimate Peripheral Learning,* Cambridge: CUP

Little, J.W. (2006). *Professional development and professional community in the learning centered school.* Arlington, VA: National Education Association.
http://www.nea.org/assets/docs/HE/mf_pdreport.pdf

Musset, P. (2010), "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.

New Media Consortium (NMC) (2014) *The NMC Horizon Report Europe: 2014,* Schools Edition

National Commission on Teaching and America's Future (2005). *Induction into learning communities*. Washington, DC: National Commission on Teaching and America's Future,

Nielsen, S. (2012) *TVET Teachers and Trainers: Background paper to UNESCO TVET Report 2012*

Nonaka & Takeuchi (1995) *The Knowledge-creating Company: How Japanese Companies Create the Dynamics of Innovation.* Oxford: OUP

OECD. (2005), *Teachers matter: attracting, developing and retaining effective teachers.* Paris: OECD Publishing.

OECD (2009), *Creating Effective Teaching and Learning Environments: First results from TALIS,* OECD Publishing.

OECD (2010) *Learning for jobs - a synthesis report of OECD reviews of vocational education and training,* Paris: OECD

OECD (2014), *TALIS 2013 Results: An International Perspective on Teaching and Learning,* TALIS, OECD Publishing.

OECD (2015) *Education at a glance*, OECD Publishing.

OECD (2016), *Supporting Teacher Professionalism: Insights from TALIS 2013,* TALIS, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264248601-en.

OECD (2017) *Pedagogical Knowledge and the Changing Nature of the Teaching Profession,* OECD Publishing, Paris

Ottenbriet-Leftwich (2010) *Teacher technology development and policy in the US*, FGA. http://www.fga.it/uploads/media/A._T._Ottenbreit-Leftwich__Teacher_Technology_Professional_Development_-_FGA_WP20.pdf

Parsons D, Huges J, Allincon C, Walsh K (2009) *The training and development of VET teachers and trainers in Europe*. In: Cedefop (ed) Modernising vocational education and training, fourth report on vocational education and training research in Europe: synthesis report. Publications Office of the European Union, Luxembourg

Rivkin, S.G., Hanushek, E.A. & Kain, J.F. (2005). *Teachers, Schools, and Academic Achievement*. *Econometrica*, Vol. 73, No. 2, pp. 417–458 http://edpro.stanford.edu/Hanushek/admin/pages/files/uploads/ teachers.econometrica.pdf.,

Rockoff, J., (2008*) Does Mentoring Reduce Turnover and Improve Skills of New Employees? Evidence from Teachers in New York City*, NBER Working Paper No. 13868. Available : http://www.nber.org/papers/w13868

Quick, H., Holtzman, D. & Chaney, K. (2009). Professional development and instructional practice: Conceptions and evidence of effectiveness. *Journal of Education for Students Placed at Risk (JESPAR), 14*(1), 45-71.

Sharples, M., Adams, A., Ferguson, R., Gaved, M., McAndrew, P., Rienties, B., Weller, M., & Whitelock, D. (2014). *Innovating Pedagogy* 2014: Open University Innovation Report 3. Milton Keynes: The Open University

Schön, D. A. (1982) *The reflective practitioner. How professionals think in action*. New York: Harper Collins.

Timpereley et al (2007) Teacher professional learning and development, Best Evidence Synthesis Iteration, Wellington : NZ Ministry of Education. Available at : http://gelponline.org/sites/default/files/members-documents/timperley_-_teacher_professional_learning_and_development.pdf

Timperley, H. (2008) *Teacher professional learning and development*, Geneva : UNESCO. Available : http://www.ibe.unesco.org/fileadmin/user_upload/Publications/Educational_Practices/EdPractices_18.pdf

Wei, R. C., Darling-Hammond, L., Andree, A., Richardson, N., Orphanos,S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad.* Dallas, TX. National Staff Development Council.

UNESCO International Meeting on Innovation and Excellence in TVET Teacher/ Trainer Education (2004) Final Report, Bonn, UNESCO-UNEVOC. Available at : http://www.unevoc.net/fileadmin/user_upload/pubs/Hangzhou-MeetingReport.pdf

UNESCO-UNEVOC (2012) Strengthening TVET teacher education, Bonn, UNESCO-UNEVOC

UNESCO (2012) *Shanghai Consensus, Recommendations of the Third International Congress on Technical and Vocational Education and Training: 'Transforming TVET: Building skills for work and life'*, Paris: UNESCO. Available: http://www.unevoc.unesco.org/fileadmin/up/217683e.pdf

UNESCO (2014) *Technical and Vocational Teachers and Trainers in the Arab Region* : A review of Policies and Practices on Continuing Professional Development, Paris : UNESCO

Ulmer, P., Müller, H.,Pires, F., (2014) Continuing vocational teacher training for company-based tutors, A German-Portuguese pilot project, BWP, *Vocational Training in Research and Practice,* BIBB

Vähäsantanen, K.& Eteläpelto, A. (2009). Vocational teachers in the face of a major educational reform: individual ways of negotiating professional identities. *Journal of Education and Work*, Vol. 22, No 1, pp. 15-33.

Vlasta Vizek Vidović & Zoran Velkovski Eds. *Teaching profession for the 21st Century* (Centre for Education Policy) Belgrade

Villegas-Reimers, E. (2003) *Teacher professional development: an international review of the literature,* Paris: International Institute for Educational Planning (UNESCO)

Volmari, K., Helakorpi, S. & Frimodt, R. (2009) (Eds) *Competence framework for VET professions: Handbook for practitioners*, Cedefop and Finnish Board of Education

Wheelan, L. & Moodie, G (?) *The quality of teaching in VET: final report and recommendations*, Australian College of Educators and L H MartinInstitute. Available : http://www.lhmartininstitute.edu.au/research-and-projects/research/1-study-on-the-quality-of-teaching-in-vet;

Wei, R. C., Darling-Hammond, L., Andree, A., Richardson, N., Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad.* Dallas, TX. National Staff Development Council

World Bank (2013) *What matters most in teacher policies?* SABER Working Paper Series, Number 4

Yoon, K.S., T. Duncan, S.W.-Y. Lee, B. Scarloss and K. Shapley (2007), *Reviewing the evidence on how teacher professional development affects student achievement, Issues & Answers Report,* REL 2007:No. 033, U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest, Washington DC, *http://ies.ed.gov/ncee/edlabs/regions/southwest/pdf/REL_2007033.pdf.*

Glossary

Action research	Research into process and/or impact which is carried out, at least partly, by those participating in the activity which is being researched.
Coaching	Individualised, practice-based learning
Company-based trainer Also known as VET Trainers (company-based)	Persons working in the work place that develop the skills and other competences of employees or trainees, whether as part of their induction into the organisation, or as part of their regular or occasional development (Continuing VET) or for apprentices or trainees as part of initial VET. Training may be on the job or off the job
Continuing Professional Development (CPD) Also known as Continuous Professional Development.	**Professional development** that takes place during the course of employment.
Digital and on-line learning (DOL) also known as e-learning	Learning supported by information and communication technologies (ICT).
Framework of professional competences	The knowledge, skills, attitudes and values agreed by stakeholders to be required to successfully perform a job or professional activity
Induction	Professional development that takes place during or prior to the commencement of work, e.g. in a particular school or training centre. It is usually mainly concerned to provide knowledge of rules, systems and processes that operate in an organisation, but can also serve to support the development of skills and other competences and also support adaptation.
In-service training. Also known as CPD.	**Professional development** during the course of employment.
Initial Teacher Education (ITE)	Training or education provided for teachers prior to their employment as teachers at the beginning of their career as teachers
Lifelong learning	All learning activity undertaken throughout life, which results in improving knowledge, know-how, skills, competences and/or qualifications for personal, social and/or professional reasons. (Cedefop, 2004)
Mentoring	Personal guidance and support to a new entrant to a profession (or to an organisation) or as a part of his or her professional development, provided by an experienced person who acts as a role model, guide, coach or confidante. (Cedefop, 2004, adapted)
Peer Learning (Horizontal Learning)	Learning (including CPD) through interactions between learners, which could take various forms, for example, observation, criticism, joint reflection, sharing of experiences
Practical Instructor	Usually this refers to a role within vocational schools whose responsibility is to demonstrate and develop practical skills. Typically occupants will have vocational experience but a lower level of qualification than that required to be a vocational teacher (lower than Bachelors).
Pre-service training	Training or education provided for teachers prior to their employment as teachers (see also initial

	teacher education)
Professional development	Professional development is the enhancement of competence in relation to personal, social and organisational objectives that are interlinked. Professional development is planned rather than informal learning but it may be work-based or non-formal.
Professional development of teachers or trainers (training of trainers)	Planned processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators and trainers so that they might, in turn, improve the learning of students and trainees.
Professional standards	A set or famework of professional competences that has been endorsed as a norm (by some or all stakeholders) with the consequence that it is used to regulate, for example, to license or to validate programmes or individuals
Programme	An inventory of activities, content and/or methods implemented to achieve education or training objectives (acquiring knowledge, skills and/or competences), organised in a logical sequence over a specified period of time. (Cedefop, 2004)
School-based Continuing Professional Development	Professional development which is wholly, or in part, planned, funded, organised, delivered and evaluated at the level of the school. It is implied that there is some kind of institutional or departmental process so that decisions about CPD are not a matter only for individual teachers.
TALIS	An international survey of teaching conducted by OECD. http://www.oecd.org/edu/school/talis.htm
Tutoring	Any activity offering a learner guidance, counselling or supervision by an experienced and competent professional. The tutor supports the learner throughout the learning process (at school, in training centres or on the job). (Cedefop, 2004)
VET Teachers (tutors, instructors, demonstrators, assessors, lecturers, etc)	Persons working in schools or colleges, usually in upper-secondary education and serving to teach knowledge, practical skills and other competences as part of preparation for working life (IVET). Usually teachers hold a teacher qualification and, at least, a Bachelor degree.
VET Trainers (outside of companies)	VET practitioners working in training centres (public or private) that typically provide continuing VET for adults to support transition or re-entry into employment. In addition, VET trainers may work together with schools or business to provide alternance, apprenticeship or other mixed modes of training.