

THE KEY COMPETENCE

LIGHTHOUSE

KEY COMPETENCE-DRIVEN REFORMS IN UKRAINE AND GEORGIA



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PREFACE

This document explores the development of key-competence-based education. It is based on lessons learned from education reforms in Ukraine and Georgia. These two countries are aligning their education systems with European approaches to key competence development, while modernising their curricula and teaching practice to support students' learning outcomes. With support from the European Union (EU) and in partnership with the European Training Foundation (ETF) and other agencies, they are embedding key competences in teaching and learning while tackling system-level challenges and barriers.

This publication has been prepared within the framework of the ETF's Creating New Learning¹ initiative. It aims to assist experts in the countries surrounding the EU to interpret and implement these instruments by offering insights collected in the most recent ETF-supported reforms in Ukraine and Georgia. In the reform scenarios of both these countries, the introduction of a competence-based approach in education plays an important role, and a focus on the entrepreneurship key competence links these two case studies. The proposed case studies offer policy-makers, education leaders and practitioners a picture of the inventory of actions taken to implement change. These actions are being implemented in the context of EU and global trends in education and training system development.

This context is dynamic, and this report has no universally applicable recipe for success. Rather, it intends to contribute to the current international discourse, share practical experience of the application of key competence instruments to the national reform process, and provide an overview of trends, lessons and observations on actions that have proved to be effective in Ukraine and Georgia.

The document consists of four chapters.

Chapter 1 introduces the international context of mainstreaming the entrepreneurship and digital key competences into education and training. It describes the global background, trends, and insights into the detail of the entrepreneurship and digital key competence approaches in Europe, and how key competences are one pillar of the Small Business Act (SBA) assessment process in pre-accession and EU partner countries. Finally, it explains why the ETF has invested so significantly in this.

Chapter 2 showcases the wide-ranging reforms taking place in Ukraine as part of the New Ukrainian School (NUS) initiative. It presents actions being taken to embed the key competence approach, the current state of play and the next steps being planned to enhance the reach and quality of practical implementation in primary and secondary education and vocational education and training (VET). The ETF's support to Ukraine focuses mainly on entrepreneurship and digital key competences and so is the focus of this section.

Chapter 3 highlights the work being undertaken in Georgia under the aegis of the 2019 Georgian Action Plan for Lifelong Entrepreneurial Learning, focusing particularly on efforts to reform the VET system and support the development of entrepreneurial VET institutions. The analysis explores past initiatives that have laid the groundwork for newer initiatives that directly target the integration of the entrepreneurship and digital key competences into the leadership, culture, teaching and learning of

¹ www.etf.europa.eu/en/projects-campaigns/projects/creating-new-learning

VET institutions in Georgia. The ETF's support to Georgia featured in this chapter focused mostly on the entrepreneurship key competence.

[Chapter 4](#) analyses how the lessons learned in Ukraine and Georgia can be applied in other countries. It focuses on the key ingredients of successful integration of key competences into an education system, using the example of entrepreneurship and digital key competences. It provides a guiding framework for actions and lists some of the key questions that must be answered before embarking on full-scale education reform. The answers to these questions will guide the initial planning and reform design stages as a source of learning and inspiration.

Acknowledgements

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This publication would not have been possible without the involvement of the national experts Olena Shyyan in Ukraine and Nino Andriadze in Georgia. They provided continuous engagement in the implementation of the ETF's support actions to the two countries on key competence development at system level and co-authored the respective chapters of this publication. The authors are also grateful to Ard Jongsma for his insights and invaluable editorial advice.

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EXECUTIVE SUMMARY

Over the past two decades, key competence development has gradually moved up national education and training policy agendas, both in and around the EU. Key competences are a dynamic mix of knowledge, skills and attitudes that all people need for personal fulfilment and development, employability, social inclusion and active citizenship². Key competences help citizens to progress throughout their lives. Unlike occupational or technical competences linked to a specific profession, key competences are transversal, that is, they are relevant across all curriculum areas at all levels, both in formal education and in non-formal or informal learning.

To support the efforts made by policy-makers and practitioners dedicated to the development of key competences of citizens, in May 2018 the Council of the European Union adopted the revised Recommendation on Key Competences for Lifelong Learning. Furthermore, practical implementation of a competence-based approach in the EU and its neighbourhood over the past decade has been underpinned by a series of EU competence frameworks offering a more granular understanding of how the respective key competences can be understood and developed within a lifelong learning perspective. The competence frameworks are open instruments that leave much to individual interpretation. They represent both an opportunity and a challenge for policy-makers and educators who design policies or deploy reform actions.

The ETF has been cooperating with partner countries to support their reforms, with the aim of implementing a competence-based approach in education and using the most advanced EU policy instruments in the areas of entrepreneurship and digital key competences. Two of the EU competence frameworks – EntreComp³ and DigComp⁴ – were tested and applied in the contexts of national reforms in the EU neighbourhood with the ETF's support. These frameworks were applied to underpin the understanding, design and implementation of two transversal⁵ key competences – entrepreneurship and digital, respectively – in lifelong learning and assessment. The EU's digital competence definition on which the DigComp framework is based goes beyond the narrow sphere of information and communication technologies (ICT) and computers and embraces digitally enabled learning and safe participation in a digitalised world for citizens. For entrepreneurship, the definition underlying EntreComp covers the ability to be creative, develop ideas and put those ideas into action in all subjects – not just business or economics. Transversal skills that are considered a critically important element demanded by employers in the ETF partner countries are both the 'backbone' of and the common element cutting across the different key competence domains. Critical thinking, problem solving, teamwork, communication and negotiation skills, analytical skills, creativity and intercultural skills are embedded throughout the key competences (Council of the European Union, 2018) and represent a pervasive element cutting across the EU competence frameworks.

² https://ec.europa.eu/education/education-in-the-eu/council-recommendation-on-key-competences-for-lifelong-learning_en

³ <https://ec.europa.eu/jrc/en/entrecomp>

⁴ <https://ec.europa.eu/jrc/en/digcomp>

⁵ For example, the EntreComp framework defines entrepreneurship as a 'transversal competence, which can be applied by citizens to all spheres of life from nurturing personal development, to actively participating in society, to (re)entering the job market as an employee or as a self-employed person, and to starting up ventures (cultural, social or commercial)'. For more information, see Bacigalupo (2016).

In this publication we review in detail practical ways of supporting both digital and entrepreneurship key competences based on two case studies, namely national reform actions in Ukraine and Georgia. We illustrate how the EU conceptual approaches and related instruments have been applied and further advanced in the context of the EU partner countries, with the support of the ETF and the insightful reflections of its experts. Holding up the case studies from Ukraine and Georgia against each other, some important learning points emerge. We have collected these insights and grouped them into six action areas as the basis for analysis of the state of play in the two countries. The cases can also be held up against international evidence of key competence development in education and training. These lessons can be applied in other countries that are planning to embed the entrepreneurship and digital key competences. The six action areas can provide inspiration and ideas for moving forward⁶ and are as follows:

1. **framework for policy development** – creating a coherent policy ecosystem in which key competences are understood, valued, promoted and supported;
2. **support for educational institutions** – the enabling environment: structures and frameworks supporting the integration of key competences, institutional change, training for education leaders, etc.;
3. **support for teachers and trainers** – structural support and professional development for teachers whose role has changed with the introduction of key competences in learning and assessment;
4. **teaching and learning activities** – a mix of pedagogical approaches that develop key competences within subjects or through multi-disciplinary learning;
5. **building links and opening education to the outside world** – the development of regular real-life-based opportunities for interacting with the world outside the classroom;
6. **communication activities** – the need to maintain effective communication to build understanding and engagement, embracing all stakeholders, from parents to trade unions and different government agencies.

To integrate entrepreneurship and digital key competences into learning at the system level, it is necessary to develop mutually supportive actions across a whole education and training system. Specific actions that are common for the different parts of an education and training system can work together to create sustainable change for leaders, educators and students or learners.

⁶ The six categories have been identified based on policy-level studies undertaken by the European Commission since 2006, drawing on high-level peer learning and exchange events, primarily the Oslo Agenda of 2006, the Progression Model developed in 2010 and the final report of the Thematic Working Group on Entrepreneurship Education in 2014.

CHAPTER 1

ENTREPRENEURIAL AND DIGITAL LEARNING

1.1 Changing world, evolving skills needs

The world we live in is changing at a faster rate than most of us can keep pace with. How we live and how we work is evolving exponentially in the face of demographic, environmental and technological change.

Just 20 years ago, mobile phones were just becoming mainstream in European society, yet by 2016 over 91% of young people in Europe were accessing the internet via their mobile phone.

Eurostat (2019)

As Industry 4.0⁷ becomes a reality, workforce skills needs are shifting rapidly towards technological, higher cognitive, and social and emotional skills (Bughin et al., 2018), with automation and artificial intelligence taking over large parts of traditional labour force tasks. We are now seeing the decline of 20th-century jobs such as postal workers, bookkeepers, data entry clerks and accountants, while professions on the rise include data analysts, developers and machine learning specialists (WEF, 2018). Research from the UK showed that 70% of school students wanted to learn life skills, such as effective communication, yet less than a third felt that school provided this (Deloitte, 2018). The 2018 Deloitte Millennial Survey found that among Generation Z⁸, only 29% felt that they had the skills and knowledge needed as Industry 4.0 increasingly shaped their workplace.

42% of employers in OECD countries state that they cannot fill vacancies because of a gap between the skills needed for the job and the skills that potential workers possess.

OECD (2019)

The competences people need to work, survive and thrive in society and the emerging labour market are increasingly digital and entrepreneurial. World Economic Forum research (European Commission, 2017) showed that 90% of all current jobs already require digital skills and that the skills that make a person employable in today's workplace are fast becoming the currency for survival throughout a working life, where young people are likely to have a dozen different jobs before they reach the age of 40. Along with the changing demand for skills, there are strong trends in the labour market that will drive employment in the future: the nature of employment is changing, bringing less security and stability, causing more uncertainty, but at the same time opening more opportunities for those who are able to move fast, learn throughout life and adapt to the changing world.

Creativity and creative thinking underpin many of the top-10 skills identified by the World Economic Forum.

⁷ Industry 4.0 refers to the fourth industrial revolution, popularly described as digitisation of manufacturing and industry through new-generation information technology. For more insights, see: <https://ec.europa.eu/digital-single-market/en/policies/digitising-european-industry>

⁸ Generation Z is commonly understood as those young people born between 1996 and 2012.

TABLE 1.1 THE FUTURE OF JOBS REPORT 2016

	2020	2015
1	Complex problem solving	Complex problem solving
2	Critical thinking	Coordinating with others
3	Creativity	People management
4	People management	Critical thinking
5	Coordinating with others	Negotiation
6	Emotional intelligence	Quality control
7	Judgment and decision making	Service orientation
8	Service orientation	Judgment and decision making
9	Negotiation	Active listening
10	Cognitive flexibility	Creativity

Source: WEF (2016b)

TABLE 1.2 THE FUTURE OF JOBS REPORT 2020: TOP 15 SKILLS FOR 2025

1	Analytical thinking and innovation
2	Active learning and learning strategies
3	Complex problem solving
4	Critical thinking and analysis
5	Creativity, originality and initiative
6	Leadership and social influence
7	Technology use, monitoring and control
8	Technology design and programming
9	Resilience, stress tolerance and flexibility
10	Reasoning, problem solving and ideation
11	Emotional intelligence
12	Troubleshooting and user experience
13	Service orientation
14	Systems analysis and evaluation
15	Persuasion and negotiation

Source: WEF (2020)

Yet research by Kyung He Kim published in 2011 showed that creativity in the United States (US) had been decreasing in previous years. This ground-breaking research showed that intelligence quotient (IQ) scores and creativity scores (Venckutė et al., 2020) had been increasing steadily from the 1960s until the early 1990s. However, since 1990, while IQ scores continued to increase, creativity scores began to decline steadily and significantly. The original results were attributed to the rise in the standardisation of education and came as a shock to US policy-makers, in a country which prides itself on its innovative thinking. The significance of these findings continues to resonate (Kim, 2016),

evidencing how the focus of education on standardisation, grades and knowledge-based curricula is not the answer and does not support children to maintain or develop the natural out-of-the-box creative thinking they have from birth. Instead, children and young people need the opportunity to apply their learning to real-world situations. This allows them to build skills by exploring solutions with curiosity, rather than just finding the right answers.

This supports the argument for more creativity development in schools, by giving children the opportunity to apply their learning to new or real-world situations that stimulate curiosity and interest on the way towards solutions. Without creativity, how can learners and graduates around the world solve the problems of tomorrow? This argument is increasingly echoed across policy development in partner countries of the EU, as they revise their curricula and refocus them onto key competences and learning outcomes (OECD et al., 2020).

While education systems are trying hard to keep up with all the above changes, the recent Covid-19 outbreak has shaken the global education and learning landscape, revealing even more clearly the vulnerabilities of the education systems. Moreover, the situation is posing much greater challenges to educators who are responsible for ensuring an uninterrupted education process. It has brought to light major gaps in institutional capacities and human potential to support learning during the lockdown. While digital and online learning, including all forms of distance education and coaching, were deployed as short-term recovery measures, the longer-term outlook calls for a more strategic and systemic approach to the development of key competences for all citizens, including educators and learners, as well as for an upgrading of teachers' professional capacity to support and motivate learners in the practical application of key competences.

We need to think differently about education. This document shares the efforts of two European countries to do exactly this.

1.2 Placing a competence-based approach at the centre of learning

The development of key competences in Europe

Key competences are a dynamic mix of knowledge, skills and attitudes that all individuals need in order to progress throughout their lives, starting from early childhood. Unlike occupational or technical competences that are developed for a specific profession, key competences are transversal, that is, they are relevant across all curriculum areas at all levels and throughout people's lives, both in formal education and in non-formal and informal learning.

In Europe, the publication of the Key Competences Framework in 2006 ushered in a new era for the development of lifelong learning competences (European Parliament and Council, 2006). This framework defined eight key competences as a common reference point to encourage and facilitate national reforms through education and training. They were termed 'key' competences because it was agreed that every European citizen needed them, regardless of their life circumstances and regardless of where they lived.

Six years in the making, the European framework responded to the guiding question: What demands does today's society place on its citizens? It drew on global efforts such as the Definition and Selection

of Competences (DeSeCo) initiative⁹ of the OECD. It guided the development of the Programme for International Student Assessment (PISA), which came to include new and innovative competences such as creative problem solving (introduced in 2012), collaborative problem solving (2015), global competence (2018) and creative thinking (planned for 2021).

This, in turn, encouraged countries around the world to further consider the importance of these competences in their system reforms. DeSeCo also inspired the development of the new OECD Learning Framework 2030¹⁰, which aims to ensure a more future-proof education for all. It explores what knowledge, skills, attitudes and values today's students will need in order to thrive and shape their world, and how instructional systems can develop such knowledge, skills, attitudes and values effectively.

Other international organisations have also developed competence models and guidance frameworks. These include the United Nations Educational, Scientific and Cultural Organisation (UNESCO) ICT Competency Framework for Teachers¹¹, the International Labour Organisation's Regional Model Competency Standards (ILO, 2015) and the World Economic Forum's New Vision for Education (WEF, 2015; 2016a).

FIGURE 1.1 THE EIGHT EUROPEAN KEY COMPETENCES (2018)



Source: European Commission (2019a)

⁹ For more information on the OECD DeSeCo model, see: www.oecd.org/education/skills-beyond-school/definitionandselectionofcompetenciesdeseco.htm

¹⁰ www.oecd.org/education/2030/learning-framework-2030.htm/

¹¹ <https://en.unesco.org/themes/ict-education/competency-framework-teachers>

First published in 2006, the EU's eight key competences were reviewed in 2018 to ensure they had kept pace with the changing landscapes in Europe. An update has now been published¹².

Towards a better understanding of each key competence

In recent years, the European Commission has focused its development efforts on providing a deeper understanding of the transversal skills contained within the overall key competence framework. Transversal skills are both the 'backbone' and the common element cutting across the different key competence domains. Critical thinking, problem solving, teamwork, communication and negotiation skills, analytical skills, creativity and intercultural skills are embedded throughout the key competences (Council of the European Union, 2018).

Through the conceptual design and development of a series of individual competence frameworks, each key competence description has been broken down into its composite parts. This has generated a more granular understanding of how the competences can be understood and developed through lifelong learning. Three frameworks have now been developed, one for the digital competence, one for the entrepreneurship competence and one for the personal, social and learning to learn competence. These are, respectively, DigComp¹³, EntreComp¹⁴ and LifeComp¹⁵.

DigComp, EntreComp and LifeComp build on wider advances led by the Council of Europe, which has developed the Common European Framework of Reference for Languages: Learning, Teaching, Assessment (CEFR)¹⁶ and a framework and implementation guidance for the citizenship competence, called the Reference Framework of Competences for Democratic Culture¹⁷. A brief overview of the frameworks mentioned is provided in [Table 1.3](#).

In recent years, concerns have been growing that despite European and global trends to mainstream the key competence approach in formal education and non-formal learning, young people have been facing enormous challenges trying to cope with school-to-work transitions. The sustainable market integration of youth now takes longer than it did previously (European Commission, 2020a). The new European Skills Agenda for Sustainable Competitiveness, Social Fairness and Resilience (European Commission, 2020b) sets a goal to achieve a paradigm shift on skills, highlighting the crucial importance of developing resilience and engaging in learning throughout life. The agenda reinforces the importance of skills for twin transitions – green and digital – as well as for technological transformation and in order to increase the entrepreneurial aspirations of young people and adults. It also indicates the importance of transversal skills, including working together, critical thinking and creative problem solving.

Given the current entrepreneurial and digital drive in European and global policy-making, the current momentum presents both a serious challenge and a good opportunity for educators and their partners

¹² Major EU policy initiatives such as the European Pillar of Social Rights and the New Skills Agenda for Europe continue to support the importance and relevance of this work, driving action in the EU and its Member States. The Digital Agenda, the Riga Conclusions and the SME Policy Index, which assesses the implementation of the European Small Business Act, also emphasise entrepreneurship and digital key competences, providing strong cross-policy support to underpin efforts.

¹³ <https://ec.europa.eu/jrc/en/digcomp>

¹⁴ <https://ec.europa.eu/jrc/en/entrecomp>

¹⁵ <https://ec.europa.eu/jrc/en/lifecomp>

¹⁶ www.coe.int/en/web/common-european-framework-reference-languages/home

¹⁷ www.coe.int/en/web/education/competences-for-democratic-culture

to share lessons and insights on how to support the development of entrepreneurship and digital competences at system and educational institution level, engaging education leaders and teachers, and ensuring critical partnerships with communities, as well as with local and sectoral networks and stakeholders.

TABLE 1.3 DEVELOPMENT OF COMPETENCE REFERENCE FRAMEWORKS IN EUROPE

	DigComp	EntreComp	CEFR	RFDCD	LifeComp
Key competence	Digital	Entrepreneurship		Citizenship	Personal, Social, Learning to Learn
Full name	Digital Competence Framework for citizens	Entrepreneurship Competence Framework	Common European Framework of Reference for Languages: learning, teaching and assessment	Reference Framework of Competences for Democratic Culture	Personal, Social, Learning to Learn Competence Framework for Individuals
Launched	2014	2016	2001	2017	2020
Led by	European Commission	European Commission	Council of Europe	Council of Europe	European Commission
Progression levels	8 reference levels of proficiency	8 reference levels of proficiency	6 reference levels of proficiency	3 reference levels of proficiency representing 5–8 sub-levels	No reference levels yet 3 stages of progression 3 facets of deployment: awareness, understanding, action
Content	5 competence areas 21 competences 168 learning outcomes across progression levels User guide Case studies	3 competence areas 15 competences 442 learning outcomes across progression levels User guide Case studies	5 competence areas Learning outcomes across progression levels Further guidance on learning, teaching, assessment Relating examinations to the CEFR levels, descriptors and content specifications	5 competence areas 20 competences Learning outcomes across progression levels Guidance documents on curriculum/ pedagogy Assessment Teacher education School-level implementation	3 competence areas 9 competences
Number of versions	2 (2014/17)	1	2	1	1
Web page	https://ec.europa.eu/jrc/en/digcomp	https://ec.europa.eu/jrc/en/entrecomp	www.coe.int/en/web/common-european-framework-reference-languages/home	www.coe.int/en/web/education/competences-for-democratic-culture	https://ec.europa.eu/jrc/en/lifecomp

The following sections of this publication look in detail at practical ways to support digital and entrepreneurship key competences and present lessons on how the EU conceptual approaches and related instruments have been applied and further advanced in the context of the EU partner countries, with the support of the ETF and the insightful reflections of its experts.

1.3 Entrepreneurship and digital key competences

Towards a common understanding of the entrepreneurship and digital key competences

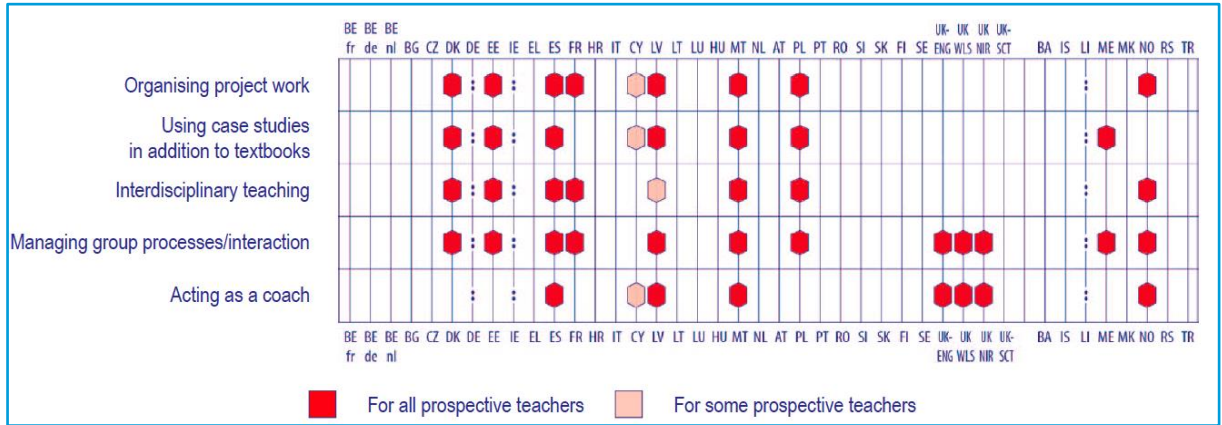
The EU wants to actively support the implementation of key competences in education, career guidance, teacher education and curriculum development, supported by tools such as national qualifications frameworks. It is clear from the available evidence that a concerted and collective approach involving all stakeholders, from both within and outside educational institutions, continues to be necessary to make digital and entrepreneurship key competences a tangible reality. DigComp, EntreComp and LifeComp were developed as the competence frameworks needed to underpin the understanding, design and implementation of these three transversal¹⁸ key competences into European lifelong learning and assessment.

When the eight European key competences were first introduced in 2006, the broader transversal relevance of the entrepreneurship and digital competences was new to many in the world of lifelong learning. The digital competence definition goes beyond the narrow enclave of ICT and computers and embraces digitally enabled learning and safe participation in a digitalised world for citizens. For entrepreneurship, the definition covers the ability to be creative, develop ideas and put those ideas into action in all subjects, not just business or economics.

However, in many countries and for many actors, this new understanding is not yet commonplace, including in some EU countries. This is particularly the case for the entrepreneurship key competence. Moreover, key competences are not yet fully embedded in all European education and training systems. A 2016 study on entrepreneurship education at schools in Europe (European Commission/ EACEA/Eurydice, 2016) found no common understanding of this competence across Europe, fragmented implementation in curricula, little inclusion in initial teacher education and no system support for the assessment of entrepreneurial learning outcomes.

¹⁸ For example, the EntreComp framework defines entrepreneurship as a ‘transversal competence, which can be applied by citizens to all spheres of life from nurturing personal development, to actively participating in society, to (re)entering the job market as an employee or as a self-employed person, and to starting up ventures (cultural, social or commercial)’. For more information, see Bacigalupo et al. (2016).

FIGURE 1.2 KEY SKILLS FOR AN ENTREPRENEURIAL APPROACH TO TEACHING IN THE INITIAL EDUCATION OF TEACHERS FOR PRIMARY AND SECONDARY EDUCATION, ACCORDING TO CENTRAL LEVEL RECOMMENDATIONS/GUIDELINES, 2014/15

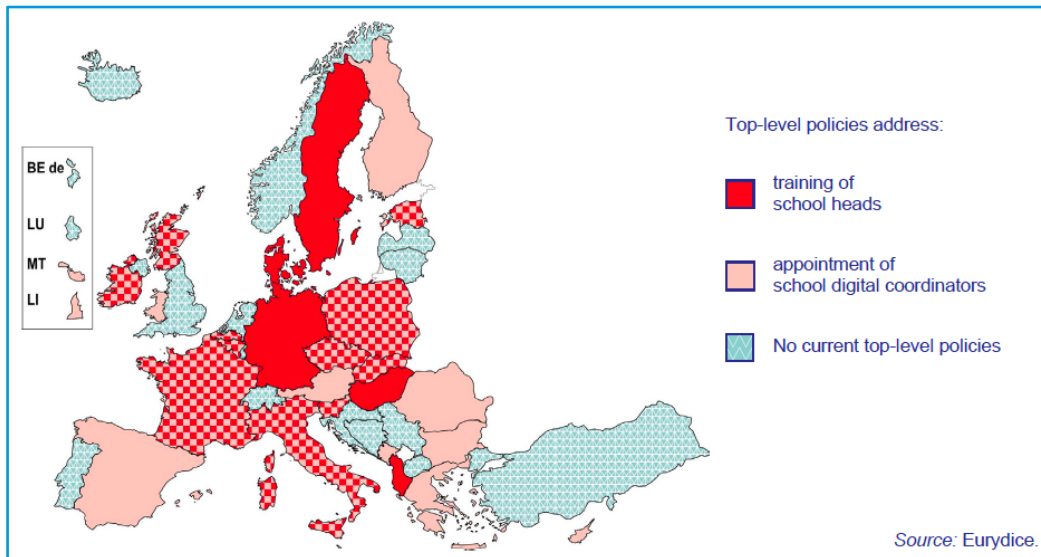


Source: European Commission/EACEA/Eurydice (2016)

Penetration of the digital competence in education has been more profound. In its study on digital education in schools in Europe, Eurydice found a broadly coherent understanding of the digital competence, closely aligned to the EU key competence definition (European Commission/EACEA/Eurydice, 2019).

Most countries deliver digital competences through curricula at primary and secondary school level supported by, in most countries, a stand-alone digital education strategy. There is also widespread training for new and existing teachers, while several countries also recognise the importance of digital leadership through targeted training for heads of schools or the appointment of a school digital coordinator. There is, however, little guidance on how to assess the digital competence in the classroom.

FIGURE 1.3 DIGITAL LEADERSHIP IN SCHOOLS: TRAINING FOR SCHOOL HEADS AND APPOINTMENT OF DIGITAL COORDINATORS – PRIMARY AND GENERAL SECONDARY EDUCATION (ISCED 1–3), 2018/19

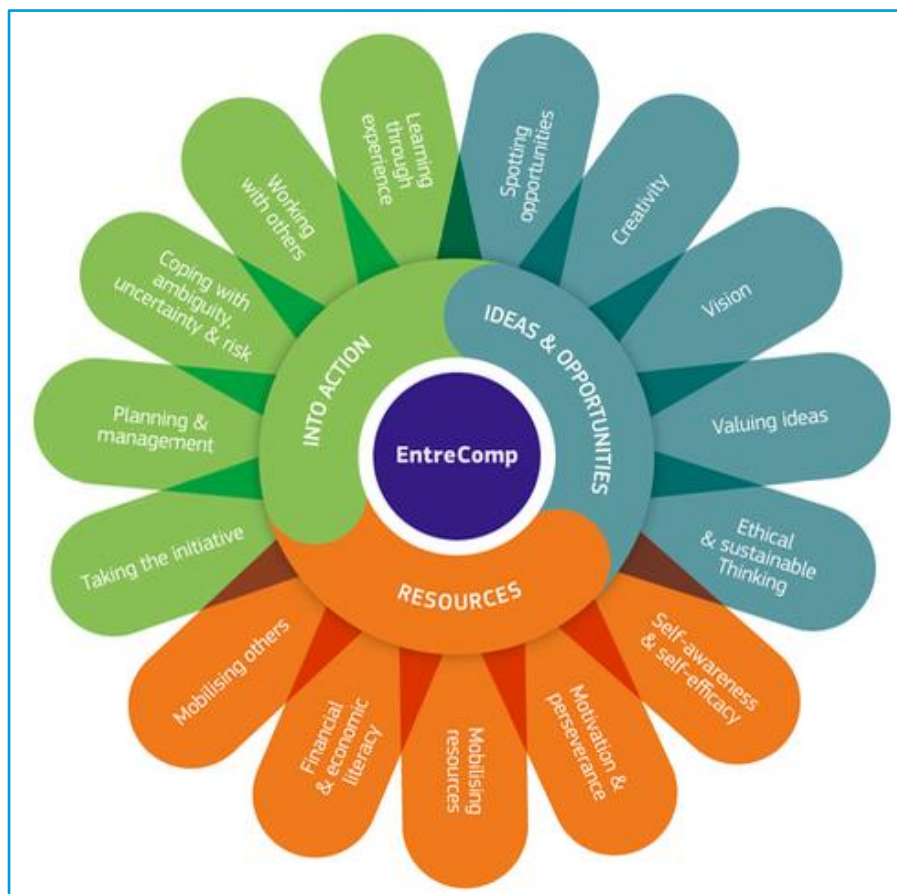


Source: European Commission/EACEA/Eurydice (2019)

EntreComp: the European Entrepreneurship Competence Framework

EntreComp is the European reference framework that provides a common understanding of entrepreneurship. It focuses on the skills and mindset that individuals need in order to be entrepreneurial, bridging the worlds of education and work. EntreComp provides the following statement to define this competence: 'Sense of initiative and entrepreneurship can be broadly defined as the capacity to turn ideas into action, ideas that generate value for someone other than oneself. Sense of initiative and entrepreneurship is a transversal key competence, which every citizen needs for personal fulfilment and development, active citizenship, social inclusion and employment in the knowledge society' (Bacigalupo et al., 2016). With an easy-to-understand framework supported by the *EntreComp into Action* user guide (McCallum et al., 2018), EntreComp aims to help those involved in designing and delivering these entrepreneurial skills across all subjects in all types of learning environment, including schools, vocational colleges, universities and the world of work.

FIGURE 1.4 THE ENTRECOMP MODEL



Creating value for others

Developing ideas and actions that create value for others is at the core of EntreComp. Such value can be social, cultural or economic. It extends entrepreneurial initiative and action far beyond the narrow confines of business. Research shows that students can become deeply motivated when they see that their ideas or actions are of value to peers, educators, families or wider audiences (Lackéus, 2020).

The following are examples of different types of actions:

- **creating social value for others:** social entrepreneurship projects generating innovative solutions to environmental challenges, generating ideas for campaigns on social issues, establishing a sports club or setting up a student parliament;
- **creating cultural value for others:** promoting intercultural awareness and learning, identifying and creating solutions to cultural challenges in the local community, youth perspectives and involvement in building design or new activities supporting theatre, music or cultural heritage;
- **creating economic value for others:** a mini-company initiative, fundraising activities for local charities or generating ideas to solve specific challenges faced by local businesses¹⁹.

Understanding EntreComp

The EntreComp model breaks down the entrepreneurship key competence into building blocks of learning: there are 3 competence areas with 15 competences, across an 8-level progression model and supported by a comprehensive table of learning outcomes. This helps policy-makers, educators and industry professionals to both understand and relate to the concept, purpose and skills within the entrepreneurship key competence.

Within each of the 3 competence areas are 5 competences – 15 in total. Each competence is of equal importance, with no starting or finishing competence to develop. All are different but connected through the entire key competence framework. EntreComp is designed to be a flexible and adaptable tool for learning. For example, depending on where it is used and for what purpose, not all the competences might be important in a particular activity. In some cases, only one or two may be highlighted.

¹⁹ 'Entrepreneurial Learning in a Digital Age', 20 September 2018, slide 8, see: www.schooleducationgateway.eu/downloads/webinars/Webinar2018_EntreDigitalAge_McCallum_Troia.pdf

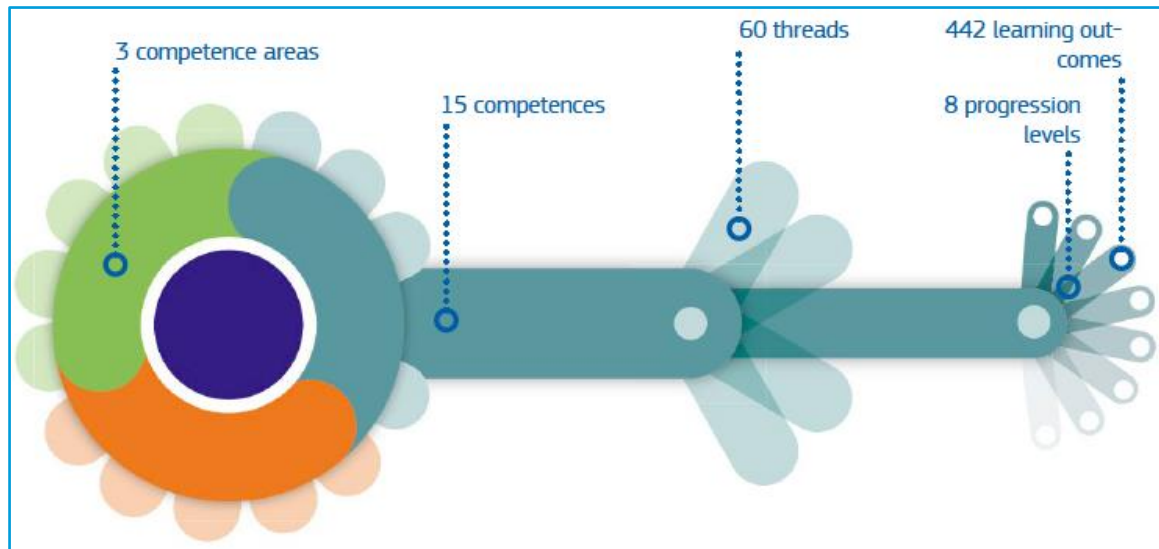
TABLE 1.4 OVERVIEW OF ENTRECOMP COMPETENCES

Competence area	EntreComp competence	Hints to the competence
1. Ideas and opportunities	1.1 Spotting opportunities	Use your imagination and abilities to identify opportunities for creating value
	1.2 Creativity	Develop creative and purposeful ideas
	1.3 Vision	Work towards your vision of the future
	1.4 Valuing ideas	Make the most of ideas and opportunities
	1.5 Ethical and sustainable thinking	Assess the consequences and impact of ideas, opportunities and actions
2. Resources	2.1 Self-awareness and self-efficacy	Believe in yourself and keep developing
	2.2 Motivation and perseverance	Stay focused and do not give up
	2.3 Mobilising resources	Gather and manage the resources you need
	2.4 Financial and economic literacy	Develop financial and economic know-how
	2.5. Mobilising others	Inspire, enthuse and get others on board
3. Into action	3.1 Taking the initiative	Go for it
	3.2 Planning and management	Prioritise, organise and follow up
	3.3 Coping with uncertainty, ambiguity and risk	Make decisions dealing with uncertainty, ambiguity and risk
	3.4 Working with others	Team up, collaborate and network
	3.5. Learning through experience	Learn by doing

To better understand each competence and translate it into learning, each of the 15 competences is broken down into ‘threads’. For example, the Vision competence translates into three threads of learning outcomes: imagine, think strategically and guide action.

Each thread is mapped into learning outcomes at eight levels of the EntreComp progression model. Each level represents a progression in the level of complexity of the task and the autonomy of the learner, allowing educators to consider different starting points for each learner or group of learners.

FIGURE 1.5 THE ENTRECOMP MODEL



The framework is built on the assumption that all the competences will be developed in progression, throughout the individual's life and at individual speed, reflecting the different starting points and potential of learners. The framework inspires personalised learning and motivation, allowing EntreComp to be relevant across the lifelong learning spectrum from beginner to expert, and across a variety of knowledge domains.

DigComp: the European Digital Competence Framework for Citizens

Digital skills are now relevant to every aspect of our lives. Digital technology is transforming our society and we need competent digital citizens. The digital competence framework DigComp has become a key tool and a source of inspiration to help meet this challenge.



The framework is divided into different competence areas that each cover several competences, totalling 21.

DigComp gives examples of learning outcomes across 8 levels of proficiency, but these are not comprehensive for each of the 21 competences (unlike EntreComp). The level descriptions follow the structure and vocabulary of the European Qualifications Framework²⁰. The level descriptions are kept general to encourage users to adapt and integrate them to local needs.

TABLE 1.5 OVERVIEW OF DIGCOMP COMPETENCES

1. Information and data literacy	1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content
2. Communication and collaboration	2.1 Interacting through digital technologies 2.2 Sharing through digital technologies 2.3 Engaging in citizenship through digital technologies 2.4 Collaborating through digital technologies 2.5 Netiquette 2.6 Managing digital identity
3. Digital content creation	3.1 Developing digital content 3.2 Integrating and re-elaborating digital content 3.3 Copyright and licences 3.4 Programming
4. Safety	4.1 Protecting devices 4.2 Protecting personal data and privacy 4.3 Protecting health and well-being 4.4 Protecting the environment
5. Problem solving	5.1 Solving technical problems 5.2 Identifying needs and technological responses 5.3 Creatively using digital technologies 5.4 Identifying digital competence gaps

Each of the level descriptions represents three domains, namely:

- the acquisition of knowledge of the competence;
- the complexity of the task;
- the level of autonomy in completing the task.

Like EntreComp, the DigComp framework can be used to integrate these competences in curricula, in all disciplinary and non-disciplinary areas. Of course, the framework can also be used to update the skills of educators and to evaluate (and self-evaluate) digital competence. The eight levels offer a detailed description of the progression criteria and provide the required granularity to develop teaching materials, evaluate the progression of learning and describe the competences in detail.

Both the DigComp and EntreComp frameworks could be used to design assessment tools.

²⁰ www.cedefop.europa.eu/en/events-and-projects/projects/european-qualifications-framework-eqf

1.4 Supporting the transition towards a key-competence-based approach

Defining the key areas of action

To integrate entrepreneurship and digital key competences into learning at the system level, it is necessary to develop mutually supportive actions across a whole education and training system. Specific actions across the different areas of an education and training system can work together to create sustainable change for leaders, educators and students or learners.

Chapters 2 and 3 of this publication refer to six key areas of action as the basis for analysing the state of play in Georgia and Ukraine. Further, in Chapter 4, the key areas of action are applied to provide inspiration and ideas for moving forward²¹.

The **six key areas of action** are:

1. **Framework for policy development** – This refers to creating a coherent policy ecosystem where key competences are understood, valued, promoted and supported, bringing together different actors working in partnership and ensuring robust monitoring and evaluation to measure progress and impact.
2. **Support for educational institutions** – This refers to the enabling environment supporting educational institutions. This includes the structures and frameworks supporting the integration of key competences, supporting institutional change, providing training for education leaders, and developing networks to support practice sharing.
3. **Support for teachers and trainers** – This refers to structural support and professional development for teachers and trainers. The role of the teacher changes significantly when key competences are effectively introduced into learning and assessment. From being distributors of knowledge, they become facilitators of knowledge and competence development, using a broader pedagogical toolbox that now includes more student-centred, sometimes student-led, and increasingly experiential pedagogies.
4. **Teaching and learning activities** – This refers to learning activities that develop key competences, moving away from using only traditional pedagogies that use direct instruction to embrace a mix of pedagogical approaches that develop creative thinking and collaborative working, use real-world contexts and stimulate reflection to learn from experience. Competences can be developed within subjects or through multi-disciplinary learning, via activities that focus on specific skills, or through practical entrepreneurial, digital, etc., learning opportunities that develop more than one key competence, for example entrepreneurial learning based on citizenship principles and using digital learning technologies.
5. **Building links and opening education to the outside world** – This refers to the development of regular real-life-based opportunities for interacting with the world outside the classroom. It can also refer to involving the world outside the classroom (e.g. business and community stakeholders) in education and training, engaging them directly in the design and delivery of teaching, learning and assessment.

²¹ The six categories have been identified based on policy-level studies undertaken by the European Commission since 2006, drawing on high-level peer learning and exchange events, primarily the Oslo Agenda of 2006, the Progression Model developed in 2010 and the final report of the Thematic Working Group on Entrepreneurship Education in 2014.

6. **Communication activities** – This refers to the need to maintain effective communication to build understanding and engagement, embracing all stakeholders, from parents to trade unions and different government agencies.

1.5 The ETF and new learning

For the ETF, the focus on key competence falls within its thematic area of innovation in teaching and learning, and specifically is part of the flagship initiative Creating New Learning (CNL). It is a multi-annual, multi-thematic initiative spanning the topics of learning, teaching, curricula, key competence, teacher-training and trainer qualifications, distance and digital learning and more.

CNL aims to encourage the development, implementation and dissemination of innovative teaching and learning practices for more effective education and training systems in the ETF partner countries. It collaborates with education practitioners, experts, policy shapers and social partners, and engages existing networks, alliances and platforms to identify trends, co-create new knowledge, and develop and share new tools, methodologies and services supporting innovation in teaching and learning. CNL is designed to investigate the nature and trends of new learning across the national boundaries and address the challenge by identifying solutions that could be applied to boost innovation. 'Curricula and key competence' is a thematic area in which the ETF has accumulated long-standing practical experience of applying the competence-based approach, and respective tools and frameworks, while supporting national reforms and piloting the latest EU key competence concepts and tools.

In 2020, the CNL initiative conducted a review of current academic literature to capture the innovation trends and practices most relevant in the national context of reforms in the ETF partner countries.

CHAPTER 2

UKRAINE – A NATIONAL APPROACH TO KEY COMPETENCE DEVELOPMENT THROUGH THE EDUCATION SYSTEM

Ukraine is the second largest European country, with a population of nearly 42 million²² and a landmass almost twice the size of Poland. It is undertaking the most wide-reaching education reforms of recent times, building on international experiences and innovation among Ukrainian teachers and teacher trainers. The latter have been pioneering new approaches to shape an education system that is focused on the needs of the individual learner rather than on delivering uniform knowledge-based lessons.

This chapter describes how the Ministry of Education and Science (MoES) is introducing key-competence-based education to prepare children for life and work. It will outline the evidence supporting far-reaching reforms, the needs identified and the actions taken to make the Ukrainian education system more future-proof by delivering competence-based education that emphasises the development of key competences.

2.1 Background to the reforms

With more than four million young people in compulsory education, modernising the Ukrainian education system directly affects every citizen²³, and school reform is now one of the country's key national priorities. The work that is under way represents the most ambitious attempts to reform the national education system since the declaration of independence in 1991. It is driven by the Cabinet of Ministers and supported by the National Council for Reforms under the President of Ukraine.

When school education ceases to meet current challenges, it impacts almost all spheres of public life and widens the gap between those who have and those who have not. The level of youth unemployment (up to age 35) is now 22.8% in Ukraine, and one in six of the unemployed population is a young person.

The Ukrainian school does not prepare for successful realisation of personal potential in real life. The Ukrainian pupil receives mostly a body of knowledge. A radical reform is required.

New Ukrainian School concept

For many years, education in Ukraine took a conservative approach, with a focus on knowledge retention. This traditional approach to teaching came without the opportunity to apply this knowledge and its relevance to society or employment. Teaching methods have not evolved to embrace 21st-century skills, nor has there been any focus on personalised learning, in an environment of uniform and undifferentiated curricula and classrooms.

²² According to the website of the State Statistics Service, the population of Ukraine as of 1 November 2020 was 41.67 million.

²³ UNESCO Institute for Statistics: <http://uis.unesco.org/country/UA>

Persistent and pervasive challenges of unequal access to education and a widening digital divide have made things worse, particularly for those in rural areas or from low-income backgrounds.

Yet significant progress has been made in the 30 years since independence. Success stories include the strengthening of the network of 25 in-service teacher-training institutes (ITTIs) in all regions of the country and the introduction of a new independent assessment process for final examinations in the 12th grade to eradicate bias and corruption and ensure equal access to higher education for all.

ITTIs have been heavily involved in the reform process and have become the main channel for implementing reform through teacher professional development. Pioneering teachers have experimented with innovative teaching and learning, going against the prescribed methods of the traditional curriculum. The 2016 SBA assessment process highlighted good practice in supporting entrepreneurial learning in curricula such as those of the School Academy of Entrepreneurship supported by Poland and the business internship programme in the Kyiv Lyceum (OECD et al., 2015). It also highlighted the potential for a more coordinated approach across the entire education sector through the upcoming reforms.

To build a common understanding of the need for change, three years of national dialogue have taken place to allow discussions and hear views from across the sociopolitical spectrum. This has involved hundreds of stakeholders and representatives and brought together perspectives on five themes: partnership between schools and families, readiness for innovation across the education system, developing new standards and learning outcomes, autonomy of schools and teachers, and the question of funding for education.

This consultation process exposed the challenges that Ukraine faces, but it also positively developed a common understanding of these challenges that presented a strong set of arguments for change in the education system (MoES Ukraine, 2016, pp. 4–5).

1. Pupils were developing knowledge but not the ability or experience to use it to solve everyday problems.
2. The teaching did not motivate children to learn. It was knowledge based, textbooks were too theoretical, and students were overburdened with factual material.
3. Teachers often used outdated teaching methods.
4. Low social status and low salaries demoralised teachers, and there was a lack of motivation for personal and professional growth.
5. The digital divide between teachers and pupils was growing.

The reform of Ukrainian secondary education is the design of the future of our country, because it is the school that forms the thinking of the absolute majority of our children who will take on the leadership of the state and responsibility for its economy.

2.2 Designing a new way forward

Developing the New Ukrainian School concept

The *New Ukrainian School* (NUS) was published in 2016. It described what needed to be done to tackle the challenges identified in the national dialogue.

NUS represents a transition from a school where information is provided to one where children develop knowledge, skills and values. Children will learn how to apply that knowledge in different ways to link what they have learned to the real-life context of the world around them, while learning how to communicate and work with each other. This new focus involves the introduction of new teaching methods and new forms of school administration, changing communication between students, teachers and parents, the implementation of project work and learning through experiential activities.

NEW UKRAINIAN SCHOOL CONCEPT

NUS proposes nine core actions, namely:

1. new educational content to develop the competences necessary for the self-fulfilment of learners;
2. motivated teaching staff who enjoy freedom of creativity and ongoing professional development;
3. an educational learning process that informs and shape learners' values;
4. decentralised and effective governance to bring real autonomy to schools;
5. pedagogies based on partnership between pupils, teachers and parents;
6. learner-centred education that places the focus on the needs of the pupil throughout the educational process;
7. a new school framework that enables learners to absorb new content and gain competences for life;
8. fair distribution of public funds that ensures equal access to quality education for all children;
9. a modern educational environment that provides the necessary conditions, facilities and technologies for the education of students, educators and parents, not only in the premises of the educational institution.

Translated from original text in Ukrainian (p. 11):

https://storage.decentralization.gov.ua/uploads/library/file/317/summary_9_interactive.pdf

The 2017 Law on Education codified these nine actions into legislation, formalising existing developments and driving further strategic change. The duration of compulsory education was extended from 11 to 12 years, a new national qualifications framework was to be developed and a new National Agency for Qualifications was established in 2018. With the commitment of national and international partners from across the education landscape, the quality education system needed by the next generation of Ukrainian school leavers is now being shaped.

Building on existing successes

The NUS concept is being implemented through a staged and coordinated approach across the different areas of the education system. The approach builds on previous initiatives which have provided structures that are key to the implementation of current reforms.

In-service teacher-training institutes

One such initiative is the national network of ITTIs. It offers significant reach into the teacher population across the country, providing a channel for large-scale teacher training. The institutes' involvement represents a recognition that radical change in any education system requires investment in the teachers currently working in the country's schools. To illustrate the impact of the ITTIs, by the end of 2019 they had trained all the estimated 85 500 teachers in primary schools, providing them with the knowledge and understanding of the NUS concept and associated curriculum frameworks.

Educated all-round Ukrainians, responsible citizens, and patriots, able to take risks and innovate. These are people who will lead the economy into the 21st century.

New Ukrainian School concept

Independent assessment at the final stage of education

Centres of external examination were established across Ukraine in the early 2000s. They offer an independent final certification process in the 12th grade. This assessment is the equivalent of a matriculation exam in other European countries. The introduction of this independent assessment addressed inequality in education that was associated with in-school exams and the older system of university entrance exams, particularly for those students from rural and poor families. Independent assessment aims to remove the potential bias and corruption at the final stage of school studies, providing all students with an equal opportunity to gain the certification needed to access their choice of higher education programme. However, the system still needs improvement, as the external exam is compulsory for obtaining a diploma on completing secondary education, and under the current system it creates a potential barrier for VET graduates, who often fail to access higher education²⁴.

Entrepreneurship clubs for experiential learning in schools

From 2012 to 2014, an international project in partnership with the Polish Foreign Assistance Programme worked alongside the Ukrainian MoES and Lviv ITTI to design and pilot new approaches to learning that involved the certification of teacher trainers from 18 ITTIs and pilot schools from 18 regions. The project implemented school entrepreneurship clubs, supported by new educational materials for teachers and awareness-raising activities for school leaders. This initiative was recognised by the ETF in its 2016 Good Practice Awards.

European partnership support

A key part of the national dialogue has been to seek out evidence-based practice from across Europe, centred on informing the transition to key-competence-based education. This has been supported by EU policy and funds, with expertise partners such as the ETF, the Finnish Ministry of Foreign Affairs,

²⁴ For more information, see ETF (2020a).

the EU Learning Together project²⁵, the Polish Centre for Educational Development (ORE)²⁶ and the Norwegian-based European Wergeland Centre²⁷. These four partner projects have been of vital importance in supporting the implementation of the NUS and the integration of key competences into the new curriculum frameworks and content.

Support from the Learning Together Project was structured around three clusters of activities, including support for the introduction of key competences. It included a cluster addressing in-service teacher training to develop six modules in areas such as competence-based curriculum development and assessment, and a cluster addressing a national e-platform, which would offer teachers access to e-resources and online textbooks.

Support from the European Wergeland Centre primarily addresses assessment. The centre also provides expertise on the citizenship key competence.

The ETF has been providing policy and practical expertise on the European key competences. This has included the development of teacher-training modules on key competence development and support for the development and ongoing refinement of the Competence Potential²⁸, the Ukrainian national guidance on implementing key-competence-based education and training (see section 2.3). The ETF also offered advice on how to co-work the key competences within the defined NUS subject areas. Using EntreComp and DigComp as starting points, the ETF has supported pilot events and capacity-building training to drive the strategic development of the curriculum framework design, learning design and teacher-training process for the NUS. There is now a network of 50 teacher trainers who are certified in key competence education, with new educational materials and teacher-training materials to support the implementation of the EU key competence frameworks.

2.3 Developing the Competence Potential framework of the New Ukrainian School

Central to the NUS vision is a new approach to teaching and learning in the classroom, modernising the school curricula to focus on competences and 21st-century skills, rather than on content knowledge alone. NUS publication NUS gave the green light for this radical change to bring Ukrainian education in line with competence-based education elsewhere in Europe.

The competence approach is a bridge that connects school with the real world and the challenges a human being faces in life.
Ukraine Education Standard

This vision was translated into 11 Ukrainian key competences, defined in the 2017 Law on Education. It is now being transformed into practical implementation for education through the new State School

²⁵ For more information, see: www.ukrinform.net/rubric-society/2660428-ukraine-finland-launching-joint-project-to-support-new-ukrainian-school.html#; https://um.fi/news/-/asset_publisher/GRSnUwaHDPv5/content/suomi-mukana-ukrainan-koulu-uudistukses-1; <https://sites.utu.fi/bre/learning-together-finlands-support-to-ukrainian-school-reform/>

²⁶ www.ore.edu.pl/2018/01/centre-for-education-development/

²⁷ The European Wergeland Centre is a resource centre on education for intercultural understanding, human rights and democratic citizenship based in Norway, see: www.theewc.org

²⁸ The Competence Potential is a set of national guidelines from the Ministry of Education and Science aimed at describing and mapping the development of all key competences of the NUS throughout the phases of compulsory schooling.
<http://education-ua.org/ru/draft-regulations/852-nova-ukrajinska-shkola-osnovi-standartu-osviti>

Standards and further guidance documents, to underpin key-competence-based education in Ukraine and support schools in delivering this approach to learning to their students.

TABLE 2.1 NUS COMPETENCES

Eleven key competences within NUS	Integrated across nine newly defined subject areas
<ol style="list-style-type: none"> 1. Communication in the national language (and mother tongue, if different) 2. Communication in foreign languages 3. Mathematical literacy 4. Competences in science and technology 5. ICT and digital competences 6. Lifelong learning skill 7. Entrepreneurship and financial literacy 8. Social and civic competences 9. Cultural awareness 10. Environmental awareness and healthy lifestyles 11. Innovation 	<ol style="list-style-type: none"> 1. Language and literature 2. Mathematical 3. Scientific 4. Technological 5. ICT 6. Social and health preserving 7. Civic and historical 8. Arts 9. Physical education

A clear framework, designed and implemented through a network of experts

The Competence Potential is the framework concept that provides a clear description and a map of how each key competence can be developed and applied through the teaching and learning process within each specific subject area, at each level of general secondary education. This gives teachers an opportunity to see a picture of the gradual, step-by-step development of key competences in progression. It provides a technical basis for curriculum developers on how the learning outcomes of each subject area could be further integrated with those of key competences. In addition, it cross-references the learning outcomes for the NUS with the EU competence frameworks EntreComp and DigComp.

The official State Standards for Primary Education and Basic Secondary Education²⁹ were published in 2018 (primary school, grades 1–4) and 2020 (basic secondary school, grades 5–9), respectively. They provided a system-level vision and framework for the national curriculum and compulsory learning outcomes for each subject area and each cycle of education (in primary education cycles: grades 1–2, and grades 3–4; and basic secondary education cycles: grades 5–6 and grades 7–9). While the Competence Potential provides the ‘backbone’ of the State Standards, it is supplemented with specific Curriculum Frameworks and Model Learning Programmes to provide examples of the implementation of these standards in teaching and learning practice, and to support teachers and education managers at local and school levels during the application of the standards in their daily work³⁰. The Model Learning Programmes supply high-quality educational content and translate the compulsory learning outcomes of the State Standards into more detailed, specific, expected learning outcomes, leaving much space for the creativity and professional judgement of teachers as coaches and facilitators of the learning process in the classroom. These Model Learning programmes offer

²⁹ Ukraine State Standard for Primary Education, 27 February 2018: <https://zakon.rada.gov.ua/laws/show/87-2018-n#Text>; State Standard for Basic Secondary Education, 30 October 2020: <https://zakon.rada.gov.ua/laws/show/898-2020-n#Text>

³⁰ The primary level of education in Ukraine refers to the first stage of compulsory schooling lasting four years and corresponding to ages 6–10; basic secondary level lasts five years, ages 10–15.

detailed guidance for teachers and can be used directly (or modified) by schools or teachers. However, they are intended provide inspiration for the development of local learning programmes tailored to local needs and contexts. To maximise flexibility in the design of local programmes, there is no defined person or agency responsible for such design, so it can be coordinated by the school, by individual teachers or by groups of teachers.

Supporting teachers

NUS gives teachers the autonomy and freedom to develop their own vision in the classroom and to meet the needs of their students. This is a significant move away from the traditional knowledge-led approach to curriculum delivery in Ukraine. In the new vision of education, the teacher is a facilitator – guiding rather than teaching, in a democratic, friendly and sincere teaching style. The students take on more and more responsibility for their own learning, while the teacher supports and guides them towards their full learning potential. The teacher’s task is to stimulate student engagement and activity. This can be achieved through problem-based learning or by encouraging students’ ideas and allowing them to realise these ideas independently, taking the responsibility for their own learning processes.

Extensive teacher training, led by the network of ITTIs, was needed to support teachers in embracing this new role and empowering them to develop their own Local Primary Learning Programmes.

An online curriculum builder tool was developed to support this process³¹. It provides information and guidance to help teachers develop Local Primary Learning Programmes. It is being rolled out with online guidance videos and through the teacher training delivered by the ITTI network.

Assessment and validation of key competences

The knowledge, skills and attitudes acquired through the newly introduced key competences in Ukraine need to be assessed in new ways, through both formative and summative assessment:

- formative assessment: assessment that supports learning progress and process during a learning module or course;
- summative assessment: assessment that takes place at the end of a module or course.

Traditional summative assessment through exams only tests the product of learning. It does not support the process of learning itself, which is equally important when the teacher acts as a facilitator of learning.

The NUS model comprises three main ways of assessment: self-assessment, peer assessment and teacher assessment. These methods also support the assessment of key competences developed through specific tasks, for example working with others in a team situation, designing value through idea generation, mobilising others through joint project design, coping with changing circumstances through project-based learning, and managing unequal team contributions when working as a team. Key-competence-based learning outcomes for tasks such as these can be assessed using both formative and summative assessment and validation at appropriate levels. Overall, this approach supports the recommendation on the provision of clear and regular feedback by the teacher and among peers in the student teams, helping learners to reflect on their own progress and take further action towards achieving the learning goals.

³¹ For more information, see: <http://nusconstructor.activemedia.ua/>

At the national level, the State Standards for Education outline the mandatory learning outcomes at the levels of primary, basic and high school. These are now reflected in a newly launched student final certificate of achievement, based on the mandatory learning outcomes from the State Standards. This development has drawn on the expertise and experiences from Finland (especially in self-assessment) and the European Wergeland Centre. There is, however, an ongoing and substantial need to ensure that the assessment of key competences is fully developed within new learning programmes.

2.4 Progress by 2020

What follows is an overview of the key milestones for NUS at the end of 2020.

Framework for policy development

- Action plan for the implementation of NUS developed³².
- 2017 Law on Education approved to implement NUS³³.
- 2020 Law on Full General Secondary Education³⁴ approved.

Support for educational institutions

- Competence Potential³⁵ published, outlining how each subject area can integrate the key competences across all levels of education, and using EntreComp and DigComp to underpin the relevant key-competence-based learning outcomes at each level of education.
- State Standard for Competency-based Primary Education³⁶ developed and approved in 2018 and updated in 2019, committing to the delivery of key competences in education.
- State Standard for Primary Education introduced. It was piloted from 2017 in 143 schools, and subsequently fully implemented in all primary schools from 2018 (grades 1–3 already covered).
- State Standard for Basic (Lower) Secondary Education³⁷ (grades 5–9) developed and approved, explicitly attributing the Competence Potential to each subject area.
- State Standards for Vocational Education³⁸ updated, committing to the delivery of key competences in education.
- The Model Primary Learning Programme (primary school curriculum) for students in grades 1–4 developed, transforming obligatory learning outcomes within the State Standards into more detailed, expected learning outcomes (drawn from the Competence Potential³⁹).
- The existing Learning Programmes for grades 5–9 and the Curricula Frameworks for grades 2–11 updated using the Competence Potential concept.

³² Action Plan 2017–2029 on the implementation of state policy in the field of reforming the general secondary education 'New Ukrainian School':

www.kmu.gov.ua/npas/pro-zatverdzhennya-planu-zahodiv-na-20172029-roki-iz-zaprovdzhennya-koncepciyi-realizaciyi-derzhavnoyi-politiki-u-sferi-reformuvannya-zagalnoyi-serednoyi-osviti-nova-ukrayinska-shkola

³³ <https://zakon.rada.gov.ua/laws/show/2145-19#Text>

³⁴ Про повну загальну середню ос... | від 16.01.2020 № 463-IX (rada.gov.ua)

³⁵ Нова українська школа: основи Стандарту освіти. – Львів, 2016. – 64 с.

<http://education-ua.org/ru/draft-regulations/852-nova-ukrajinska-shkola-osnovi-standartu-osviti>

³⁶ Про внесення змін до Державного ... | від 24.07.2019 № 688 (rada.gov.ua)

³⁷ www.kmu.gov.ua/npas/pro-deyaki-pitannya-derzhavnih-standartiv-povnoyi-zagalnoyi-serednoyi-osviti-i300920-898

³⁸ Освітні стандарти, навчальні плани та програми | Міністерство освіти і науки України (mon.gov.ua)

³⁹ www.kmu.gov.ua/npas/pro-deyaki-pitannya-derzhavnih-standartiv-povnoyi-zagalnoyi-serednoyi-osviti-i300920-898

PILOTING THE NEW EDUCATION STANDARD: THE EXPERIENCE OF A UKRAINIAN TEACHER

'I have a strong belief that primary school teachers are forming a new nation. Now I am confident that in many years' time I will live in a more developed European country, run by my students.'

Olga Miroshnykova is a primary school teacher at the 294th Kyiv school who always found herself using online materials or creating her own learning resources rather than using the prescribed textbooks available at school. In 2017, she took the opportunity to pilot the new State Standards for Education through the 'Primary School: Education for Life' regional programme. She went on to pilot materials for NUS and become a trainer for the roll-out programme from 2018.

The pilot introduced a whole new way of teaching, including taking students beyond the classroom to learn, and using new techniques and learning tools. The challenge Olga faced was the need to constantly answer the question: 'Why do you need this?'

It was necessary to convince parents of the value of this new approach, so Olga created an online channel to inform them of what their children were doing and why. Every day she made a small photo report about the work in the classroom, with short videos to help parents see tools such as Lego learning in action and to understand the learning outcomes their children were achieving. She developed this further with a more personalised 'Teacher-Parent Communication Diary', sending parents regular updates on their child's progress. While it took time, more parents gradually took an interest, even offering to support activities, accompany trips and contribute their expertise to the classroom. For example, one parent offered a lesson in financial literacy.

The approach was all about putting the child at the centre. Step by step, the small school developed a new culture to ensure that each child would feel free at school and would recognise the value and importance of their teacher and the learning they experienced. Olga now connects with the children by sharing more feelings and by relating learning to her own life and childhood, allowing more open relationships between teacher and child. She uses different language, often saying 'I am grateful to you for the question', 'I am glad you handled this task' or 'I was pleased to spend time with you'. This is moving away from the traditional culture where language is more direct and unambiguous, using terms such as 'Not so', 'Incorrect answer' or 'School said...'. For the children, their learning experience has changed and become more experiential. More time is spent in practical activities outside the classroom, for example practising maths by calculating shopping prices in the supermarket.

There is more involvement from the children in their own learning by agreeing with them on what and how they learn. Their motivation is often shown by a common opening question of 'Why?'. Everyone is also more open to making, and learning from, mistakes, and Olga shows her students that she too can make mistakes. Students have become more curious in their learning and have developed skills around collaboration and teamwork.

Olga sees the success of the process through the acknowledgement provided by parents that these have been changes for the better for their children.

Support for teachers and trainers

- Higher-level qualifications introduced for primary school teacher training.
- Comprehensive training of trainers across the 25 ITTI completed in 2018, enabling them to roll out curriculum training.
- All 85 500 teachers from primary education trained in the new curriculum through the 25 ITTIs.
- Curriculum builder tool⁴⁰ launched as a practical online tool to assist teachers in designing new learning programmes.

Building links and opening education to the outside world

- Broad-based consultation conducted with business, community and other stakeholders through the design and implementation process of the NUS.

Teaching and learning activities

- EntreComp and DigComp utilised to underpin all curriculum and learning outcomes.
- Pilot project on the introduction of electronic textbooks started.
- Testing of new primary curriculum carried out in pioneer schools across Ukraine.

Communication activities

- Wide-ranging consultation conducted on the development of NUS involving diverse areas of national and regional government, educational institutions, businesses, parents and learners.

2.5 Next steps

Framework for policy development

Continuing commitment to the key competence approach

The policy and broader stakeholder commitment have survived recent governmental and institutional changes. While development is still ongoing, there is a clear path ahead with confirmed milestones towards the introduction of a new key-competence-based curriculum at all levels of education. According to Ukrainian experts, this sustained commitment is crucial to successful implementation and shows both the importance attached to this reform process in Ukraine and the value attached to European models of education and key competences.

Expanding monitoring and evaluation approaches

At primary school level, the implementation process is revealing insights into how the reforms are affecting schools, teachers and learners. However, a more systematic approach to monitoring and evaluating the progress and results of reforms is needed. Efforts are now being made by the Education Reform Support Centre non-governmental organisation (NGO) and the Reform Support Team at the MoES, in partnership with researchers from Poland (Warsaw University) and the Lego Foundation, to expand the monitoring and evaluation processes. Planned actions include research comparing learners who are not impacted by changes (because they are going through school ahead of the changes being made in lower grades) with learners in the 150 pilot schools who pioneered the work at primary level. The methods include questionnaires and focus groups for teachers, stakeholders, learners and parents, with an emphasis on understanding the learners' experience

⁴⁰ <http://nusconstructor.activemedia.ua/>

within the NUS. The education authorities and experts seek this feedback and evidence to identify areas of failure and success and to draw out key information to improve the next stages of implementation. In recent years they have launched a variety of studies to create the evidence base for monitoring⁴¹ the progress of reforms.

Support for educational institutions

Continued reform of the curriculum

The timeline for the NUS reform runs to 2030. The current approach is to introduce the new curriculum progressively, in one grade each year. Thus, the new curriculum will be introduced in the fifth grade in September 2022, with the full roll-out to the first nine grades by 2027. The plans for upper secondary and vocational schools are now being drawn up to be implemented starting from 2027, on completion of the basic secondary education curricula reform.

Creating leaders

Leadership is seen as an important variable in the implementation of such extensive reform, and research shows that enhancing the capacity of principals and school managers to lead school teams and create a shared vision can be central to successful reforms⁴². Training for education and school leaders is therefore considered. The first step in this process would be the development of a new standard for school principals⁴³.

Ongoing development of the Competence Potential

As implementation progresses, the Competence Potential document is being reviewed and refined. Since the document was first published in 2016⁴⁴, the responsible team has continued to develop it in greater depth, particularly in the three transversal competences – entrepreneurship, digital and citizenship. This supports the idea of the document as an adaptable reference that can act as a source of inspiration for schools, teachers and teacher trainers to understand the potential for key competence development in the different subject areas and the various levels of primary and secondary education. The plan is to continuously adapt the Competence Potential to maintain a clear vision of how to embed key competences and the associated learning outcomes in the NUS curriculum.

Increasing the flexibility of schools and teachers

Ukraine has reformed its education system to provide the flexibility needed to include key competences in locally designed learning programmes. This has been achieved with the help of national guidance and recommended methods and tools. The challenge now is to see these flexible curricula with their embedded key competences fully translated into locally designed teaching and learning.

⁴¹ Report on the first stage of the research (2019–20), see:

https://mon.gov.ua/storage/app/media/nova-ukrainska-shkola/NUSH_monitorynh_7.08_2.pdf

⁴² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52014XG0201%2801%29>

⁴³ This would be supported by the Finnish partners.

⁴⁴ www.kmu.gov.ua/npas/pro-deyaki-pitannya-derzhavnih-standartiv-povnoyi-zagalnoyi-serednoyi-osviti-i300920-898

Support for teachers and trainers

Enhancing the professionalisation of teachers

Ukraine has introduced voluntary teacher certification through the newly established Service of Education Quality of Ukraine and the Ukrainian Centre for Education Quality Assessment. However, teachers perceive a contradiction between the increased flexibility they now have in relation to the content of their curriculum and the increased quality assurance of their work. In future years, the certification process will become compulsory, and more work is required to address perceptions that the teacher certification is a regulatory tool.

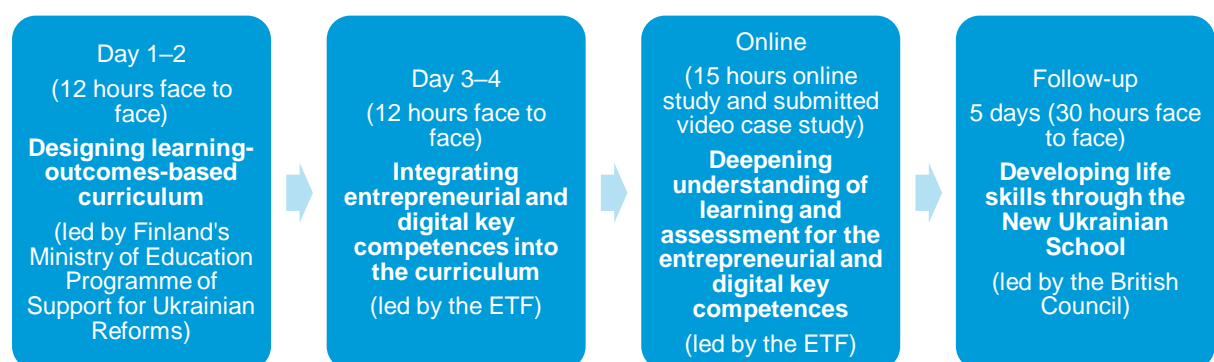
It is hoped that opening up the potential for competence-based education and how it can be nurtured across different subjects will inspire reforms and new developments in supporting areas such as tools for teachers to self-evaluate their own competences, renewed teacher-training curricula across all institutions and new opportunities for learners to achieve recognition of practical entrepreneurial experiences in non-formal learning contexts.

Introducing the teacher trainer development pathway

The implementation of the NUS is supported by comprehensive teacher training, which continues at an incredible pace to support teacher knowledge and competence development. To this end, the inputs from different donor agencies are compiled into a linked programme of training for teacher trainers from each ITTI. By the end of their training, these teacher trainers are qualified according to the new training standards of the NUS, entitling them to a teacher-training certificate.

Following their completion of this Ukrainian teacher trainer development pathway, groups of teacher-training experts will launch the training of teachers in each region of Ukraine by delivering face-to-face instruction and rolling out the online training (15 hours' study time) developed by the ETF. Their task is to support teachers across Ukraine to understand the material and the demands so that they can construct their own curriculum.

FIGURE 2.1 UKRAINIAN TEACHER TRAINER DEVELOPMENT PATHWAY, FOR ITTI TEACHER TRAINERS SUPPORTING NUS



Teaching and learning activities

Enhancing the curriculum builder tool

The curriculum builder tool⁴⁵ has been developed to support and guide teachers in creating their own learning programmes based on the subject areas and key competences of the NUS. This online tool offers a unique digital environment to help teachers develop learning activities. Nevertheless, there remain opportunities to enhance this tool, for example by including concrete examples of good practice to exemplify learning and assessment of these key competences across a range of subject areas.

Building links and opening education to the outside world

Developing opportunities to link business and community with education

Ukraine fully acknowledges the importance of introducing real-life contexts in learning environments through curriculum design and teacher training. However, there appears to be less emphasis on engaging business and community partners in the design and delivery of teaching and learning. A next step for the NUS must be to explore and identify opportunities to better engage businesses and local communities in teaching and learning, alongside the development of guidance for schools and VET institutions.

Communication activities

Developing stakeholder engagement and communication

The government and the network of ITTIs have made a concerted effort to promote the value and importance of the NUS concept, developing a critical understanding across a wide range of stakeholders including, perhaps most importantly, parents. Parents with children in the pilot schools were initially challenged to fully understand the new approach, and teachers and education leaders had to treat communication with parents as a core part of the piloting process. Not only did they have to inform parents of their child's new learning experience; they also had to engage them in supporting it. This effort needs to be continued and consolidated with the help of lessons learned as the NUS is rolled out nationally.

⁴⁵ For more information on the curriculum builder tool, see: <http://nusconstructor.activemedia.ua/>

CHAPTER 3

GEORGIA – FOSTERING ENTREPRENEURIAL COMPETENCES IN VOCATIONAL EDUCATION

Georgia has committed to large-scale education reforms that also cover the VET system. The reforms have high-level political support and are backed by international donor agencies. The VET reforms seek to change the VET system by lifting regulatory barriers and promoting an entrepreneurial and digital culture and mindset among VET institutions and their staff.

A national entrepreneurship action plan that embraces education and training was recently launched. It brings together various initiatives supported by the government and donor agencies, such as the inclusion of entrepreneurial teaching and learning in all public VET institutions and an in-depth update of the compulsory VET entrepreneurship module.

This chapter explores why and how Georgia is introducing and embedding the entrepreneurship key competence in VET. It outlines the background to the reforms, the current state of play and the main hurdles that lie ahead.

3.1 Background to the reforms

VET in Georgia is facing significant challenges. The quality of education has been under sustained pressure for many years and, as a result, its attractiveness has suffered. It cannot meet current labour market demands. Recent research shows that the Georgian education system does not equip learners with the basic key competences they need for life and work (Li et al., 2019).

Poverty figures compare unfavourably even to those in neighbouring countries, and inequality is rising. Educational access and outcomes vary among the different regions of the country.

There is little industry in Georgia. Most employment is in low-income and low-productivity sectors. As a result, there is a strong drive to support economic growth through the existing small and medium-sized enterprise (SME) base and through the development of a more vibrant start-up environment.

VET must be developed in order to tackle these challenges.

The SME sector is going through a process of policy, regulatory and institutional renewal. VET has been a strategic priority of the Georgia 2020 vision outlined in the Social-economic Development Strategy of Georgia (Government of Georgia, 2020). Wide-ranging and complex reforms have been driven by the Vocational Education and Training Development Strategy 2013–2020 (MoES Georgia, 2013) and the Unified National Strategy of Education and Science 2017–2021 (MoES Georgia, 2017a). These range from the development of work-based learning and apprenticeships to new quality assurance systems and the introduction of higher standards within the authorisation processes for public and private VET institutions. The reforms are supported by ongoing efforts to support the learning needs of potential growth sectors such as energy, tourism and agri-business.

System challenges

The current reforms address clearly identified system challenges that are widely recognised and are not unique to Georgia.

- **VET is seen as a second-choice educational pathway.** Only 2% of students aged 15 years are enrolled in vocational courses, compared to 14% on average across OECD countries.
- **Lateral pathways are poorly developed.** Despite government attempts to build bridges between the different post-secondary education sectors, it remains difficult to transfer from VET into higher education. In the current reforms, a general education component is being integrated into VET programmes, but this initiative is still in its pilot phase.
- **There is little cooperation between VET and companies.** The network of VET institutions is small and lacks cooperation with companies. A recent government survey showed that only 5.9% of businesses interviewed were willing to cooperate with VET institutions.
- **VET teaching is an unattractive profession.** Despite increases in recent years, the pay for VET teachers remains low.
- **VET teachers have little, or outdated, industry experience.** The lack of industry experience of VET teachers is compounded by a general lack of focus on 21st-century skills such as the entrepreneurship and digital key competences.

There is a clear will to address these challenges, in part by forcing the introduction of transversal key competences such as entrepreneurship and digital skills into the VET system⁴⁶. However, despite national strategy developments and the more recent national entrepreneurship action plan, it has not proven easy to embed them into mainstream VET.

There is a lack of understanding of the entrepreneurship key competence approach. The primary focus is on business theory, not practice. There is also a lack of appropriate technology. Wi-Fi access is rarely found in VET institutions across Georgia and ICT exists only as a distinct subject, with limited equipment that is often kept in computer labs.

Initial and in-service teacher training does not support the delivery of entrepreneurship education in the digital age. There is little existing understanding or practical experience of teaching entrepreneurship or digital key competences among VET teachers.

EntreComp competences (such as creativity, mobilising others and taking initiative) are not sufficiently developed through the current Georgian VET entrepreneurship module, which concentrates on business knowledge, planning and management.

Entrepreneurship is taught at a rather low level. A mapping of the EntreComp-aligned learning outcomes within the Georgian VET entrepreneurship module shows that almost all of them address the foundation level, while very few address the advanced level (see Annex 5). Compounding this is the focus on knowledge-based learning, rather than experiential learning to develop an entrepreneurial mindset and skills.

Textbooks and teacher guidance do not support the key competence approach. There are very few teaching resources in the Georgian language.

⁴⁶ For the most recent review of key competence development in the Georgian education system, see ETF (2020b).

Creating a stronger and more inclusive infrastructure for VET

The network of VET institutions has been reviewed and several poor-quality institutions have been closed down. The Education and Scientific Infrastructure Development Agency⁴⁷ is building new schools in line with new standards for buildings and equipment that relate not only to better learning environments but also to the physical inclusion of people with disabilities and special needs.

Increasing quality through a new VET authorisation processes

A new five-step standard for VET institutions was introduced by the National Centre for Educational Quality Enhancement⁴⁸. All new VET institutions must meet higher minimum requirements, including:

- a mission and vision that include organisational structure, processes and quality assurance;
- an education programme that includes mechanisms for programme development, for example through feedback from students or employers;
- student support services covering rights, mobility, education content, career guidance, extracurricular activities and student administrative support;
- human resource policies that include teacher professional development, needs evaluations and performance evaluations;
- sufficient financial and technical resources.

Transferability between VET and general education learning tracks

VET professional programmes are now being raised to the same level as general secondary school programmes. This is expected to improve their relevance and attractiveness for the next generation of students. VET professional programmes have a minimum 2.5-year duration, and starting from 2020 all programmes have become modular. These modules are approved by the national authorities. A renewed national qualifications framework is more in line with European national qualifications framework models and provides a stronger basis for building new programmes and qualifications.

Aligning to the needs of the labour market to enhance employability

In 2013, supported by EU funding, a new methodology for developing occupational standards and related vocational education programmes was introduced. It required the active involvement of employers in the preparation and revision of occupational standards. In 2015, the National Centre for Education Quality Enhancement implemented the Occupational Standards Development Support programme to create 99 occupational standards for the most sought-after professions⁴⁹. Sector councils reviewed, validated and approved 54 occupational standards. Following this, 101 assessment standards were developed for relevant qualifications.

Pilots of work-based learning through dual programmes have begun. In these pilots, private companies and educational institutions can jointly implement education programmes to respond to the needs of both employers and students. In 2019, 100 students were enrolled in dual-learning programmes with 50 companies, and expansion plans were already in place. Supporting this through

⁴⁷ <http://esida.gov.ge>

⁴⁸ <https://eqe.ge/en>

⁴⁹ These professions include construction and architectural design; agriculture, forestry, fishing and veterinary studies; industry and food processing; social studies, journalism and communication; business, administration and law; and health care and social welfare.

public–private partnerships, four new vocational education centres⁵⁰ were founded in 2015 in direct cooperation with companies.

Support for innovative learning

Fabrication laboratories (FabLabs)⁵¹ have been established in 14 VET institutions. These are at different stages of development and uptake. Monitoring of those that are operating shows the need for dedicated coordinators. Training for these has been provided through the country’s TechPark network⁵², which helps institutions to define the coordinator’s job and formulate a vision of how the FabLab can be used to complement both curricular and extracurricular activities. A network of FabLab coordinators has now been established, with FabLab clubs started in many institutions.

A Law on Vocational Education and Training was passed in 2018. This removed the ban on commercial activities by VET institutions; in the past, this ban had hindered the development of real-life business activities. VET institutions are now exploring interaction with the business world as part of the study activities.

3.2 Designing a new way forward

Comprehensive strategy

The Georgian Unified Strategy for Education and Science was launched in 2017 (MoES Georgia, 2017a) with an accompanying action plan published in 2019⁵³. It provides strategic objectives for each level of education. For VET the three strategic objectives are:

1. matching vocational education with the requirements of the labour market, and internationalising it;
2. basing access to vocational education on the principle of lifelong learning;
3. popularising professional education and increasing its attractiveness.

The strategy emphasises entrepreneurial and digital competences for schools, VET and higher education as a critical expansion to their traditional remits.

The Vocational Education and Training Development Strategy for 2013–2020 (MoES Georgia, 2013) predates this Unified Strategy but complements its ambitions and includes a specific pillar on innovation, creativity and entrepreneurship in VET. This pillar recognises the importance of entrepreneurial skills and capacity for the employability of VET graduates.

The 2018 VET law echoed this emphasis on entrepreneurial teaching and learning, but went further, as mentioned above, by allowing VET institutions to set up commercial or non-commercial entrepreneurial entities to support vocational education⁵⁴ and generate profit, something they had

⁵⁰ Tbilisi Railway College – in partnership with JSC Georgian Railway; Gudauri Adventure Tourism School; Georgian Technical Training Centre with the participation of BP in Georgian Technical University; Construction College ‘Construct 2’ in Zestafoni – in cooperation with the construction company M2.

⁵¹ Fabrication laboratories are small-scale computerised workshops with digital production solutions (such as 3D printing) that could previously typically only be achieved in mass production.

⁵² <https://gita.gov.ge/eng/static/45/teknoparki-tbilisi>

⁵³ https://mes.gov.ge/uploads/files/MESCS_Action%20Plan_2019.xlsx

⁵⁴ <https://mes.gov.ge/uploads/files/VET-Law-Engl.-Sep2018.pdf>

previously not been allowed to do. This increasing focus on the entrepreneurial culture of the institution is seen as a route to developing a more coherent approach to entrepreneurial teaching, learning, staff development and an institutional mindset.

Action plan for an entrepreneurship education ecosystem

The actual action plan⁵⁵ that came out of the strategy outlined a series of necessary actions across the following seven objectives:

1. create a platform for entrepreneurial learning (through the development of a national working group that supports and guides the implementation of this action plan);
2. support extracurricular entrepreneurial learning (by developing an understanding of the needs of VET in this area and by building capacity through conferences, information campaigns and practice-exchange opportunities);
3. create a model for entrepreneurial culture in VET (by piloting initiatives that support the development of entrepreneurial culture and mindset in VET);
4. integrate entrepreneurial components into career guidance education and counselling to encourage students to consider entrepreneurial career pathways;
5. develop entrepreneurship as a key competence (by embedding the entrepreneurship key competence in schools from grades 1 to 9 and in the VET curriculum via the compulsory introduction of the new entrepreneurial learning module);
6. develop a concept and activity plan for innovating in professional education (by integrating the entrepreneurial module with FabLabs and introducing a series of creative start-up events and activities such as the British Council's Creative Spark bootcamps and incubators);
7. develop entrepreneurial policy in VET (with the help of training module for VET teachers and managers and translated tools that help VET institutions to develop creative mindsets among their students and pathways towards starting up in business).

The action plan brings together several government strategies, providing a clear set of actions with a greater level of detail. It comes with the added depth of identified leads and an allocated budget for each action. The plan also reflects the results of government and stakeholder workshops supported by the ETF.

The Georgian education authorities want to ensure that VET reform initiatives such as these are coherent with the overall VET strategy and associated actions plans. A number of principles of the strategy and action plans were integrated into the development of VET teacher standards that were finalised in early 2021 and are supported by the World Bank⁵⁶.

Changes continue at pace, and the MoES now actively promotes the ongoing changes in VET through the national media in order to share and develop the vision of a modern and entrepreneurial VET sector that has the capacity to support the socioeconomic development of Georgia.

⁵⁵ National Action Plan for Lifelong Entrepreneurial Learning 2019–2020.

⁵⁶ <http://pubdocs.worldbank.org/en/225831564394032968/Strengthening-Teacher-Quality-in-Vocational-Education-and-Training-VET.pdf>

The broader SME Development Strategy

Coherence with policy and action plans from other areas of government shows that there is broad support for the inclusion of entrepreneurial skills and culture in the education system, and particularly in VET. The SME Development Strategy 2016–2020 (MoESD Georgia, 2015) identified five priorities. ‘Entrepreneurial skills and culture’ was one of these, highlighting the recognition of entrepreneurial competences in the labour market, for start-ups and for unlocking the potential of emerging sectors such as tourism and agri-business.

Three areas are essential for realising the entrepreneurial potential of the VET system, namely leadership, teacher training and education–business cooperation. In fact, employers and sectoral associations⁵⁷ are directly engaged in the development and delivery of VET; in future, strong support should also be ensured by key institutions such as Enterprise Georgia⁵⁸ and Georgia’s Innovation and Technology Agency⁵⁹. One of the loudest calls emerging from the SME Development Plan was for the development of a Strategy for Lifelong Entrepreneurial Learning. This was launched in 2019 (see section 3.3).

FIGURE 3.1 FRAMEWORK FOR SME DEVELOPMENT IN GEORGIA 2016–20



⁵⁷ Infrastructure Construction Company Association (<http://icca.ge/>), Georgian Logistics Association (<http://gla.ge/>), Georgian Wine Association (<http://gwa.ge/>), Information Technology Association of Georgia (<http://itag.ge/>), Georgian Tourism Association (www.tourism-association.ge/), Georgian Chamber of Commerce and Industry (<https://gcci.ge/en>), Georgian Farmers Association (<https://gfa.org.ge/>), and others.

⁵⁸ Enterprise Georgia (www.enterprisegeorgia.gov.ge/en/home) is the key implementing partner of the Produce in Georgia government programme from the Ministry of Economy and Sustainable Development. It is responsible for business support, export promotion and investment in Georgia’s various sectors.

⁵⁹ Georgia’s Innovation and Technology Agency (www.gita.gov.ge/eng) is responsible for the support of innovation and technology in the country.

EU and US support advocating key competences

In March 2018, the ETF launched a new initiative in Georgia to support the systemic adoption of the two European competence frameworks, EntreComp and DigComp 2.1. The objectives of the project were to inform the above strategy and action plan for the development of these competences within VET in Georgia and to drive the creation of a related competence-based approach in education curricula. The ETF project worked in close dialogue with a parallel US funding initiative.

Importantly, the project promoted a broader use of key competences in subject areas, not only in entrepreneurship education. The approach drew on inspiring practice developed with the support of the ETF in Ukraine through the implementation of that country's NUS programme. Working closely with the national Teacher Professional Development Centre in Georgia and other stakeholders, including the MoES and the United Nations Development Programme (UNDP), the goal was to design practical support and guidance to help teachers and trainers develop the knowledge and practical skills needed to integrate the key competences into VET planning and learning programmes. The initiative has contributed to the training of expert trainers to cascade training to large numbers of VET trainers in the country. The training module has been designed and master trainers were trained in May 2019. These actions need to be maintained and scaled up to ensure their effective impact on VET education⁶⁰.

The US State Department funded the Capacity Building Through Integration of Project-Based Learning Methodology into Entrepreneurship Curricula of VET Institutions programme, which ran from September 2018 to September 2019. This was a partnership project with the Georgian MoES and the University of California Davis D-Lab⁶¹. The project had three aims:

- introduce a project-based learning methodology into the entrepreneurship curricula of VET;
- train entrepreneurship teachers at VET institutions in project-based learning;
- test the project-based learning methodology in three VET institutions in Georgia.

This work supported the renewal of the entrepreneurship module that was already delivered across all VET institutions by incorporating the project-based learning methodology into design and delivery. The EntreComp framework was introduced and the final training content has now been redesigned and mapped to ensure it delivers EntreComp competences. The developed module was piloted across three VET institutions⁶². It was supported by two thematic training workshops delivered to VET leaders and managers and to VET entrepreneurship teachers implementing the curriculum in their courses.

⁶⁰ With EU support, in the framework of the Support to Public Administration Reform in Georgia project, a report – 'Policy Review on Key Competence Development in Georgia' – was prepared in March 2020 by the expert Natia Andguladze (ETF, 2020b).

⁶¹ <http://envdevelopment.org/capacity-building-through-integration-of-project-based-learning-methodology-into-entrepreneurship-curricula-of-vet-institutions-in-georgia-3/>

⁶² Two VET institutions were in Tbilisi (Tbilisi Gldani College and ITVET) and one was in Rustavi (Modus College).

AN ENTREPRENEURIAL TEACHER

Tamar is a teacher of entrepreneurship in a vocational school in Zugdidi, West Georgia. She teaches level 3 and level 4 students. Tamar owns a small event-management firm. This is her fifth year of teaching in VET. She is also a guest lecturer at a regional university. Tamar's students work on an entrepreneurial project from the very first week of the semester and are engaged in solving real-world problems. The aim of this learning is to use entrepreneurial processes to create real social, cultural or financial value for others.

The real-world context reflects students' personal concerns and interests, and the challenges in their lives. At the same time, the project is focused on specific learning objectives inspired by the EntreComp framework, such as critical thinking, problem solving, communication, self-management and collaboration. Because the real world is also a digital world, digital competences based on the DigComp framework are also used.

Over the period of a project (a semester or a whole year), students engage in a rigorous extended process of applying knowledge, enquiry, finding resources and taking action. Students give, receive and use feedback to improve their process and products. Tamar uses several methods and methodologies. Using the flipped classroom approach, she sends pre-recorded new material through interactive video to her students before the class with number of quizzes built in to learning videos. The class time is dedicated solely to the project and its development. Tamar uses design thinking methodology to teach students how to solve problems creatively, how to fail fast and how to use a human-centred approach when designing solutions. Project-based learning is also one of the key methodologies used, but it is taken further because everyone in the class has to design and create real social, cultural or financial value for others through real-life projects.

Tamar encourages the students to get in touch with potential users of their products and services outside the college, and to use this peer review feedback to help further develop and streamline their work. Tamar is also involved in peer review for others: she is reviewing the work of her colleague, who also teaches entrepreneurship at the same college.

One of the groups in Tamar's class is developing a Georgian fashion brand for pets. They have already conducted a feasibility study and developed a brand concept and prototype of the first collection, and are currently working on a self-made website and export strategy. Meanwhile, Tamar is assisting students to make their project work public by explaining, displaying and presenting it to people beyond the classroom. She is preparing students for pitching sessions and advocating for the project with the VET principal to ensure start-up support for the project from the school. The students will test-trade some prototype products, creating financial value through this real-life business-based project.

Another group has worked with the community to discover local needs, deciding to address the problem of stray dogs. The campaign has been developed in collaboration with the community to ensure the messaging is relevant and has impact. Tamar supported students to create social and political influence at local and national level. The group is now supporting the community to take practical action at local level through community hubs and relevant NGOs, while also increasing visibility and making policy recommendations at national level to create sustainable change. Through their work, they create social value for others through this real-life social-impact project.

Towards entrepreneurial VET institutions

With the help of the ETF and in collaboration with the UNDP, the Georgian education authorities have been working towards a bespoke concept of entrepreneurial VET in Georgia. Initial research was carried out jointly with the ETF in 2019 and early 2020. The concept was developed through a workshop with VET institutions and builds on recent research and recognised European models of entrepreneurial policy and practice development.

Pilot training for entrepreneurial VET institutions was launched in December 2019, bringing together principals from VET institutions across Georgia. This has led to broad-based reflections based on perspectives from different colleges. The concept became the basis for the programme of support for VET. This approach and the concept developed during this first-stage piloting were further reviewed and developed. In 2020, with UNDP support, the first group of colleges embarked on pilot implementation, with a plan to roll out the programme to a wider VET network on a matching basis through the joint efforts of the government and international partners. Pilot schools have been chosen and two implementing organisations, Modusy and Iberia, were selected by the UNDP to conduct the programme. More information on this can be found in Annex 6.

The concept describes a vision of a VET institution that uses more flexible structures to support the delivery of labour-market-relevant VET programmes and engages with businesses and stakeholders more directly. This vision allows the potential of real-life business engagement to be explored through college-led enterprises. It also motivates teachers to model and develop entrepreneurial skills and an entrepreneurial mindset through their own teaching. It instructs leaders and managers to embed an entrepreneurial culture within the college.

Embedding the development of digital key competence within teacher practice

Resources and training for digital learning have been developed and piloted in selected vocational programmes for teachers and ICT specialists⁶³. However, vocational school principals have not been involved in this. As a result, they have little awareness about the requirements of the new skills needed for teaching and learning. While evidence from the pilots shows that teachers were motivated by gaining credits for the inclusion of digital learning such as digital content creation, peer training and blogging, this training in digital learning has been used primarily for demonstration lessons, in which teachers demonstrate skills to colleagues, rather than in everyday teaching.

Subsequent training in 2017 through a project⁶⁴ awarded by the Millennium Challenge Corporation⁶⁵ offered more classroom impact. In this initiative, subject teachers flipped their classrooms using project-based learning. They recorded video lessons and designed new syllabi and classroom activities. Most teachers continued to use the methodology and digital content in everyday learning, despite limitations of access to computers and the internet in schools. Schools also applied the European Commission's SELFIE⁶⁶ self-reflection tool, with support from the ETF and the EU Joint

⁶³ These programmes include those for electricians, and for occupations involving milk processing, wine making, fruit farming and vegetable farming.

⁶⁴ The Strengthening TVET Provider Practice (STPP) Grants Scheme under Industry-led Skills and Workforce Development Project.

⁶⁵ www.mcc.gov/where-we-work/country/georgia

⁶⁶ https://ec.europa.eu/education/schools-go-digital_en

Research Centre (JRC). This tool helps schools to assess where they stand with learning in the digital age and with supporting the development of digital competences.

Improved access

Alternative procedures for admission to professional programmes have been established for people with a disability and those from other marginalised groups. Individuals could, for example, take professional tests in their native language. New adult education routes into VET and short-term professional courses for job seekers have opened access to education, as have programmes for current and former prisoners. New actors have been authorised as VET providers to ensure that VET is adaptable for upskilling and reskilling. A government voucher system ensures that VET is free for adult learners, and certification of qualifications is provided by the government.

3.3 Progress by 2020

In summary, the work undertaken by 2020 covers⁶⁷:

Framework for policy development

- Policy coherence achieved across government through a strategy for the development of transversal key competences.
- Action Plan for Lifelong Entrepreneurial Learning launched.
- Quality assurance system for VET institutions improved.
- Infrastructure supporting VET provision improved and the network of colleges expanded across all regions of Georgia.

Support for educational institutions

- Modular, competence-based VET programmes and dual programmes introduced.
- Pathways carved out between VET and other areas of lifelong learning, including higher education.
- VET across all areas of the country made more inclusive and accessible.
- VET courses and qualifications aligned with labour market demands. Occupational standards redefined. Courses, programmes and providers diversified. Work-based and dual learning promoted.
- FabLabs established in 14 VET institutions. They offer new learning pathways supported by dedicated coordinators.
- Adult education system developed.

Support for teachers and trainers

- Resources and training for digital learning developed and piloted in selected vocational programmes for teachers. Entrepreneurship teachers at selected VET institutions trained in project-based learning.

⁶⁷ VET Development Strategy 2013–2020 and Action Plan 2013–2017:

<http://mes.gov.ge/content.php?id=4336&lang=eng>; Education and Science Strategy and Action Plan for 2019 is the latest adopted by the government: <http://mes.gov.ge/content.php?id=7755&lang=eng>; reports on the implementation of the strategy: <http://mes.gov.ge/content.php?id=8806&lang=eng>

Funding

- More diversified VET funding models developed.

Teaching and learning activities

- Renewed entrepreneurial module now mapped to EntreComp.

Building links and opening education to the outside world

- Social partners and civil society more engaged in the development of VET policy and management.
- VET institutions can now establish commercial and non-commercial enterprises to provide or emulate real-life contexts for teaching and learning.

Communication activities

- Public information campaigns publicise the improvements made to VET infrastructure and programmes.

3.4 International support

A range of international partners have come forward to support Georgia's drive for change. They work closely with the government and include organisations from the EU and its Member States, the World Bank and the US (the State Department, the Millennium Challenge Corporation and the US Agency for International Development). Delivery partners include the UNDP, the Danish Red Cross, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Save the Children and educational institutions such as Tbilisi State University.

As previously mentioned, the ETF has provided continuous support to Georgia⁶⁸ in entrepreneurial learning and the development of the entrepreneurship key competence, VET support for employability and economic growth, and system-level change linked to the improvement of policies for enterprise skills development. The latter is monitored and evaluated through the SME Policy Index (OECD et al., 2020).

The EU provides continuous funding. Its large-scale Skills4Jobs⁶⁹ funding programme aims to fight unemployment and address the mismatch between available skills and the needs of the labour market. Through Skills4Jobs, occupational standards have been updated, new modular curricula designed, and teachers trained. The project has directly affected entrepreneurship through its support to the introduction of entrepreneurial learning in all public VET institutes in Georgia. Complementing this, the EU4Youth project is currently working on entrepreneurial learning and employability for young people, targeting the social and economic inclusion of this group⁷⁰.

The World Bank funds the Innovation, Inclusion and Quality (I²Q) project 2019–26⁷¹ that supports the development of human capital to increase innovation, entrepreneurship and productivity. It focuses on

⁶⁸ www.etf.europa.eu/en/regions-and-countries/countries/georgia

⁶⁹ https://eeas.europa.eu/delegations/georgia_en/69572/%20EU%20and%20Government%20of%20Georgia%20launch%20new%20150%20M%20GEL%20programme%20supporting%20vocational%20education%20and%20labour%20market%20development

⁷⁰ https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/factsheet_eu_support_to_youth_in_eap.pdf

⁷¹ <https://projects.worldbank.org/en/projects-operations/project-detail/p168481>

better access to preschool education, higher-quality education and improved learning environments, introducing student-centred, competence-based learning. One of the supported initiatives is STEAM, an extracurricular entrepreneurial skills clubs for schools.

A number of relevant actions were completed in 2019. The US Embassy in Georgia funded a 2018–19 project called Capacity Building Through Integration of Project-Based Learning Methodology into Entrepreneurship Curricula of VET Institutions⁷². It introduced innovative pedagogies into curricula, supported by piloting and teacher training. The Millennium Challenge Corporation compact programme addressed economic growth and poverty reduction by providing US-supported large-scale investment in the education sector in Georgia. Over five years up until 2019, the programme invested significantly in general, vocational and higher education, for example supporting initiatives to align vocational education provision to the needs of the local economy⁷³.

GIZ has been running the Private Sector Development and Technical Vocation Education and Training, South Caucasus initiative aimed at supporting implementation of dual VET programmes; strengthening engagement of the private sector in VET through reinforcement of sectoral association and using their capacity; facilitating the development of human, educational and material resources in selected sectors; supporting VET providers to develop mechanism and tools for assessment; and supporting the Georgian Ministry of Education and Science in the development of regulatory documents.

EUVEGE (Technical Assistance to Vocational Education and Training and Employment Reforms in Georgia) was an EU-funded programme supporting employment and vocational education. The programme focused on strengthening capacity within ministries and associated institutions to implement reforms, and coordinating, monitoring and evaluating contracts delivering change in the areas of employment and VET. Two examples of its work are the development of labour market forecasting and the creation of a labour market information system for Georgia⁷⁴.

The ISET Policy Institute⁷⁵ is part of the International School of Economics at Tbilisi State University. It has recently received support from the Swedish government to develop an independent economics think-tank and has published several blogs and policy briefs on VET reforms and recommendations. As an independent NGO, its aim is to support social and economic development through independent policy analysis, training and civil society engagement. It is now developing five specialised policy research centres that focus on agricultural economics, macro-economics, private sector development, social development, and environmental and energy economics.

⁷² <http://envdevelopment.org/capacity-building-through-integration-of-project-based-learning-methodology-into-entrepreneurship-curricula-of-vet-institutions-in-georgia-3/>

⁷³ www.mcageorgia.ge/index.php/main/projects

⁷⁴ https://eeas.europa.eu/delegations/georgia/45350/node/45350_uk

⁷⁵ <https://iset-pi.ge/>

3.5 Next steps

Framework for policy development

Setting up a working group to implement the Action Plan for Entrepreneurial Lifelong Learning

One of the commitments of the action plan was the formation of a working group that would guide its implementation and further development. This work will feed into the next SBA assessment process, due in 2022.

Improving VET public–private partnership at national level

A new institutional set-up is needed to better engage social partners in VET development and ensure strong support to VET institutions from sectoral associations. Plans are now under way for a new skills agency that will better reflect the economic landscape of the country and provide more meaningful engagement and a voice for those involved.

Support for educational institutions

Creating entrepreneurial VET institutions: student-focused and outward-facing

The focus is now on developing entrepreneurial VET institutions that build on the new tools and opportunities, such as the ability to create and own enterprises, improved teacher training and the new entrepreneurship module. Pilot schools have been chosen and two implementing organisations, Modusy and Iberia, were selected by the UNDP to conduct the programme. When the pilots are completed in 2021, the experience of VET colleges will be evaluated and scaled up to cover other institutions in the VET network.

Updating the entrepreneurship module in VET

The entrepreneurship module for VET has been reviewed and aligned to EntreComp. Once it has been approved by the MoES, there are plans to introduce it as a compulsory module across all VET programmes.

The next priority should be to take the experience from this module into cross-curricular integration of key competences into the delivery of vocational subjects.

Launching student and staff mobilities through Erasmus+

The government is committed to developing international cooperation in VET through partnerships and exchange programmes. The plan is to fully include Georgian VET in the EU's Erasmus+ programme. Currently students and lecturers can only access short-term collaborations.

Support for teachers and trainers

Building the capacity of teachers and trainers

Key competences training for trainers was carried out in May 2019 with the support of the ETF. This created the expert trainer pool to train other teachers on the newly developed entrepreneurship education module for VET. The module was approved by the director of the Teacher Professional Development Centre⁷⁶, and is thus ready for the implementation of the cascade training that will be available to the wider teacher population across all subject areas. There is already a draft teacher

⁷⁶ www.tpdcenter.ge/eng/home/

toolkit to work alongside the new module, supported by the UNDP, and this now needs to be refined and submitted for ministry approval prior to being published online.

VET principals as leaders of entrepreneurial VET institutions

Georgian VET needs an outward-looking culture of VET management that is team-focused and reaches out to all stakeholders. It must also promote an entrepreneurial culture within institutions as the basis for entrepreneurial teaching and learning. Research shows that such staff team approaches can be particularly effective, building collective awareness and efficacy to drive change⁷⁷.

A VET workshop held in December 2019 focused on the role and contribution of VET principals as leaders of their wider team, as a first step towards a programme of support for leaders and VET staff teams to develop entrepreneurial VET institutions. Following the piloting of the entrepreneurial VET college concept jointly by the MoES and the UNDP, it will be essential to scale up the coaching programme for principals and key staff from pilot VET institutions, starting in late 2021.

Building links and opening education to the outside world

The consultation process around redesigning occupational standards has increased the involvement of industry at national level. However, such involvement is still largely lacking at local level. Quality assurance in VET now includes the requirement for a mechanism to obtain employer feedback on programme design, but more work is needed to support institutions to engage companies and the local community in teaching and learning. This is highlighted in the action plan.

Communication activities

The ministry runs ongoing campaigns to publicise the improvements and changes to the Georgian VET system. Projects also disseminate their results. Intensive public and stakeholder engagement is part of the US Embassy project that developed the entrepreneurship module. This engagement covers, among other activities, three round tables with academic, public and private sector representatives, a video case study to highlight challenges, solutions and recommendations of the implementation, and a final public launch.

These communication activities have proven to have a considerable multiplier effect on project results and should be made a requirement in the future.

The new action plan will bring together communication and dissemination actions, and the working group will be an important channel for them.

⁷⁷ See John Hattie on collective teacher efficacy: <https://visible-learning.org/2018/03/collective-teacher-efficacy-hattie/>

CHAPTER 4

TOWARDS THE DEVELOPMENT OF ENTREPRENEURSHIP AND DIGITAL KEY COMPETENCES: KEY LESSONS FOR POLICY AND PRACTICE

Holding up the case studies from Ukraine and Georgia against each other, some important learning points emerge. The cases can also be held up against international evidence of key competence development in education and training. These lessons can be applied in other countries that are planning to embed the entrepreneurship or digital key competences or are in the process of doing so. We have collected these lessons and grouped them into six action areas.

4.1 Action area 1. Framework for policy development

Key learning points

- Coherence is needed between policies and strategies that originate in different areas of government, initially between economy, education and employment policies.
- There is no single starting point for the design and implementation of policy actions to develop a key competence approach: the developments could be triggered from the education sector side or could be driven by economic or employment policy challenges. Some of the options are reviewed below.
- Government and wider stakeholders from education and business should be engaged through a national steering group, with one institution taking a clear leadership and coordination role.
- Adequate funding is needed for the design, implementation and evaluation of actions.
- Monitoring and evaluation should be a priority from the outset.

The two countries have established strong policy frameworks to underpin planned actions. These frameworks spanned across the education and economic policy portfolios. This also happens in other European partner countries and is reflected in the results of the SME Policy Index. However, in Ukraine the main thrust came from the education environment, which promoted a general key competence approach in education. In Georgia, the thrust was more from the direction of economic policy, with greater emphasis on the need to develop employability and expand the SME base to build additional employment opportunities in the country. Human capital is the 'ultimate resource' (Elert et al., 2019), and policy-makers consider it a fundamental driver of both social and economic growth. These two case studies show how the starting point and policy emphasis may differ, without one necessarily being better than the other.

What were the main success factors?

Three policy factors emerge that affect the level of implementation success.

- The first is the coordination of these actions among government and other stakeholders. In Georgia, the impact of the new Action Plan for Lifelong Entrepreneurial Learning will depend heavily on the commitment and coordination provided by the national steering group behind the

development of the plan. How this steering group communicates with other relevant groups, such as the National VET Council when it is relaunched, is also important.

- Second, there should be adequate funding for the whole process of implementation, from developing the tools, guidance materials and curricula to the structured support and training needed at local level to support implementation. Where funding is sourced from a variety of channels, there should be a clear mechanism to coordinate actions and streamline implementation where possible. This can be an added role for a national steering group, which can ensure contact with or include representation from key donor agencies⁷⁸.
- Finally, monitoring and evaluation should be a priority from the outset, with structured data collection and reflection to improve design, piloting and implementation. Ukraine is upgrading and expanding its evaluation processes to ensure that it gathers enough data from the pilots, while this evaluation work is yet to commence in Georgia. If monitoring and evaluation are not integral to the implementation process and comprehensive in approach, then progress cannot be proven.

The following questions could help educators to structure their action planning in Action area 1.

GUIDING QUESTIONS FROM ACTION AREA 1. FRAMEWORK FOR POLICY DEVELOPMENT	
Ingredients	Guiding questions
Ensure political support for entrepreneurship education at the highest level.	Who in government has the power and influence to make this happen?
Ensure interministerial cooperation.	What is the problem we are facing? Who needs to be involved to solve it? What is the evidence base for government intervention?
Create national policy partnerships or steering groups to bring together policy and stakeholders.	Which stakeholders can help us to understand the best route towards successful implementation of the actions?
Set up a national strategy, framework, or action plan to bring together a vision and commitment to act.	What actions need to be taken? Are some already being taken or committed to?
Commit dedicated resources.	What financial and other resources do we need to make this happen?
Commit to ongoing monitoring and evaluation of the framework.	How will we know if we have been successful?
Link the development of entrepreneurship education to broader national, global and EU priorities (e.g. Sustainable Development Goals (SDGs) 2030 ⁷⁹ , SBA Policy Assessment ⁸⁰).	Can EU policy advice and recommendations help to guide actions? Are there EU or regional priorities in this area, perhaps with supporting funding that can be accessed?
Promote regional entrepreneurship education engagement through devolved administrations with responsibility for education and engagement of local education–business partnerships.	Which regional stakeholders will be important to the successful implementation of the actions at regional level?

⁷⁸ An example of donor agencies as part of a national steering group can be seen in the Imkan Upper Egypt case study (C3, p. 42) in *EntreComp into action* (McCallum et al., 2017).

⁷⁹ <https://sdgs.un.org/goals>

⁸⁰ To learn more about the SBA Policy Assessment in the eastern partner region, see OECD et al. (2020).

4.2 Action area 2. Support for educational institutions

Key learning points

- Support the development of an entrepreneurial culture and mindset within and among educational institutions.
- Create networks and hubs to connect schools and VET institutions to share and learn from others.

Emerging practice advocates the development of entrepreneurial schools or entrepreneurial VET institutions. This implies breaking down institutional barriers to innovation, for example by supporting leaders and managers in building a common entrepreneurial culture and mindset across their institutions. This approach can encourage institutions to embrace new opportunities, such as creating school-led enterprises as real-life learning for students, and student councils to represent the student voice in the running of the school. Schools can become community hubs by opening their resources and facilities to local businesses and community groups.

New models should be pioneered that can be replicated in multiple locations. The case studies in this publication are examples of newly developed practice that can act as sources of inspiration, together with the work of the EU Centres of Vocational Excellence, the UNESCO-UNEVOC i-hubs, and the SELFIE tool, which prepares schools for learning in the digital age⁸¹. Georgia is now creating its own programme of support for entrepreneurial VET, focused on guidance and coaching for leaders and key managers in VET institutions. This can drive more entrepreneurial decision-making across institutions, create openness to change, and permeate into innovation in the teaching and learning process.

It is critically important to connect different educational institutions, for example through peer networks or by supporting local or national entrepreneurial learning hubs. This promotes openness, sharing and collaboration. It encourages students to engage on equal terms with their teachers, school leaders and local entrepreneurs in practical activities, supporting entrepreneurial behaviour and an entrepreneurial mindset.

Networks and hubs could focus on subject or sector topics or enable cooperation to share resources or create common projects. Initiatives such as the EU's eTwinning allow schools and VET institutions to share and learn. Other EU networks tailored to entrepreneurial or digital learning also exist⁸².

FabLabs have been introduced across VET institutions in Georgia, but they operate in relative isolation. Here too, the most urgent need is for national and international networks that allow VET institutions to share ideas and experience on fully integrating such FabLabs into curriculum delivery.

⁸¹ For more information on EU centres of vocational excellence, see European Commission (2019b); for i-hubs, see: https://unevoc.unesco.org/i-hubs/lhubs_Launch_2019 and for SELFIE, see: https://ec.europa.eu/education/schools-go-digital_en

⁸² For information on eTwinning, see: www.etwinning.net/. Entrepreneurship key-competence-related initiatives include the #EntreCompEngage community on Facebook: www.facebook.com/groups/434818530226807/ and EE-HUB: www.ee-hub.eu/. The digital key competence community can be found at All Digital: <https://all-digital.org/>

The following questions could help educators to structure their action planning in Action area 2.

GUIDING QUESTIONS FROM ACTION AREA 2. SUPPORT FOR EDUCATIONAL INSTITUTIONS	
Ingredients	Guiding questions
Conceive, develop and promote a label for 'entrepreneurial schools' and 'entrepreneurial VET institutions'.	How can we create and support teachers, directors and other leadership teams to use an entrepreneurial mindset in all they do? What are the ingredients of an entrepreneurial school or VET institution? Can they become centres of excellence?
Better integrate entrepreneurship as a key competence in the established curriculum for primary and secondary education and VET.	Is the national government promoting a competence-based curriculum? Do our teachers teach these competences at each level of education? Do our students know that they have developed these competences?
Establish a clear progression for entrepreneurial and digital learning between primary, secondary and vocational education.	Do our learning activities evolve at each level of education in both content and complexity?
Determine how the learning outcomes of the European entrepreneurship competence frameworks (EntreComp and DigComp) can best be addressed within national curriculum and qualification frameworks.	Have we mapped curriculum learning to EntreComp and DigComp models to see if we are developing all the necessary competences?
Support the introduction of practical entrepreneurial experiences in primary and secondary education and VET.	Do our learners gain practical and creative learning experiences in which they explore ideas and put ideas into action (e.g. mini companies, entrepreneurial clubs, virtual companies)?
Allow schools and VET institutions to set up real enterprises.	Do our institutions run real enterprises or social enterprises to provide real-world learning opportunities?
Stimulate – through targeted public funding – the implementation of pilot entrepreneurial projects in schools and VET.	Does the government fund pilot projects to test new or innovative approaches?
Ensure sustained funding/support for entrepreneurial and digital learning activities.	Are actions funded at a level that gives schools and teachers the best chance of implementing them successfully?
Build platforms to share and disseminate existing programmes, projects and teaching materials. Exchange good practice.	Are there sufficient opportunities for schools, colleges and teachers to share practice and learn from each other's practice? Do schools and teachers consider membership of international platforms?

4.3 Action area 3. Support for teachers and trainers

Key learning points

- Consulting teachers from the start on planned reforms enhances the implementation of these reforms and the relevance of their work.
- Teachers who are competent, motivated and autonomous in their decisions are critical to the successful application of a key competence approach in education.
- Teacher training and continuous follow-up and support for teachers are essential for change in the education system.
- School- or educational-institution-level support can be critical for teachers to adapt practice and ensure more effective integration of entrepreneurial and digital learning.

The Ukrainian experience teaches us that teachers must be given a voice in how reforms are implemented across the education system. This results in a better implementation of the reforms and greater relevance of teaching and learning. Engaging teachers in changes that affect them and their work should be a primary consideration in all new developments.

However, research shows that the most influential factor impacting on learning is the collective confidence of staff teams that they can create a positive impact on student learning⁸³. This confidence can be strengthened by giving staff a voice in the institution, creating collaboration across the staff team, and providing useful professional development. Ultimately, this confidence benefits the development of a broader entrepreneurial education spirit because it allows for collaboration among entrepreneurial leaders and teachers.

Teachers can also be empowered towards self-efficacy through relevant and useful teacher training. Such teacher training needs to follow a two-pronged approach. On the one hand, teachers, like any citizens, should be supported in honing their own key competences – the ones they need for a successful personal and professional life. On the other hand, teachers need to be supported in upgrading the professional competences that allow them to meet the challenge of being the key facilitators of the modern learning process. The latter typically requires changes to both pre-service and in-service teacher training.

The transition to competence-based education and training paths influences how teaching and learning experiences are designed and delivered by teachers. Learning in this scenario must necessarily be mostly configured as experiential, interactive and often interdisciplinary. There is a focus on the facilitation of learning, rather than on the didactic transfer of knowledge from teacher to student. This change needs continuous support and guidance, and active support from education leadership and culture.

EntreCompEdu

EntreCompEdu is a project funded by the European Commission and led by organisations in seven countries, working together to consult, develop and test the EntreCompEdu Teacher Competence Framework. It identifies the knowledge, skills and areas of experience that teachers need in order to develop students' EntreComp competences through their teaching, and has translated these into a competence framework with supporting teacher training. This framework was tested across six countries, prior to wider roll-out from mid-2020. The online teacher training is directed at educators from upper primary and secondary education and initial VET, and promotes six key principles of entrepreneurial learning:

- facilitate creative thinking throughout the learning process;
- promote active entrepreneurial learning through real-world contexts;
- foster purposeful collaboration both in and beyond the school;
- encourage students to create value for others through their learning;
- stimulate reflection, flexible thinking and learning from experience;
- make entrepreneurial competences an explicit part of learning and assessment.

www.entrecompedu.eu

⁸³ For insights on collective teacher efficacy, see: <https://visible-learning.org/2018/03/collective-teacher-efficacy-hattie/>

The following questions could help educators to structure their action planning in Action area 3.

GUIDING QUESTIONS FROM ACTION AREA 3. SUPPORT FOR TEACHERS AND TRAINERS	
Ingredients	Guiding questions
Provide specific training to teachers on key competences as an integral part of national curriculum reforms.	Will teachers be trained to support and adapt to the changes introduced through curriculum reforms? Will teachers be trained to be able to teach a competence-based curriculum?
Include entrepreneurial and digital learning in initial teacher training (pre-service).	How can we ensure that new teachers coming into the profession get the training they need to support the new curriculum?
Include entrepreneurial and digital learning in professional development (in-service) training.	Do existing teachers have good-quality opportunities to learn how to introduce entrepreneurial and digital learning?
Launch initiatives at the school level to incentivise teachers to teach entrepreneurial and digital learning, for instance through staff development funds.	Do schools and VET institutions have the money to pay for specific training in entrepreneurial and digital learning?
Launch innovative (in-service) actions to train current teachers in entrepreneurial and digital learning, such as mobilities, coaching and enterprise placements.	What kind of teacher-training opportunities have the greatest impact on learning in the classroom?
Launch initiatives on whole-school approaches to encouraging and integrating key-competence-based education, to ensure leadership and staff team collaboration and support.	Is there institutional support for change? Do education leaders and managers support innovation education approaches? Are there any awards available for teachers who have set up specific projects that promote innovative ways of teaching and learning?

4.4 Action area 4. Teaching and learning activities

Key learning points

- Compile teaching and assessment practice that can inspire teachers to take forward entrepreneurial and digital learning in the classroom.
- Promote the use of learning outcomes to explicitly link digital and entrepreneurial key competences to learning activities.
- Provide guidance on how entrepreneurial learning activities can and should be combined with digital competences so that they can be developed simultaneously.
- Consider using or creating innovative learning spaces. This could include FabLabs or 'maker spaces', but also simpler approaches such as using parks or museums to diversify learning environments.
- Promote closer cooperation with the business community in developing entrepreneurial projects or bringing businesses into the classroom.

For students, developing key competences means that they develop not only areas of knowledge but also the skills and attitudes to apply this knowledge in different contexts. High-quality, practical and inclusive education and training offers learners the opportunity to develop their key competences, giving them space to practise using their key competences and to learn how to apply their subject or technical knowledge in new ways.

There is a clear need for examples that show how these key competences can be embedded in subjects, activities and assessments. This became clear in Ukraine and is echoed by teachers across

Europe, who state that they are looking for ways to identify and use good-quality, subject-based and multi-disciplinary practice⁸⁴. In Europe, the YouthStart project identifies a range of entrepreneurial challenge-based learning activities that can be integrated into existing curricula. These are based on themes such as sport, science and communication, with teaching materials and learning outcomes mapped for each challenge. In Finland, phenomenon-based learning embraces a multi-disciplinary and learner-centred approach to exploring big themes from different perspectives.

PHENOMENON-BASED LEARNING: FINLAND

Phenomenon-based learning (PhenoBL) is a new feature of the 2014 curriculum reforms in Finland and is one example of multi-disciplinary learning in Europe. In PhenoBL, broad-based real-world phenomena provide the starting point for learning. The phenomena are studied as complete entities, in their real context, and the information and skills related to them are studied by crossing the boundaries between subjects. The phenomena are holistic topics such as human rights, the EU, media and technology, water and energy. The starting point moves away from separate, decontextualised subjects. Instead, a phenomenon-based curriculum structure is about creating better opportunities for integrating different subjects and themes, as well as the systematic use of pedagogically meaningful methods, such as inquiry learning, problem-based learning, project learning and portfolios. The phenomenon-based approach also supports different learning environments, for example in diversifying and enriching learning while using e-learning environments or spaces beyond the classroom.

For more information, see: www.uef.fi/en/web/uef-bulletin/learning

Learning outcomes that underpin teaching and learning should be used as internationally recognised good practice (Cedefop, 2017). The benefit of this was demonstrated in the Competence Potential approach in Ukraine. The new key competence frameworks all include learning outcomes to different degrees, further emphasising their importance. The process of developing learning outcomes provides a direct and explicit link between the key competence and the subject area, highlighting how a subject area can develop a specific key competence.

Each competence is intended to be embedded across all subjects at all levels. While each *could* be taught as a subject, this is widely seen as a sub-optimal approach. Indeed, best practice from countries in Europe shows how challenge-based or project-based learning can help to develop a range of competences.

To support such different pedagogic approaches, resource requirements in schools and VET may change. Extra support, both financial and physical, may have to be earmarked for digitally enabled learning. This includes designing digital learning environments and ensuring access to ICT and digitally enabled learning resources. New learning environments such as FabLabs, maker spaces and living labs can bring in stakeholders and introduce learners to modern creative and digital environments. Rethinking learning in the spatial sense opens up new learning environments beyond the traditional classroom, such as museums and green spaces.

⁸⁴ For research carried out across Europe, see: <http://entrecmpedu.eu/blog/>

The following questions could help educators to structure their action planning in Action area 4.

GUIDING QUESTIONS FROM ACTION AREA 4. TEACHING AND LEARNING ACTIVITIES	
Ingredients	Guiding questions
Support the use of EntreComp and DigComp to underpin curriculum and learning outcomes.	Is guidance available on how to use EntreComp and DigComp in learning?
Introduce innovative pedagogies in all courses.	Do our teachers have the pedagogical knowledge, skills and confidence to introduce innovative pedagogies?
Develop assessment of the entrepreneurial and digital competences of students and offer them a form of recognition.	Do our students know why and how they have developed entrepreneurial and digital competences? Do our students know their progress? Do they receive sufficient and good-quality feedback from teachers?
Allow and support the spontaneous initiative of student associations.	Do schools and VET institutions recognise the value of students forming clubs or associations?
Integrate entrepreneurship and digital competences into different subjects.	Do all subject teachers include entrepreneurial and digital learning in their teaching?
Bring entrepreneurs into the classroom and involve students directly in enterprise projects.	Do we have links between educational institutions and business? How can we build more?
Encourage students with viable business ideas to develop them into companies.	Is there a support pathway for students to consider starting up a business as a career?
Embed evaluation systematically into all programmes.	How do we know if our learning activities have successfully developed entrepreneurial and digital competences? How do we know if the culture in schools and VET is becoming more entrepreneurial?

4.5 Action area 5. Building links and opening education to the outside world

Key learning points

- Countries should consider involving businesses and community stakeholders at all levels of policy and governance.
- Mechanisms to engage business and community stakeholders in education can be created at national, local and institutional level.
- Quality assurance systems can be designed to provide leverage for schools to engage businesses and communities.

While policy-makers can use a top-down approach to create a regulatory environment supporting education–business cooperation, a simultaneous bottom-up approach is also critically important. Local partnerships are essential in entrepreneurial learning environments and are the most fertile ground for nurturing the entrepreneurial mindset of students and educators. Educational institutions and enterprises also play a key role in making work-based learning more entrepreneurial and providing opportunities for students to practise their key competences alongside occupational skills.

Career guidance and counselling are also powerful tools for strengthening education–business cooperation links and for developing entrepreneurship, career management and other skills among

students. Career guidance is indispensable for extending future career choices into the realm of self-employment. Finally, career guidance and counselling can help students to recognise the importance of the lifelong development of their key competences.

In building sustainable and meaningful cooperation with business and industry, the first task is often to understand who the relevant stakeholders should be.

TABLE 4.1 STAKEHOLDERS AND POTENTIAL PARTNERS FOR ENTREPRENEURSHIP EDUCATION

Learning environment	Employers and business	Wider community and interest groups
Educators/trainers/youth workers Education/VET institutions Training providers Youth organisations Education leaders Exam and qualification awarding bodies Research and academia Trade unions Others	Businesses and business associations Employers and employer organisations Trade unions Others	Students and student organisations Parents and parent associations Community/relevant NGOs Media Others

Source: European Commission (2014)

The importance of involving businesses and wider stakeholders such as youth organisations and unions across the policy and implementation cycle cannot be overestimated. They can add tremendous quality and relevance through their involvement. The box below illustrates why and how stakeholders can contribute at each stage of a policy development and implementation process to support the entrepreneurship key competence.

Stakeholder involvement at national level can lead to increased interest and engagement locally in schools or VET institutions. (The opposite can also be true.) Businesses can be involved in learning activities directly, in both formal and non-formal curricula, by setting challenges, providing relevant talks or workshops, and supporting formative assessment. They can give feedback on project progress or results.

In Georgia, business engagement was a requirement of registration as a nationally recognised VET institution, a measure intended to directly incentivise VET to engage with business and industry.

There is a significant need to learn from existing practice on how to engage business and community actors in teaching and learning locally.

STAKEHOLDER ENGAGEMENT AT EACH STAGE OF THE POLICY AND IMPLEMENTATION CYCLE: THE POTENTIAL FOR STAKEHOLDER ENGAGEMENT

Agenda-setting stage: Stakeholders can be important drivers or lobby groups that gain policy momentum and push the political agenda. They can help to ensure a common vision and agreement on the intended activity.

Developing strategy/policy stage: Stakeholders can be part of steering groups or task forces that define the concept, the actions and the benchmarks of a strategy. They can make it more representative and sustainable. They can have an instrumental role in leading the strategy or national delivery.

Implementation stage: Stakeholders can support communication, add credibility and strengthen support from other groups. They can also contribute resources and expertise to concrete activities such as teacher and trainer training and curriculum development, sometimes providing sustainable and more cost-effective solutions. They might be involved in the delivery of methodologies or testing the efficacy of certain approaches. They can strengthen the link between educational institutions and the wider social and economic environment or be involved in the validation and recognition of entrepreneurial learning outcomes.

Evaluation stage: Stakeholders can bring a broader perspective on outcomes and can access additional information. They can also provide expertise and rigorous evaluation methods.

Review stage: Stakeholder experiences and opinions are valuable in helping to improve strategies and actions.

Source: European Commission (2014)

AN ENTREPRENEUR ROLE MODEL NETWORK: BIG IDEAS WALES

In Wales, over 300 entrepreneurs from all walks of life (from self-employed comedians and environmentalists to founders of large international companies) have been trained to present their stories and lead interactive sessions about entrepreneurial skills that they use in their business, social or community enterprise. They focus on broader competences such as those highlighted through EntreComp, and illustrate the importance of these competences to both their lives and their entrepreneurial activities. They deliver across schools, VET institutions and universities, and in non-formal learning settings, such as youth work and prison-based education and training.

For more information, see: <https://businesswales.gov.wales/bigideas/where-do-i-start/role-model-profiles>

The following questions could help educators to structure their action planning in Action area 5.

GUIDING QUESTIONS FROM ACTION AREA 5. BUILDING LINKS AND OPENING EDUCATION TO THE OUTSIDE WORLD

Ingredients	Guiding questions
Encourage the creation of learning communities that can foster entrepreneurial mindsets.	Are teachers or school directors able to connect with others to share and learn?
Encourage the involvement of partners in education for entrepreneurial and digital competences.	How can we get more involvement from companies and community partners through awareness raising and incentives for engagement?
Consider donating at least a small part of the working time of staff in businesses to participation in activities within schools and universities.	Are companies involved in policy design and implementation? How could they be involved? Are business or community partners involved in teaching and learning activities?
Develop or support research on how employers can be better engaged.	How can we incentivise businesses to be involved in the teaching and learning in schools and universities?
Help to develop the pedagogical abilities of entrepreneurs and businesspeople.	How can we convince them that it is a win-win situation?

4.6 Action area 6. Communication activities

Key learning points

- The value of key competences should be emphasised to students and parents so that they fully understand the reasons behind changes to teaching methods and learning materials.
- A national council or steering group can be an important tool for communicating with and engaging stakeholders.

Communication is essential for generating appreciation and commitment from all types of stakeholders. Communication channels include national media campaigns, national steering groups, smaller round tables and online surveys. In Ukraine, parents were a particularly important target group as they needed to understand the value of the new key-competence-based education approach. Good communication and consultation can lead to better solutions with more impact, targeting all stakeholders, from parents to teachers and businesses. It can counter perceived exclusion from the process on the part of particular groups, a perception that could otherwise lead to an ongoing lack of engagement and put key aspects of the reform at risk.

TUNISIA: ANNUAL STAKEHOLDER FORUM

The annual National Entrepreneurial Learning Forum (Forum pour le développement de l'esprit entrepreneurial) in Tunisia is led by the government ministry responsible for VET, in collaboration with the ETF. It showcases the developments made each year in this thematic area and provides an opportunity to bring together the partners within this ecosystem, including stakeholders from national and regional government, VET networks, VET centres, businesses and donor agencies. Each year, this represents an important communication route, building understanding, sharing progress and creating stronger networks around this topic.

2019: www.youtube.com/watch?v=KravmoGxzM4

The following questions could help educators to structure their action planning in Action area 6.

GUIDING QUESTIONS FROM ACTION AREA 6. COMMUNICATION

Ingredients	Guiding questions
Launch awareness campaigns. Raise awareness of entrepreneurial and digital key competences and their value to policy and practice.	Is there support among stakeholders for this work? How can we best generate support and buy-in?
Celebrate entrepreneurship education activities and programmes that work well.	Do we celebrate and recognise achievements linked to entrepreneurial and digital learning?
Establish awards. Involve students' and parents' associations as a target for communication campaigns.	

ANNEXES

Annex 1. Assessing progress on entrepreneurship key competence development across the EU neighbourhood region: the example of the SME Policy Index⁸⁵

Like many EU Member States, the partner regions surrounding the EU face complex and challenging social and economic circumstances that often drive high levels of youth unemployment. They are moderate innovation performers with a medium to low gross domestic product. Their education and training infrastructure is typically not well suited to developing entrepreneurship as a key competence. Action is needed and, indeed, is being taken, often supported by the EU and its agencies, with available information on the introduction of the entrepreneurship key competence showing improvements (while information on digital competence development is not available).

The EU's EntreComp framework is gradually being introduced and applied to guide the national developments, changing the perspective from entrepreneurship as occupation-related business knowledge towards entrepreneurship as a key competence that every citizen should possess. In many cases, educators launch project-based initiatives based on innovative pedagogy, upgrading teacher capacity or providing practical entrepreneurship experience access for students as a route to introducing learning for the entrepreneurship key competence; however, calls are emerging for a move towards a system-level integration into all curricula.

This publication provides a deep dive into the national reforms promoting system-level introduction of the key competence approach. The development of the entrepreneurship key competence in the Eastern Partner region was, to a large extent, triggered by the SBA assessments and, in particular, by the recommendations of the SME Policy Index reports starting in 2012, through 2016, and with the latest results published in 2020. The implementation of recommendations was supported by the follow-up actions in cooperation with the ETF.

⁸⁵ OECD et al. (2020).

SBA POLICY ASSESSMENTS IN THE DEVELOPMENT OF THE ENTREPRENEURSHIP KEY COMPETENCE

To make their education systems more competence-based, partner country authorities need support in the form of regular reviews of progress and learning about the experiences of other countries that face similar challenges and are successfully implementing such reforms. For the entrepreneurship key competence, one of the European Commission's instruments is the SME Policy Index, where the ETF acts in a consortium with the European Commission, the OECD and the European Bank for Reconstruction and Development (EBRD). It is dedicated to the assessment of progress in the implementation of the SBA for Europe. It provides valuable insights into the introduction of entrepreneurial learning and the entrepreneurship key competence in national education and training systems. A comparison shows wide variation across the three EU partner regions – the Western Balkans and Turkey (OECD et al., 2019), the Eastern Partnership (OECD et al., 2020), and the Mediterranean Middle East and North Africa (OECD et al., 2018) – which currently cover 21 economies.

Encouragingly, the most recent SBA Policy Assessment reveals progress across many ETF partner countries in the integration of entrepreneurship training into the national curriculum and demonstrates a gradually increasing trend in the preparation of teachers for the challenges of competence-based education. It shows that a link between policy and practice is a powerful factor in triggering change at system level. It also indicates that opportunities for cross-country and cross-regional policy learning and the exchange of good practice and know-how should receive continued support from the international community.

According to the most recent SME Policy Index reports, in every EU partner region some countries stand out as high performers. These are:

- Eastern Partnership: Georgia, Moldova and Ukraine;
- Mediterranean Middle East and North Africa: Jordan, Tunisia and Israel;
- Western Balkans and Turkey: Turkey, Montenegro and Serbia.

There are policy frameworks that feature the entrepreneurship key competence in many EU partner countries, with a strong emphasis on multi-stakeholder and cross-government partnerships to drive implementation. For example, this approach is well established in Montenegro, where government, business and civil society actors are involved in policy and implementation partnerships. At the centre of this network are the Ministry of Education and the Bureau of Education, driving change at the level of schools through teacher networks, curriculum guidance and resources.

In Tunisia, there is a focus on developing a compulsory entrepreneurial learning module aligned to EntreComp and supported by entrepreneurial assessment methods, while in Israel and Moldova guidelines for teachers on how to enhance entrepreneurial learning in the classroom have been implemented. The Western Balkans and Turkey, comprising several pre-accession countries, are moving faster in this area, with cross-referencing of EntreComp to national curricula and several ongoing pilots of EntreComp in curricula.

In the face of high youth unemployment, countries see the key competence approach to learning as both their next challenge and their next opportunity to improve employability and promote entrepreneurship both through more entrepreneurial mindsets and as a career choice for young people.

Annex 2. Ukraine – Summary of the new Law on Education⁸⁶

The new education law lays out four important structural changes.

1. Different paths to acquiring skills and competences

According to current trends in Europe and worldwide the draft law stipulates three forms of education: formal, non-formal education and informal training. This mechanism provides for recognition of non-formal education and informal training in the system of formal education. This would substantially widen the citizen's opportunities for education. For the first time in Ukraine, the bill guarantees a right of a citizen to choose a form of education (parents of children), first of all, in secondary education, which is in line with the requirements of the European Convention on Human Rights and Fundamental Freedoms (Art. 2 of the First protocol).

2. More professional autonomy to teachers and a push to raise their status

The law lays out a path to improve the working conditions of teachers by reducing bureaucratic controls, widening of academic freedom and creation of space for creativity. Interference of state and local authorities in the education process will be limited. A teacher will have the freedom to choose the forms to raise his or her qualification. There will also be a dedicated mechanism of voluntary certification of teachers. [Fewer than 1 000 have undertaken this so far in the country.] After its completion teachers would get an appropriate additional reward. The bill provides for a raise of teacher's social status and salary. In the future this certification will become compulsory, and several agencies are involved in developing this new process.

3. Putting in place a European structure of education system

The law introduces a modern classification of formal education that is aligned with the International Standard Classification of Education adopted by UNESCO in 2011 (ISCED-2011). This involves set up of a complete 12-year secondary education. Today the 11-year school in Europe functions only in Ukraine, Russia and Belarus.

4. A more modern division of labour in terms of managing the education sector: the ministry will set (and, eventually, monitor) learning standards; schools will have more autonomy to pick education content

The old paradigm, where, following the post-Soviet tradition, the ministry defines the education content, will be replaced by a modern European model where:

- The government (ministry) approves standards for competence-based education in terms of learning outcomes (what a graduate of a certain level should know, understand and should be able to do).
- Education institutions develop education programmes, which should guarantee compliance with the state standards; in case the document of education is issued by the state, the education programmes should undergo accreditation.
- The development of curriculum and education courses is bestowed on the academic autonomy of education institutions.

As schools get more autonomous, the ministry will set up a new quality control agency, modelled on a European model of quality assurance. This new Agency for Education Quality Assurance will

⁸⁶ Text extracted from World Bank (2018).

be established on the bases of the existing State Inspectorate of Education Institutions. This agency will deal with the accreditation issues, except for higher education. Regional divisions of the agency will provide professional inspection of education institutions. To ensure objective assessment of education quality the bill allows for the setting up of institutions for external independent evaluation of learning outcomes. A system for education quality monitoring is foreseen.

Annex 3. Ukraine – 11 key competences of the New Ukrainian School

1. Communication in the national language (and mother tongue, if different)

The ability, in speech and writing, to express and interpret ideas, thoughts, feelings, facts and views by listening, speaking, reading, writing and the use of multi-media. The ability to interact by linguistic means with the full spectrum of social and cultural aspects in education, at work, at home and during spare time. The realisation of the role of effective communication.

2. Communication in foreign languages

The ability to understand adequately concepts expressed in a foreign language, to express both in speech and in writing the ideas, thoughts, feelings, facts and views. Listening, speaking, reading and writing in a broad range of societal and cultural contexts. The skills of direct activity and intercultural communication.

3. Mathematical literacy

A culture of logical and algorithmic thinking. The ability to use mathematical (numerical and geometrical) methods to solve practical tasks in various areas of activity. The ability to understand and use simple mathematical models. The ability to build such models to solve problems.

4. Competences in science and technology

A scientific understanding of nature and modern technology, as well as the ability to use it in practical terms. The ability to apply scientific methods to observe, analyse, formulate hypotheses, collect data, conduct experiments and analyse their results.

5. ICT and digital competences

Envisage confidence and critical appraisal in the use of information and communication technology (ICT) to produce, research, process and exchange information at the workplace, in the public domain and in personal communication. Information and media competence, the fundamentals of programming, algorithmic thinking, working with databases, and skills in internet security and cyber security. Understanding of the ethics in information processing (copyright, intellectual property, etc.).

6. Lifelong learning skill

The ability to search and master new knowledge, to gain new skills, to organise an educational process (individually and in groups), in particular through effective resource and information flow management, an ability to set educational goals and determine means to achieve them, to build one's own education and professional trajectory, to appraise one's own educational achievements, and to learn throughout life.

7. Entrepreneurship and financial literacy

The ability to generate and bring to life new ideas and initiatives to increase both one's own social status and well-being, and the development of the community and nation. The ability to behave rationally as a consumer, using personal savings effectively and making rational decisions in employment, finance and other areas.

8. Social and civic competences

All forms of behaviour that are needed for effective and constructive participation in society, in the family and at work. The ability to work with others to achieve results, to prevent and resolve conflicts and reach compromises. Respect for the law, human rights and support for social and cultural diversity.

9. Cultural awareness

The ability to appreciate objects of art, form one's own artistic tastes, independently express ideas, experiences and feelings towards art. This competence envisages a deep understanding of each person's own national identity as a basis for an open attitude and respect for the diversity of the cultural expression of others.

10. Environmental awareness and healthy lifestyles

The ability to use natural resources in a prudent and rational way within the framework of sustainable development, the realisation of the role of the environment in human life and health, and the ability and willingness to live a healthy lifestyle.

11. Innovation

Innovation, which involves openness to new ideas, initiating changes in the near environment (class, school, community, etc.), knowledge formation, skills, attitudes that are the basis of a competent approach, provide further ability to successfully study, carry out professional activities, feel part of the community and participate in community affairs.

Annex 4. Ukraine – Demonstration of the Competence Potential for entrepreneurship in social and health education

- Subject area: Social and health education
- Ukrainian key competence: Entrepreneurship and financial literacy
- EU key competence: Entrepreneurship

Descriptors/learning outcomes				Components
4th grade	6th grade	9th grade	12th grade	
Ideas and opportunities				Skills To realise their weak and strong sides in the projection of future professional activities and their own welfare, to analyse the labour market and its needs, to work in conditions of unpredictable situations, to define the goal and achieve it, to predict and evaluate risks, to think critically, to make decisions, to initiate and implement social projects. To evaluate the cost of maintaining health and compare these costs with the cost of treatment and rehabilitation; to plan family spending on health, its formation and development, security and well-being.
I can show that I want to know something new (Level 1) I can find examples of ideas that have value for me and others (Level 1)	I can explore new ways to use available resources (Level 2) I can show how different groups, including companies and institutions, create value in my community and environment (Level 2)	I can experiment with my skills and competences in new situations for me (Level 3) I can see the difference between social, cultural and economic value (Level 3)	I can actively search for new solutions to meet my needs (Level 4) I can decide on what value I want to act, and then choose the most appropriate way to do this (Level 4)	
Resources				Attitude Awareness of the relationship between life's success and all the components of health; attitude to well-being and safety as a sign of entrepreneurship; valuing attitude to life experience, the ability to take risks and take into account their consequences; responsibility for their decisions. Consciously placing health as the basis of economic and financial well-being.
I can identify my needs, desires, interests and goals (Level 1) I can identify things that work well for me and things that I do not use (Level 1)	I can describe my needs, desires, interests and goals (Level 2) I can identify things that are good for me and things that I do not use (Level 2)	I can be persistent in meeting my needs, desires, interests and goals (Level 3) I am focusing on the desire to use my strengths and abilities to make the most of the opportunity to create value (Level 4)	I can translate my needs, desires, interests and aspirations into the goal, and it will help me to reach them (Level 5) I can team up with others to offset our weaknesses and strengthen our strengths (Level 5)	
Transformation in action				
I am not afraid to make mistakes when trying something new (Level 1) I can provide examples that show improvement in my abilities and competences with experience. (Level 1)	I am not afraid to make mistakes when trying something new (Level 1) I can predict that my abilities and competence will improve with experience, thanks to successes and failures (Level 2)	I am not afraid to make mistakes when trying something new (Level 1) I can predict that my abilities and competence will improve with experience, thanks to successes and failures (Level 2)	I can actively look for, compare and contrast different sources of information that help me to reduce ambiguity, uncertainty and risk of decision-making (Level 4) I am always looking for opportunities to strengthen my strengths and reduce or compensate for my weaknesses (Level 4)	

Annex 5. Georgia – Analysis of EntreComp competences within the 2018 entrepreneurship education module

This section maps the 2018 mandatory entrepreneurship module for all vocational education programmes against the 15 competences within EntreComp.

While there is correlation, there remain significant gaps in the comparison between the EntreComp framework and the existing entrepreneurship module. This demonstrates the shift in understanding and application needed to reflect the EntreComp competences, and this shift is now being implemented in the newly revised entrepreneurship module. The focus is on making the learning process experiential versus purely knowledge based.

- The first three columns in the table reflect learning objectives and deliverables of the 2018 VET entrepreneurship education module.
- The fourth and fifth columns illustrate how the learning objectives of the 2018 VET module align to the EntreComp competences.
- The sixth column evaluates the level of proficiency demonstrated within the Georgian VET module, and this is further elaborated in the final column.

Learning area	Deliverables	Area	EntreComp competences covered	EntreComp thread	EntreComp proficiency level	Description of EntreComp proficiency level
Planning business	1. Correctly defines the essence of entrepreneurial (economic) activity and its spheres	Ideas and opportunities	Valuing ideas	Judging what value is in social, cultural and economic terms	Intermediate	Learners understand that ideas (economic activity) can have different types of value
	2. Realistically evaluates personal strengths and weaknesses	Resources	Self-awareness, Self-efficacy	Identify and assess individual and group strengths and weaknesses	Intermediate	Learners can make the most of their strengths and weaknesses
	3. Is able to describe and justify business idea	Ideas and opportunities	Valuing ideas	Recognise the potential an idea has for creating value and identify suitable ways of making the most of it	Intermediate	Learners understand that ideas can have different types of value
	4. Is able to assess risks related to business idea realisation	Into action	Coping with uncertainty, ambiguity and risk	Make decisions when dealing with uncertainty, ambiguity and risk	Foundation	Learners can describe risks related to a simple value-creating activity in which they take part
	5. Is able to identify the required licences and certificates related to business operation	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Advanced	Learners can define strategies to mobilise resources they need to generate value for others
	6. Is able to justify decisions regarding the location of the enterprise	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Advanced	Learners can define strategies to mobilise resources they need to generate value for others
	7. Is able to plan and execute market research	Ideas and opportunities	Spotting opportunities	Identify needs and challenges that need to be met	Intermediate	Learners can recognise opportunities to address needs that have not been met
			Valuing ideas	Recognise the potential an idea has for creating value and identify suitable ways of making the most of it	Intermediate	Learners understand that ideas can have different types of value

Learning area	Deliverables	Area	EntreComp competences covered	EntreComp thread	EntreComp proficiency level	Description of EntreComp proficiency level
Business registration	1. Correctly describes advantages and disadvantages of types of legal entities	Resources	Planning and management	Develop sustainable business plans	Intermediate	Learners can develop an appropriate business model for their idea
	2. Is able to justify the viability of chosen legal entity	Resources	Planning and management	Develop sustainable business plans	Intermediate	Learners can develop an appropriate business model for their idea
	3. Correctly describes the business registration procedure related to the selected legal entity type	Resources	Planning and management	Develop sustainable business plans	Intermediate	Learners can develop an appropriate business model for their idea
	4. Is able to prepare documentation needed for business registration	Resources	Planning and management	Develop sustainable business plans	Intermediate	Learners can develop an appropriate business model for their idea
	5. Defines types of taxes and rates and tax returns and exemptions	Resources	Financial and economic literacy	Develop financial and economic know-how	Intermediate	Learners can estimate the main accountancy and tax obligations they need to fulfil to meet the tax requirements for their activities
	6. Is able to describe tax preferential regimes specified by the Tax Code	Resources	Financial and economic literacy	Develop financial and economic know-how	Intermediate	Learners can estimate the main accountancy and tax obligations they need to fulfil to meet the tax requirements for their activities
	7. Describes tax-payer registration procedure as specified by law	Resources	Financial and economic literacy	Develop financial and economic know-how	Intermediate	Learners can estimate the main accountancy and tax obligations they need to fulfil to meet the tax requirements for their activities

Learning area	Deliverables	Area	EntreComp competences covered	EntreComp thread	EntreComp proficiency level	Description of EntreComp proficiency level
Organising business	1. Describes production, service or technological process	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Intermediate	Learners can gather and manage resources to create value for others
	2. Correctly identifies basic means, equipment and inventory needed	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Intermediate	Learners can gather and manage resources to create value for others
	3. Correctly identifies resources and raw materials needed	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Intermediate	Learners can gather and manage resources to create value for others
	4. Correctly describes procurement for the enterprise of resources and materials needed	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Intermediate	Learners can gather and manage resources to create value for others
	5. Realistic assessment of expenses related to starting a business	Resources	Financial and economic literacy	Estimate the cost of turning an idea into a value-creating activity	Foundation	Learners can draw up the budget for a simple activity
	6. Is able to identify business financing sources and opportunities	Resources	Financial and economic literacy	Plan, put in place and evaluate financial decisions over time	Intermediate	Learners can find funding options and manage a budget for their value-creating activity
Organising human resources	1. Correctly defines the human resources needed	Into action	Planning and management	Define priorities and action plans	Foundation	Learners can define the goals for a simple value-creating activity
	2. Is able to describe labour agreement forms according to current legislation	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Intermediate	Learners can gather and manage resources to create value for others

Learning area	Deliverables	Area	EntreComp competences covered	EntreComp thread	EntreComp proficiency level	Description of EntreComp proficiency level
	3. According to legislation, can engage in labour relations	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Intermediate	Learners can gather and manage resources to create value for others
	4. Can correctly describe jobs	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Intermediate	Learners can gather and manage resources to create value for others
	5. Is able to correctly identify key performance indicators for jobs	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Intermediate	Learners can gather and manage resources to create value for others
	6. Is able to correctly describe methods of employee motivation	Resources	Mobilising others	Inspire and enthuse relevant stakeholders	Foundation	Learners can communicate their ideas clearly and with enthusiasm
	7. Is able to define conditions for termination of labour agreement	Resources	Mobilising resources	Get and manage the material, non-material and digital resources needed to turn ideas into action	Intermediate	Learners can gather and manage resources to create value for others
Product and service realisation	1. Correctly defines tools for sales stimulation and its use	Into action	Planning and management	Define priorities and action plans	Foundation	Learners can define the goals for a simple value-creating activity
	2. Correctly identifies market for business positioning	Into action	Planning and management	Define priorities and action plans	Foundation	Learners can define the goals for a simple value-creating activity
	3. Correctly chooses sales tools	Into action	Planning and management	Define priorities and action plans	Foundation	Learners can define the goals for a simple value-creating activity
	4. Correctly identifies sales channels and ways of distribution	Into action	Planning and management	Define priorities and action plans	Foundation	Learners can define the goals for a simple value-creating activity

Learning area	Deliverables	Area	EntreComp competences covered	EntreComp thread	EntreComp proficiency level	Description of EntreComp proficiency level
	5. Correctly chooses customer stimulation mechanisms	Into action	Planning and management	Define priorities and action plans	Foundation	Learners can define the goals for a simple value-creating activity
	6. Correctly defines prices for goods or services	Into action	Planning and management	Define priorities and action plans	Foundation	Learners can define the goals for a simple value-creating activity
Finance and accounting	1. Correctly lists expected revenues	Resources	Financial and economic literacy	Estimate the cost of turning an idea into a value-creating activity	Foundation	Learners can draw up the budget for a simple activity
	2. Correctly defines the need to use cash machine	Resources	Financial and economic literacy	Estimate the cost of turning an idea into a value-creating activity	Foundation	Learners can draw up the budget for a simple activity
	3. Correctly identifies expected expenses	Resources	Financial and economic literacy	Estimate the cost of turning an idea into a value-creating activity	Foundation	Learners can draw up the budget for a simple activity
	4. Is able to correctly do accounts for revenues and expenses	Resources	Financial and economic literacy	Estimate the cost of turning an idea into a value-creating activity	Foundation	Learners can draw up the budget for a simple activity
	5. Is able to correctly identify taxes to be paid to budget	Resources	Financial and economic literacy	Estimate the cost of turning an idea into a value-creating activity	Foundation	Learners can draw up the budget for a simple activity
	6. Is able to correctly calculate expected profit	Resources	Financial and economic literacy	Estimate the cost of turning an idea into a value-creating activity	Foundation	Learners can draw up the budget for a simple activity

Annex 6. Georgia – Characteristics of entrepreneurial VET institutions

ENTREPRENEURIAL VET IN A DIGITAL AGE – EXAMPLE FEATURES OF AN ENTREPRENEURIAL VET INSTITUTION

Supporting leaders – A dedicated and committed leader who:

- can create a joint vision of how to become an entrepreneurial VET institution;
- is able to engage others inside and beyond the institution to support the institution's vision;
- supports and allocates resources to entrepreneurship education as a tool to build both entrepreneurship and digital key competences for all students and staff;
- supports a team approach and shares success with others.

Supporting teachers and trainers – Teachers and trainers who:

- are willing to embrace change positively;
- understand and value the impact of entrepreneurial learning on their students;
- are trained and confident to embed key principles of entrepreneurial and digital learning to support the introduction of key competences across all subjects;
- actively collaborate with and learn from each other within the school and are connected to wider peer networks beyond the school to exchange ideas and practices;
- value making connections with the community and business to support their teaching.

Building networks – A VET institution that:

- involves businesses and the community to support real-life contexts for teaching and learning;
- explores how to open up resources from the college to the local community and business.

Innovative teaching, learning and assessment

- Entrepreneurial and digital competences and learning outcomes are included in all subjects.
- Entrepreneurship education is implemented with a focus on teaching and learning that supports creative thinking, purposeful collaboration and real-world contexts.
- Learners regularly have opportunities to create value for others through entrepreneurial learning.
- Formative assessment is used to understand and make visible the value and impact of entrepreneurial and digital learning on students.

Integration of technology

- Leaders and educators systematically seek opportunities to integrate and develop digital competences through entrepreneurial learning activities.
- Leaders and educators are trained and confident in using digital technologies to support teaching, learning and assessment.
- Leaders and staff are trained and confident to use technology with students and families to facilitate communication and learning.

LIST OF ABBREVIATIONS AND ACRONYMS

CEFR	Common European Framework of Reference for Languages
CNL	Creating New Learning
DeSeCo	Definition and Selection of Competences
ETF	European Training Foundation
EU	European Union
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Corporation for International Cooperation)
ICTs	Information and communication technologies
IQ	Intelligence quotient
ISCED	International Standard Classification of Education
ITTI	In-service teacher-training institute
MoES	Ministry of Education and Science (Georgia and Ukraine)
NGO	Non-governmental organisation
NUS	New Ukrainian School
SBA	Small Business Act
SME	Small and medium-sized enterprise
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
US	United States
VET	Vocational education and training

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