Development and assessment of transversal key competences in the VET sector – model solutions and practices in six European countries

Report prepared within the TRACK-VET project based on an analysis and discussions of the experiences of six European countries

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Foreword

This Synthesis Report presents the main findings of the TRACK VET project (Developing, assessing and validating transversal key competences in the formal initial and continuing vocational education and training (VET)).

The project period spanned 2017-2020. It has included a consortium of seven partners: Warsaw School of Economics, SGH (Poland) (project leader), Austrian Institute for Research on Vocational Training, Oeibf (Austria), Fafo Institute for Labour and Social Research (Norway), French Centre for Research on Qualifications, Cereq (France), National Institute for Certified Educational Measurements, NUCEM (Slovakia), Matej Bel University Banska Bystrica, UMB (Slovakia) and National Centre for Education, VISC (Latvia).

This Synthesis Report was prepared by Horacy Debowski, Wojciech Stechly, Alena Tomengova, Jakub Valovic and Kaja Reegard based on the national reports from the project partners and further analysis.

1. Introduction

Technological changes and processes related to globalization affect societies and economies in ways never seen before. We face changes related to accelerating digitalization, robotization of jobs and the development of artificial intelligence, ageing and shrinking populations and increasing social and cultural diversity fuelled by political instability (OECD, 2019; Scipioni, 2018) as well as worrying tendencies in western democracies, slow demise of shared reality (growing information bubbles), misuse of social media and uncontrolled spreading fake news in society (see for example: Howard & Kollanyi, 2016; Lazer et al., 2018; Stevenson, 2018; Sunstein, 2018).

These megatrends strongly influence the demand for work and various types of competences as well as consumer values and preferences. We observe quantitative and qualitative changes in the world of work, including how we work and by whom the work is performed (OECD, 2017). At the end of the 20th century, these changes were referred to as the transition to the era of the knowledge-based economy (Godin, 2006), postfordism (Gardawski, 2009, p. 2; Jessop, 2005), and in the last decade as the fourth industrial revolution (Schwab, 2016) or the second technological era (Brynjolfsson & McAfee, 2012).

Changes in contemporary labour markets also require constant updating and broadening of competences - as part of learning in different places and throughout life (hence the “life-wide” and “life-long” learning). According to a report from the British agency for quality assurance in higher education, almost 50 per cent of the subject knowledge acquired by first-year students in technical studies ceases to be valid at the time of graduation (QAA, 2018). Research published by the World Economic Forum indicates that in 2020 for more than one-third of professions, the set of the most important competences will consist of competences that are currently not considered key competence to perform tasks in professions (World Economic Forum, 2016). The same report indicates that around 65 per cent of children starting primary school will work in jobs that do not currently exist. Along with the dissemination of technological solutions in industry 4.0, there is an increase in the demand for transversal competences. The needs related to competences for the future can be considered in three categories (Universities UK, 2018):

- subject and academic knowledge, usually associated with a deep understanding of aspects of activities in a given field
- professional and technical skills – related to performing specific tasks, performing roles
- transversal competences - i.e. those that can be used in various situations, workplaces and throughout life, they are often also called soft competences

Demand for competences that are complementary to new technologies is thus on the rise. Computers and machines are better suited to replace routinized, repetitive tasks that can be programmed in advance. They are most prevalent in the manufacturing

industry, but also in other industries where routine activities that typically require medium-level skills are used, including in the hotel and catering industry, as well as in the retail trade or financial sector. On the other hand, the demand for work related to performing abstract and analytical tasks, such as problem solving or creative thinking, is increasing (Brynjolfsson & McAfee, 2014).

The development of human and social capitalas remains one of central issues of growth and development (Becker, 2009; Fukuyama, 1995; Hanushek & Welch, 2006; Hanushek & Woessmann, 2008). Much has been said about the role of education systems and the need to continue learning troughout lifetime in the era of accelerating change (Brine, 2006; Delors, 1998; Faure, 1972; Lundvall, 2016). Vocational Education and Training (VET) is a key aspect of the skills development systems, but also one that seems to attract much less attention than general and higher education. The graduates of VET are one of the groups most affected by the automation and digitalization of work.

In order to meet the abovementioned challenges, transversal competences are to be developed, both on societal and individual level. Hence the general question guiding this project is:

'How can VET systems provide opportunities to develop transversal key competences'?

Transversal competences are the focus of this report. Transversal competences are the last four groups competences of key competences defined in the Recommendation of the Council of the European Union[1] on key competences, namely:

- personal, social and learning skills,
- civic competences;
- competence in entrepreneurship;
- competences in the field of cultural awareness and expression.

The growing importance of transversal competences partially results from the fact that they relate to the performance of tasks that are not satisfactorily carried out by machines today and whose automation is the most difficult. Without doubt, people today retain the advantage in performing tasks requiring knowledge of what heuristics are used by other people, as well as the creation and selection of heuristics to solve undefined tasks (open-ended tasks) that require flexibility, creativity and assessment (Batko & Szopa, 2016, pp. 29–50). Creating new ideas, recognizing patterns in a broad context and the most complex forms of communication are cognitive areas in which people still have an advantage over machines. Regardless of the development of neural networks and the possible occurrence of the moment when artificial intelligence

[1] The other four being: Literacy competence; Multilingual competence; Mathematical competence and competence in science, technology and engineering; Digital competence.

surpasses people in the discussed area, the comparative advantage in this area should persist much longer.

The increase in the demand for transversal competences also results from changes in the organizational structures of enterprises. Along with the departure from the Fordist economy model, when the productivity of enterprises depended on the use of economies of scale and standardization of the production process, the structure of enterprises flattened. In the next decades of the 21st century, it is assumed the further decrease of hierarchical rigid organizational structures towards flat network structures consisting of interdisciplinary project teams (Felstead & Ashton, 2000), in which individual team members using complex forms of communication will be able to cooperate creating knowledge and innovation. In almost all industries, the organization of work deviates from rigidly defined responsibilities of employees, which are focused on a narrow catalogue of tasks. Contemporary forms of work organization are designed to support the multitasking and interdisciplinary nature of employees, primarily to be able to benefit from the complementarity between tasks performed in a given organizational structure. Performing tasks based on interaction and demanding social competences constitute a key area of an institution's activity in which machines cannot replace a human being.

The development of transversal key competences for lifelong learning has been an important policy imperative. Accompanied by a substantial amount of work undertaken by European research bodies, the Reference Framework has had a significant impact on the Member States' curriculum reforms (Halász & Michel, 2011; Pepper, 2011). Today, most Member States have incorporated key competences, or similarly broad learning outcomes, into their school curriculum frameworks. Yet, the degree of implementation and the terminology and concepts used by the Member States varies widely (Kwan et al., 2017). Identified barriers to the use of the reference frameworks are linked to challenges faced by learning institutions in implementing the principles it sets out. The difficulty appears to be in how to ensure these are put into practice in different institutions' contexts and applied to their learning curricula, tools and syllabi. Another barrier is the difficulty in defining the Reference Framework's principles in a way that provides the Member States with a sufficient level of detail necessary to ensure that action can be taken (Kwan et al., 2017).

1.1 Defining transversal key competences

Competences described above have been coined *transversal* in the sense that they transcend a specific field, as opposed to being content-specific. However, this term might be used differently between countries, and terms such as cross-curricular or cross-cutting competences are also deployed. Nägele & Stalder (2017) introduce transferable skills as specific abilities that are developed directly in real-life situations or through education and training and later on transferred to the real life situation.

Question is, which skills are transferable a how they can be taught and trained? The discussion on transferable skills focuses mainly on non-technical skills (as, e.g. social skills or problem solving skills) and partly also on basic technical skills (as, e.g. basic ICT skills) that seem to be useful in many different situations. The underlying assumption is that skills acquired in one context can be easily applied and reused in a new and different context. Skills are transferable between different context and situations. Sometime transferable skills are described as *basic skills, generic skills or employability skills.* In higher education in Europe, the Tuning project recently described transferable skills as generic competences (Gonzáles and Wagenaar 2005), system competencies (2005) and soft skills (2003). Finally, three types of transferable skills were identified by the Tuning project:

1. instrumental skills (cognitive, methodological, technological and linguistic abilities)
2. interpersonal skills (social interaction and cooperation)
3. systemic skills (abilities and skills concerning whole systems combining understanding, sensibility and knowledge

Different terms used by authors, may be considered as having same meaning. All terms relate to those competences, which are common and can be identified in different degree programmes at a certain level (Tuning 2007).

EU and OECD consider transversal competences *key* in the sense that they are becoming essential to the 21st-century economy, being those all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment. Strategic documents of the European Union (e.g., Council Recommendation 2018, Conclusions of Riga 2015), and OECD (2017), ILO (2019) and other organizations, including consulting companies (Manyika et al., 2017) emphasise its relevance.[2] The importance of transversal key competences (TKC) in general and vocational, initial and continuing education in particular, is strongly indicated in EU policies and strategic documents of Cedefop and Eurydice, e.g., New Skills Agenda for Europe.

For this report, we adopt the definition of competences developed by EU, i.e., a combination of knowledge, skills and attitudes appropriate to the context (2006/962/EC). In 2006, the Council recommended the Member States to adopt *The Key Competences for Lifelong Learning — A European Reference Framework* (herein referred to as 'the Reference Framework'), encouraging the Member States to make it part of their lifelong learning strategies. The Reference Framework defined eight key competences for lifelong learning[3]. This framework was recently revised and updated

[2] In the documents of the European Union the scope of transversal competences includes, inter alia, civic competences and those related to cultural expression, which are perceived as key to the sustainable development of individuals and society (cf. Kopińska, Stolarczyk-Szwec 2017; Bacia 2015).
[3] RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 on key competences for lifelong learning (2006/962/EC)

to tackle current and pressing skills challenges to develop a shared understanding of key competences and to further foster their introduction in education and training curricula.[4] The revision provided support for better development and assessment of these skills (New skills agenda, 2016). The Reference Framework of 2006 and 2018 are presented in Table 1.

Table 1. The Reference Framework of 2006 and 2018, Council recommendations for key competences for lifelong learning.

2006	2018
Communication in the mother tongue	Literacy competence
Communication in foreign languages	Multilingual competence
Mathematical competence and basic competences in science and technology	Mathematical competence and competence in science, technology and engineering
Digital competence	Digital competence
Learning to learn	Personal, social and learning to learn competence
Social and civic competences	Citizenship competence
Sense of initiative and entrepreneurship	Entrepreneurship competence
Cultural awareness and expression	Cultural awareness and expression competence

These eight key competences are all considered equally important, and several overlap and interlock - aspects essential to one domain will support competence in another. Moreover, several themes are applied throughout the Reference Framework, e.g., critical thinking, creativity, initiative, problem-solving, risk assessment, decision making, and constructive management of feelings play a role in all eight key competences. The following definitions are extracted from the EU Recommendations from 2006 and 2018, respectively.

Communication in the mother tongue is defined as the ability to express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing), and to interact linguistically appropriately and creatively in a full range of societal and cultural contexts; in education and training, work, home and leisure. In the 2018 revision, **Literacy** is defined as the ability to identify, understand, express, create, and interpret concepts, feelings, facts and opinions in both oral and written forms, using visual, sound/audio and digital materials across disciplines and contexts.

Communication in foreign languages is defined as the ability to understand, express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing) in an appropriate range of societal and cultural contexts (in education and training, work, home and leisure) according to one's

[4] RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 May 2018 on key competences for lifelong learning (2018/C 189/01)

wants or needs. In the 2018 revision, **Multilingual competence** is understood as the ability to use different languages appropriately and effectively for communication.

Mathematical competence and basic competences in science and technology are defined as the ability to develop and apply mathematical thinking to solve a range of problems in everyday situations. After revision, the meaning content of this competence remained the same, while the new competence label sounded: **Mathematical competence and competence in science, technology and engineering**.

Digital competence is considered involving the confident and critical use of Information Society Technology (IST) for work, leisure and communication. After the revision, this competence is defined as involving the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society.

Learning to learn is defined as the ability to pursue and persist in learning, to organise one's learning, including through effective management of time and information, both individually and in groups. After 2018, **Personal, social and learning to learn competence** is defined as the ability to reflect upon oneself, effectively manage time and information, constructively work with others, remain resilient and manage one's own learning and career.

Social and civic competences include personal, interpersonal and intercultural competence and cover all forms of behaviour that equip individuals to participate effectively and constructively in social and working life, and particularly in increasingly diverse societies, and to resolve conflict where necessary. In the revision, **Citizenship competence** is the ability to act as responsible citizens and to fully participate in civic and social life, based on the understanding of social, economic, legal and political concepts and structures, as well as global developments and sustainability.

Sense of initiative and entrepreneurship refers to an individual's ability to turn ideas into action. After the revision, **Entrepreneurship competence** refers to the capacity to act upon opportunities and ideas and to transform them into values for others.

Cultural awareness and expression are defined as the appreciation of the importance of the creative expression of ideas, experiences and emotions in a range of media, including music, performing arts, literature, and the visual arts. Since 2018, **Cultural awareness and expression competence** involve understanding and respect for how ideas and meaning are creatively expressed and communicated in different cultures and through a range of arts and other cultural forms.

1.2 The TRACK-VET project

The TRACK-VET project (2017-2020) directs attention to development, assessment and validation of transversal key competences in the formal initial and continuing vocational education and training. The project emphasizes the subgroup of four of the eight key competences defined in the Reference Framework from 2006.

The aim is to shed light on two identified gaps in the literature and policy field. First, less research has been conducted on these four latter key competences of the Reference Framework compared to the first four (cf. Table 1.1). Learning to learn, Social and civic competences, Initiative-taking and entrepreneurship and Cultural awareness and expression are less likely to represent a standalone topic, subject or policy to which any change is obvious. Instead, these competences are often implied within the learning outcomes of a subject or qualification, or combined with other competences (Kwan et al., 2017).

Eurydice (2012) found that the transversal character of the four latter competences makes them difficult to assess in national tests. Moreover, these key competences are considered to require the most significant innovations in teaching and learning practices, on assessment tools and procedures, and school organisation(Halász & Michel, 2011). EU policy documents and reports point out that it remains a challenge to modernize assessment and that efforts should continue to develop tools for individual assessment of skills, particularly in the areas of problem-solving, critical thinking, collaboration and entrepreneurial initiative. Last, assessing key competences might be especially a challenge within the countries with state external systems of examination.

Second, while the problem of defining and measuring learning outcomes, including key competences in Vocational Education and Training (VET) has been discussed for many years, EU strategic documents (e.g., Europe 2020, ET 2020, New Skills Agenda for Europe) indicate the importance of developing transversal key (TKC) competences within VET (Cedefop, 2016, 2017). In Riga Conclusions (2015) Ministers in charge of VET stated that one of the key actions to be taken by the Member States is to “further strengthen key competences in VET curricula and provide more effective opportunities to acquire or develop those skills through initial VET (IVET) and continuing VET (CVET). Furthermore, EU policy documents and reports point out that it remains a challenge to modernize assessment, and that efforts should continue to develop tools for individual assessment of skills, particularly in the areas of problem-solving, critical thinking, collaboration and entrepreneurial initiative. Yet, little research has been conducted on the development, assessment and validation of transversal key competences in the area of VET.

By implementation of the TRACK-VET project, one aim is to support the process of developing and assessing TKC in systems where qualifications are awarded based on external summative assessment. In a long-term perspective, we seek to contribute to better VET qualifications and improved adjusted methods of teaching and assessment of TKC in VET.

The TRACK-VET project has produced detailed analyses of the systemic solutions, practices, and techniques in six countries (Austria, France, Slovakia, Norway, Latvia and Poland) – countries characterised by systems in which IVET and CVET qualifications are being awarded based on external state examinations. Based on analyses of a total number of 136 interviews undertaken by country experts, the Synthesis report suggests model solutions including recommendations for:

1) Agencies responsible for developing and assessing TKC in the formal VET. These recommendations provide guidelines and practical information on how to design the process of implementation of TKC, how to structure VET qualifications and shape the process of assessment and validation.

2) National authorities and agencies: how national authorities may enhance the process of developing TKC in VET (ministerial decrees, legislation, guidelines, regulations), and which instruments they might use (qualification frameworks level descriptors, standards for quality assurance).

3) EU policymakers: how EU policymakers might support the process of introducing TKC in the formal IVET/CVET, which policy instruments might be used and how.

1.3 The organisation of the report

In chapter 2, we present the ways we approached the research. Therein, we describe the main methodological choices, data collection and limitations of the research, including an explanation of the definitions of TKCs used as a basis for the national reports. We also present the process of analysing and synthesising the national contributions to arrive at this Synthesis Report. Chapter 3 provides an in-depth analysis of the location and formulations of learning outcomes related to TKCs in curricula. The analysis leads to identifying models for describing TKCs in VET systems and provides an overview of formulations of learning outcomes across the six analysed countries. In chapter 4, we present the practices of assessment of TKCs for both formative and summative (licensing/qualifications) purposes. The chapter touches on the methods used, challenges related to the character of the TKCs, organization as well as findings of the scope of assessment of TKCs. Chapter 5 provides a summary of stakeholders opinions, which have been an invaluable source of information on one hand, but which also sheds additional light on the topic of the report. The body of the report ends with conclusions, followed by bibliographic information and annexes.

2. Data and methods

This chapter is two-fold. First, we aim to render visible the data and methods underpinning the national reports. Second, we present the procedure of how we arrived at the comparative analysis and models of the Synthesis Report

2.1 The methodology of the country report

A document called the methodology report was developed to ensure a common basis for the preparation of the country reports. Its main function was to ensure that the same topics were covered by all partners to facilitate comparison and model solutions. The methodology report contained an introduction to the topic of TKC, rationale for the project, (working) definitions of the four TKC based on the 2006 EU Recommendations, interview guides and indications of the number of interviewees from each actor group category.

To answer questions such as how countries support the development of TKC, to which extent do countries implement them in curricula, and how do countries assess and validate TKC - a combination of methods and data sources was deployed. First, the main data source was document analysis of national policy documents, strategies, legislation and curricula. Second, qualitative interviews with key national stakeholders and decision-makers were conducted. Additionally, five project meetings were organised, in which discussions among the project partners regarding the research approach and data sources took place.

Chapters 1-4 of the country report describe national solutions, current state of art regarding the development of TKC in each country, while chapters 5-6 include also recommendations. The qualitative data collection aimed to gain insights on opinions of key stakeholders on how the development, assessment and validation of TKC are functioning in the country and what measures could and should be introduced to improve the current situation. A combination of individual and focus groups interviews was considered best suited to meet these ends. This methodological approach will be elaborated in the next section.

Interview study

The partners conducted an interview study in to generate knowledge on opinions of key stakeholders regarding TKC in VET. The aim of the interview study was two-fold: (a) evaluate the solutions, programmes, and initiatives adopted in each country, and (b) to generate knowledge of opinions of decision-makers, teachers, curricula developers and other relevant actors on policies aiming to develop TKC adequately to prepare recommendations both for the national and European level:

- The opinions of stakeholders regarding the development, assessment and validation of TKC in the formal IVET and CVET system, especially with regards to:
    - The general approach towards the development of TKC in the national system
    - National or regional strategies, programmes, initiatives being implemented and assessment of their impact
    - Inclusion of TKC in assessment standards

- The opinions of stakeholders regarding additional measures that could be introduced to improve the ways TKC are developed, assessed and validated in the formal IVET and CVET system:
    - How decision-makers at the central level may enhance the development of TKC within the IVET and CVET system
    - What can be done at the school level to enhance the development of TKC, and how the national/regional level can support this process
    - Whether TKC should be part of the national assessment standards, and if yes which solutions, methods and techniques might be introduced/applied
    - Whether it is possible to assess TKC (differentiate between the four TKCs) within a national summative assessment

It was important to ensure a common vantage point for the partners' data collection, to collect reliable and comparable data, and a common understanding of the concepts and definitions used. An interview guide was developed to meet this end. The guide provided a framework within which the interviewer could develop questions, sequence those questions, and make decisions about which information to pursue in greater depth. Thus, the guide allowed for adjustments and flexibility. The interviewer remained free to build a conversation, to word questions spontaneously, and to pose nation-specific relevant questions in addition to the questions proposed in the interview guide. The partners were encouraged to deploy a combination of individual in-depth interviews and focus group interviews.

Sampling strategy and sample size

The main sampling strategy was to purposively recruit participants holding an expert role related to how the development, assessment and validation of TCK are functioning in the national system, and which additional measures which could be introduced to improve the ways TCK are developed, assessed and validated. Relevant stakeholder and expert groups were policymakers, decision-makers, teachers, representatives of trade unions, employer organisations, and curricula developers, employers. The approximate sample size for individual in-depth interviews were 10-12 participants and suggested focus group sample size was two group interviews, each comprised of approximately 4-5 participants.

2.2 Descriptive categories of TKC

There was a need to operationalise the TKC developed in the 2006 Council Recommendations. The project team developed a set of descriptive categories to provide common understandings. Table 2 presents the list of descriptive categories concerning transversal key competences from the 2006 Council Recommendation. A full table, with commentary and examples, can be found in Annex 4 of the Methodology Report (Dębowski et al., 2018, pp. 47–52).

Table 2. List of descriptive categories of transversal key competences.

DESCRIPTIVE CATEGORIES	TRANSVERSAL KEY COMPETENCE
Methods and strategies of learning	PERSONAL, SOCIAL COMPETENCES AND LEARNING COMPETENCE
Motivation and autonomy of learning	
Maintaining well-being	
Social and interpersonal relations	
Understanding of society	CIVIC COMPETENCES
Participation in public affairs	
Values and identity	
Taking action and making decisions	ENTREPRENEURSHIP COMPETENCE
Realization of initiatives	
Understanding and appreciation of culture	CULTURAL AWARENESS AND EXPRESSION COMPETENCE
Cultural expression	
Critical thinking	DESCRIPTIVE CATEGORIES RELATED TO MORE THAN ONE TRANSVERSAL KEY COMPETENCE
Problem-solving	
Media literacy	
Creativity and innovation	

Source: (Dębowski et al., 2018, pp. 15–17; 47–51)

The main sources used for developing descriptive categories were:

- RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 on key competences for lifelong learning (2006/962/EC)
- KEY COMPETENCES FOR LIFELONG LEARNING, European Reference Framework – annex of a Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning
- Recommendation on Key Competences for Lifelong learning on 17 January 2018
- COMMISSION STAFF WORKING DOCUMENT Accompanying the document Proposal for a COUNCIL RECOMMENDATION on Key Competences for LifeLong Learning Brussels, 17.1.2018.
- Sylvest J., Kwaw E. (2017), Support of the stakeholder consultation in the context of the Key Competences Review, Report 1: Comparative Analysis

2.3 The methodology of the Synthesis Report

In the TRACK-VET project, developing conceptual models was considered an efficient way in supporting all relevant parties involved in designing policies on development and assessment of TKC across various countries, contexts and VET frameworks. One aim of synthesizing the findings of the country reports to develop models was to form a basis for recommendations to supranational organizations.

A working definition of a conceptual model is “a representation of the most crucial aspects of a system of interest for extracting usable information”, after Hamarat, Kwakkel, Pruyt (2013). As indicated, among others, by Heemskerk, Wilson, Pavao-Zuckerman (2003), Exworthy (2008), conceptual models can be useful in policy design. Using models foster understanding of the systems being studied but also support policy learning. As indicated by Exworthy (2008) “exporting policies within or between countries is often discounted on the basis that the ‘context’ is different and hence lessons from host countries cannot be learnt”. However, a focus on conceptual models can obviate some of these problems by focusing on the key elements of the systems subject to analysis. By applying concepts related to the functioning of the system, it is thus possible to discern similarities and differences in patterns and practices across context. Raffee (2009) underscores the importance of developing models in designing public policy-making: “a conceptual model can encourage greater national self-awareness among policy analysts and policy-makers by helping them to see their system in comparative context; it can ‘make the familiar strange’ (Broadfoot, 2000, p. 357) by drawing attention to features of one’s system that would otherwise be taken for granted.” One of the examples of models found in the literature relates to the types of assessment related to curriculum. Gordon et. al (2009) distinguish four types of assessment relations to the curriculum:

- Type 1: Assessing cross-curricular competences explicitly;
- Type 2: Assessing cross-curricular competences implicitly;
- Type 3: Assessing subject-specific competences;
- Type 4: Assessing knowledge rather than competences

The TRACK-VET solution models presented in this Synthesis Report are based on an ‘abductive’ approach. This implies a middle position between theoretically driven deduction on the one hand, and inductively empirically grounded reasoning on the other hand. Thus, the generating of models is based on analysis of the six country reports and discussions within the TRACK-VET partnership but also based on the literature review and reasoning to abstract from the experience of six countries to develop general models.

2.4 The conceptual model procedure

The first step of developing the conceptual models (Halkier, 2011), was a careful thematic reading of the country reports. Then, through the second step, the tracing of

emerging patterns of ways to approach transversal key competences was organized according to similarities and differences.

The third step consisted of taking the emerging patterns of similarities and differences and reduce their complexities further by aiming for a more tightly connected synthesis by emphasizing differences. The conceptualization was mainly informed by three dimensions on which the emerging patterns seemed to differ from each other: strong conceptual point of reference; the multilateral network of categories; and the unitized model.

These three dimensions were constructed by the process of condensing the data presented in the country reports into a limited number of categories which underline particular characteristics at the expense of others. Consequently, inconsistencies and multiplicities are downplayed. The three dimensions represent an accentuation of essential traits of the various national systems.

3. Formulation of TKC and their location in curricula

The architecture and content of curricula and qualifications is an important factor shaping the school reality and influencing human learning. The first section of this chapter provides a general overview of the discourse on learning outcomes, presenting areas in which their effects on education, institutional and political aspects and meaning for the quality of work and life are being discussed.

However, in this report, we propose to look at the “architecture and content of curricula and qualifications” in a very literal way – at the structures, sentences and words used to describe them. The chapter presents the results of tracking selected key competences in the curricula.

The following sections of the chapter are focused on synthesis and findings concerning the following exploratory questions:

- Where are TKCs to be found in educational documentation?
- What is the scope of their representation?
- How are they being described/formulated?
- Who is responsible for the description of TKCs in documentation?
- Are NQF level descriptors taken into account when designing the descriptions/requirements?

The analysis of the TKCs descriptions entails analysis of their representation and distribution across a range of documents which define what is being taught, learned and assessed within IVET. The analysis’ results may be useful for actors developing these documents in any country as well as in designing and evaluating public policies for education and labour market.

The synthesis is supported by numerous examples of formulations of learning outcomes related to TKCs. The full database of outcomes is available on the TRACK-

VET project website: www.track-vet.eu. We provide these examples with the intent of providing a useful point of reference and a resource for all those, who are involved in the shaping of educational goals, requirements and criteria concerning transversal key competences in vocational education and training.

Explanatory note 1. Limitations of analysis of learning outcomes descriptions within TRACK-VET project

This chapter is focused on the location and formulation of learning outcomes in the curricula and their location. Identification and analysis of this information are the research goals of the TRACK-VET project. However, drawing any further conclusions from this analysis requires previous consideration of the following premises:

- The programme documents do not provide a representation of school reality. For once, as any description, it can only be a poor match for reality. Secondly, the realization of the policy-makers vision is formally expected of school principals and teachers, however, the vision may be interpreted and implemented in different ways – this is especially relevant for transversal key competences;
- The programme documents provide a picture of expected learning outcomes. It is useful to think of the core-curriculum as a policy-makers vision. It is subject to policy decisions, resulting in an additional focus on specific issues. As a result, analysis of core curricula may bring a more representative view of policy goals, than it does of reality;
- The learning outcomes in (core) curricula are the basis for preparing external examinations. This often creates a specific bias, namely limiting (especially) the detailed part of the curriculum to measurable and observable learning outcomes, which might lead the reader of these standards away from didactic realities of pupil formation in schools. Or as some authors suggest, this bias might also lead reductionism in education, where teachers limit their didactic approach to these measurable and observable learning goals (Hussey & Smith, 2002; Lassnigg, 2012).

3.1 Introduction to the discourse on Learning Outcomes

Learning outcomes have become a common element of the educational landscape. Their proponents argue that they are a useful medium for stakeholders and the modern language for communication concerning skills. The opponents argue that they convey ideological baggage and result in practical consequences which distort education (Allais, 2011, 2012, 2014; Ball, 2004; Hupfer & Spöttl, 2014; Lassnigg, 2012). This section is intended as an introduction providing a critical perspective on learning outcomes as well as a precautionary tale – since the words we use may begin a life of their own – become a simulacrum.

Whatever stance one takes in this discourse, the learning outcomes are here to stay – and they will continue to be described (formulated) and assessed, and they will influence the teaching and learning. There is no reason to assume that key competences will be an exception, however it seems that they are not strongly affected by the learning outcomes approach (yet!). We provide a brief look at the origins, contexts and critique of learning outcomes to support readers in making the best of

this chapter and the following ones. Assessment is one of the key aspects that need to be considered – but it is the learning outcomes that state “what is assessed”.

The concept of learning outcomes has no one origin, its elements have been used in different settings for at least half-century. The concept of competence can be traced as far as Plato and ancient Greece (Weigel et al., 2007). Some notions related to learning outcomes can be found in behaviourist theories, as observable changes in behaviour. The idea first gained prominence in the early 20th century in the United States, under the influence of the ‘efficiency cult’ (see: Callahan, 1964; Hyland, 1994). In the 1960s, the movement for ‘criterion referencing’ and later the notion of ‘scientific curriculum’ emerged from US practice (Kliebard, 1975; Popham, 1971). The popularisation of those concepts was ‘transmitted’ together with Bloom’s taxonomy, further used and developed in Europe (see: Anderson et al., 2001; Bloom, 1956; Krathwohl, 2002; Kruszewski et al., 2003). The learning outcomes seem to have been, and remained, a technical term for education specialist – usually used to denote the intended learning outcomes (sometimes also the learning goals) and, perhaps less often, the actual outcomes of learning (either intended or not).

At the same time, parallel concepts of competence have been developed and used for the shaping of learning and teaching, and also formulating expectations for the outcomes of learning. Different understandings and the use of the concept of competences have often evolved in the contexts of national, sectoral or economic regimes, and rarely have been confronted with each other. As a result, we have different understandings of the concepts in different countries (i.e., in France, UK, Germany or the US), as well as in different domains of education and the labour market, in vocational, general and higher education (Brockmann et al., 2008; Hyland, 1998; Le Deist & Winterton, 2005; Winterton et al., 2006). It should also be mentioned that both the previous centrally planned economies and market economies also used the concepts differently. The initial theories and experiences related to competence, occupations and vocations, recruitment, employment and, last but not least, education (e.g. ‘competence-based training’) influenced the learning outcomes as we know them today in our national practice. This has been (and still is!) happening through various channels of policy creation and transfer – the intra-national political relations shaping skills formation (P. Brown et al., 2001; Busemeyer & Trampusch, 2012), the influence of international trends and policies (Cort, 2010b, 2010a; Dębowski & Stęchły, 2015; Lawn & Grek, 2012), as well as theory diffusion between actors such as the professionals, academics and teachers (Biesta et al., 2013; Carr, 2006; Crossouard & Pryor, 2012; Thomas, 2007). Hopefully, this chapter will contribute to shaping the way one thinks about learning outcomes and competences.

In many countries, the concepts used are modified under the influence of ideas elaborated collectively in the EU – this is actively supported by the open method of coordination, the peer learning and peer pressure (Lawn & Grek, 2012). This influence can be seen in initiatives related to Bologna and Copenhagen processes in the EU, e.g., developing national occupational standards, adopting the EQF and ECVET

Recommendations or the changes in the approach to qualifications and curriculum. The resulting institutional isomorphism can be seen vividly in the VET systems with a history of economic and political disruption.[5] Examples include the development of reforming NQFs in many countries, implementation of credit points, curriculum reforms etc. This is, of course, an ongoing process. In some cases, the existing approaches have been continued and are now contributing to the diversity of national approaches (e.g., Germany, Austria, France, Netherlands, UK) (Bjørnåvold & Chakroun, 2017; Cedefop, 2012b, 2015b).

Learning outcomes can be described in many ways (Adam, 2007; Hussey & Smith, 2003). According to European Qualifications Framework for lifelong learning (EQF), learning outcomes are regarded as 'statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined as knowledge, skills and competences' (European Parliament and the Council of the EU, 2008/C 111/01 and 2017/C 189/03). European Union documents related to both vocational education and training (VET) and higher education (HE) call for implementation and further work on the use of learning outcomes. Education and training are increasingly seen as important for achieving goals related to issues of economic growth and employment, as well as social inclusion. And the learning outcomes approach follows through – reflecting these aims in their form and content.

Practically all European Union lifelong learning policy tools (such as EQF, ECVET, ECTS, EQAVET, ESCO, Europass) are based on learning outcomes. The range of use of the approach and the associated shift in education, policy discourse and practice is said to be a paradigm shift (Adam, 2008; Cedefop, 2009; EC, 2011). The Council Recommendation on key competences for lifelong learning also suggests that "Key competence descriptions could translate into frameworks of learning outcomes that could be complemented with suitable tools for diagnostic, formative and summative assessment and validation at appropriate levels".

Numerous publications offer an indication of the potential benefits of the learning outcomes approach (Adam, 2007; Cedefop, 2009, 2010a, 2015b; OECD, 2007), such as:

- transparency of qualifications, clear information on the content of qualifications to learners and employers,
- improvement of links between education and the labour market,
- increased permeability between the sectors of education (e.g., VET and HE) and international mobility of learners and workers,
- facilitating recognition of learners' achievements (among others, the validation of non-formal and informal learning, credit accumulation and transfer),
- increasing the qualifications' quality.

[5] However, as some of our interviewees indicate, one should be cautious – if the change is a meaningful transformation or mimicry.

These benefits have received the attention of policymakers in European countries. The widespread development of NQFs and learning outcomes-based qualifications are often treated as examples of their attractiveness (Brůha et al., 2018; Cedefop, 2014a, 2014b, 2015a; ETF, 2014; ETF et al., 2017, 2019).

However, in many countries, the solutions are often found to be difficult to implement in practice or the expected benefits are not observed. Many challenges related to LO-based policy implementation are being mentioned in the literature. Most recently by Winch (2020).

The European definitions of basic concepts, such as competence, learning outcomes and qualifications, are not precise enough; the understanding of these terms differs significantly within and between countries. Some argue that these concepts are too simplistic to encompass the complex reality of education and national VET systems in Europe (Bohlinger, 2008; Brockmann et al., 2008; A. Brown, 2008; Grollmann et al., 2006; Young, 2005).

Learning outcomes (LO's) are used for different purposes (design of curricula, teaching, assessment, recognition of prior learning), on different levels (institutional, national, international), and the way they are used differs between countries and systems (e.g., general education, VET, higher education). Examples of purposes include: formative and summative assessment, recognising personal development and engagement in learning, preparing for further learning or training, preparing for employment, confirming occupational competence or license to practice, updating and continuing professional development, increasing system flexibility, increasing student mobility (see: Annen & Eberhardt, 2013; Cedefop, 2012a, 2017; Hussey & Smith, 2003; Werquin, 2012).

In the case of initial VET, learning outcomes are used to structure many elements of the system, involving stakeholders at different stages and in different ways. The aspects that are being influenced with use of LO's can be linked with provision of training, design of learning processes, design of occupational standards and occupational requirements in curricula, development of resources as well as feedback information on educational activity (Cedefop, 2013b, 2013a).

It is not uncommon to hear a reminder, even during EU events for learning outcomes experts and policymakers, that the latter seem to forget that the learning outcomes will eventually be used on the ground level. There is often a striking difference between what they are supposed to be for policymakers and what they are for practitioners in the field. The success or failure of learning outcomes policies will ultimately depend on how they are used by teachers, the capabilities of social partners, etc. And still, only seldom the training of teachers preceded their implementation.

The financial aspects of LO's implementation are rarely discussed, despite the fact, that the process of developing qualifications is expensive. Their manifestation and possible uses will depend on a wide array of circumstances. In the case of VET, these

particularly include the organisation of work in enterprises, industrial relations and social dialogue, models of skill formation (Busemeyer & Trampusch, 2012; Crouch, 1993; Crouch et al., 2001; Greinert, 2004, 2005; Powell et al., 2012; Winterton, 2000, 2007).

The learning outcomes approach, promoted, among other ways, in the EQF and NQFs, is affecting the existing relations between stakeholders, creating tensions between actors by empowering some of them at the expense of others, influencing the existing educational systems (Allais et al., 2009; Bjørnåvold & Coles, 2007; Cedefop, 2013b, p. 2013). Some authors question if that shift is desirable (Allais, 2014; Lassnigg, 2012), others criticise the learning outcomes approach and EU policies as part of a wider political shift associated with notions of neoliberalism, Fordism or managerialism (see: Allais, 2011; Brine, 2006; Óhidy, 2008; Trowler, 1998; Yang & Valdes-Cotera, 2011).

In summary, it seems an accurate summary to alter the Wittgenstein's famous aphorism, by saying: *The meaning of learning outcomes lies in their use*. And the literature seems to suggest that we have relied too much on the experts' definitions and/or policymakers justifications.

3.2 Location of the TKCs in documents

In all countries, TKCs are (in some form) present in strategic documents and overarching educational laws (often the main act regulating school organization or the whole education system). Especially the high-level educational acts provide an overview to see in what words, categories and using which concepts are the most general educational aims described. The table below includes statements taken from country reports, some of which apply to the whole education system, others to the VET strands.

The formulations presented are declarations of intent. And in some way, they resemble political slogans. This can be attributed to their generic nature and positive sentiment in the text. We can see different framings for TKCs – 'utilitarian' or 'collectivist' and a 'humanistic' or 'learner-centred' approach. This reflects a complicated set of aims of education, which are responsible for preparing young humans for further development and enables to flourish (the humanistic perspective), equipping them with necessary means for work and life. Finally, education is key in the socialisation process. The main point here is not the accuracy of labels, but the width it shows for further understanding of any transversal competence, especially social competence.

Table 3. Selected quotes presenting the general aims of education systems in 6 European countries.

Country	Descriptions of educational aims
Austria	"The Austrian school has the task of contributing to the development of youth's dispositions according to moral, religious and social values as well as the values of the true, the good and the beautiful by means of a course appropriate to their level of development and their educational

	path. It has to equip the youth with the knowledge and skills necessary for life and future jobs and to educate them to learn independently. The young people are to be trained to become healthy and health-conscious, fit to work, dutiful and responsible members of society and citizens of the democratic and federal republic of Austria. They should lead to independent judgment, social understanding and an active sporting lifestyle, be open to the political and ideological thinking of others and be empowered to take part in the economic and cultural life of Austria, Europe and the world, and with a love of freedom and peace in the common tasks to participate in humanity." (§ 2. Task of the Austrian school, SchOG 1962)
France	"Compulsory education should at least provide all pupils with the necessary means to acquire a common core made up of knowledge and competences which must be mastered to successfully complete their schooling, continue their studies, forge their personal and professional future and become successful members of society". (Act no. 2005-380 of 23 April 2005 relating to orientation and planning for the future of schools, stipulates, in article 9 "Common Core of Knowledge and Competences")
Latvia	"education is the process of systematic acquisition of knowledge and skills and development of attitudes, and the result thereof. The result of education is the totality of knowledge, skills and attitudes of a person" (Education Law, 1991) "to ensure a student with the knowledge and skills necessary for personal growth and development, civil participation, employment, social integration and continuation of education"; "to promote the improvement of a student as a mentally, emotionally and physically developed personality and to develop habits of healthy lifestyle"; "to promote a socially active attitude of the student, retaining and developing his or her language, ethnical and cultural particularity, as well as to improve understanding regarding the basic principles of human rights included in the Constitution of the Republic of Latvia and other legal acts", "to develop the student's ability to learn and improve independently, to motivate him or her for lifelong learning and an informed career". (Section 2, Regulations Regarding the State General Secondary Education Standard, Subject Standards and Sample Education programs, Cabinet Regulations No 281, 21.05.2013)
Norway	"The Act [Core curriculum] aims to develop competence, understanding and responsibility in relation to craft, profession and society; to provide a basis for further education and to assist apprentices in their personal development. Vocational training shall contribute to increased awareness and understanding of basic Christian and humanist values, our national cultural heritage, democratic ideals and scientific thought and method. Vocational training shall promote human equality and equal rights, intellectual freedom and tolerance, ecological understanding and international co-responsibility" (§ 1). (…)

	"Education shall not only transmit learning; it shall also provide learners with the ability to acquire and attain new knowledge" (Core Curriculum, p. 15) "Education should counteract prejudice and discrimination, and foster mutual respect and tolerance between groups with differing modes of life" (Core Curriculum, p. 10) "The foremost aim of education is evolution. Education shall meet children, adolescents and adults on their own terms and so lead them to the borderland where they can encounter the new by opening their minds and testing their skills" (Core Curriculum, p. 11). "The development of individual identity occurs through becoming familiar with inherited forms of conduct, norms of behavior and modes of expression. Hence education should elaborate and deepen the learners' familiarity with national and local traditions - the domestic history and distinctive features that are our contribution to cultural diversity in the world" (Core Curriculum, p. 12)
Poland	"The aim of education in professions in VET is to prepare the learners to pursue a professional activity and to function actively in a changing labour market. A graduate of a school providing vocational training should have full professional qualifications, and be prepared to obtain the necessary of professional entitlements." (Vocational Core Curriculum 2019) "General education in upper-secondary school forms a coherent whole and constitutes the foundation of education, enabling the acquisition of various professional qualifications, and then their improvement or modification, opening the process of lifelong learning. (…) (General Core Curriculum 2018) „Integrating and correlation of vocational and general education, including key competences gained in general education on lower stages of education plays a crucial role in the process of vocational training. An adequate level of general knowledge linked with professional knowledge will impact the vocational competences of graduates of vocational schools, allowing them to cope with the challenges of the changing labour market" (Vocational Core Curriculums 2012, 2019)
Slovakia	General educational aims of Slovak republic stated in the School Act (N. 245/2008) are: "to acquire competences in the field of communication skills, oral and written skills, the use of information and communication technologies, communication in the state language, mother tongue and foreign language, mathematical literacy, and competences in the field of technical sciences and technologies, for lifelong learning , social and civic competences, entrepreneurial skills and cultural competences (…) to learn to identify and analyse problems and propose their solutions and solve them (…) to develop manual skills, creative and artistic skills, develop knowledge and work with them in practical exercises in areas related to further education or current market requirements (…) to strengthen respect to parents and others, to the cultural and national values and traditions of the State of which he or she is a citizen, for the

	State language, for the mother tongue and for its own culture" (School Act N 245/2008, § 4)

The focus of the analysis in the report is on at least one tier deeper than analysis of the strategic documents, that is on more detailed statements. Most of the statements found in the table above are as granular as the TKCs most general descriptions. The relevant documents used in analysed countries differ significantly, the broad categories of the documents which contain TKCs description are:

- standards and programme documents (such as core-curriculum, curricula, qualifications or educational standards);
- assessment and performance standards/requirements (e.g. verification criteria, performance standards);
- other guidelines and/or requirements for teachers.

The list of sources of examples of learning outcomes in the country reports is presented in Annex 1.

Early on during the analysis, we have decided that any attempt to establish adequacy in an international comparison between groups of documents based on their names would be a doubtful approach. In this context, it seems most appropriate to repeat what Brockmann, Clarke and Winch wrote about knowledge, skills and competences – their analysis revealed: "distinct understandings and meanings of outwardly similar terms" (2008). The variety of understandings and meanings, in our case, originate from different institutions, both formal and informal ones. The concepts of competence mentioned by Brockmann et al. can be seen as cognitive institutions.

The formal institutions, described and available for analysis, may give a part of a picture at best. The documents of similar names are embedded in different settings, are used by different agents, often have a different purpose. For example, some curricula are the basis for internal and formative assessment, others also for external assessment, while some do not claim to be verifiable at all. Some assessment criteria are described at a threshold level other at an average level. These formal institutions regulating what is taught in schools and companies create a complex network of interrelations and interdependencies – usually, a hierarchy of documents refining learning goals from general to detailed, accompanied by transversal and specific documents of a different character (e.g. guidelines, didactic materials). The interviewees in most countries mentioned that this overflow of documents is increasingly burdensome for teachers and administration.

On the other hand, informal institutions[6] seem to be the crucial determinants of transversal key competences development. Informal institutions relate to normative, cognitive or procedural aspects affecting or regulating our behaviour. And these are of

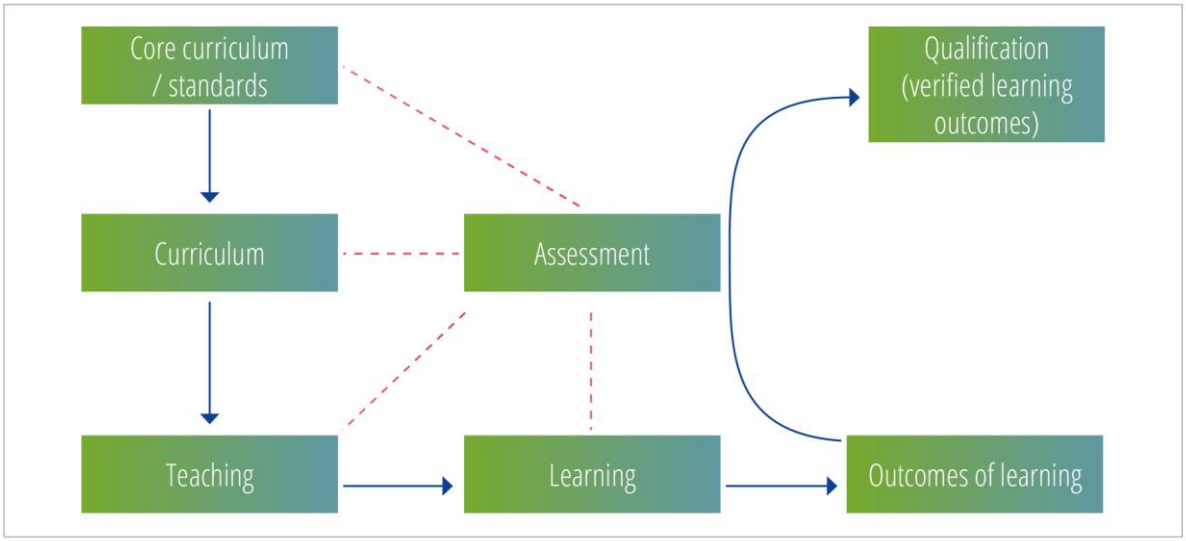
[6] Informal institutions can be defined as socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels. (Helmke & Levitsky, 2004)

key relevance for the TKCs formulation, use and interpretation. The study has been built around the assumption that

"teaching for examinations" and/or "learning for tests" are informal institutions that strongly influence the learning outcomes achieved by students.

This shows that outside the formal institutions linked to curriculum regulations there is a deeper relationship between the descriptions of outcomes and the outcomes achieved, with a central role of assessment.

Diagram 1. Schematic representation of the role of assessment in developing learning outcomes and achieving qualifications.



The red dotted line on the above graph signifies an informal relationship between assessment and other elements. Therefore looking at how the outcomes are described should give insight into the TKCs developed in two ways – it guides both the teaching and learning as well as the assessment requirements. The relation somehow mirrors what is also known as the constructive alignment of learning goals (intended outcomes) with teaching contents and assessment (Biggs, 2003; Biggs & Tang, 2007) – providing an overall coherence of the learning environment. However in the case of TKCs more often than not, we see lack of alignment: these competences are not well represented in curricula, not assessed and taught/ learned informally (according to our findings). The assessment of TKCs is discussed in detail in Chapter 4.

In all analysed countries TKCs descriptions are located in various places. The most common location of TKCs are subject requirements in the general core curriculum, separate unit/module and as a cross-curricular requirement to be embedded in different modes of learning in vocational core curricula (or another type of overarching standard for VET).

However, it is not at all uncommon that in one country more than one model is functioning. Usually, many different programmes of a different structure are available. In some countries, there are additional guidelines for developing TKCs, such as the

Austrian “Teaching principles and educational concerns of the Ministry of Education” or the Latvian “Guidance for the elaboration of modular VET programmes”. The programmes relating to EQF 3 and EQF 4 may also differ to higher VET programmes (e.g. EQF 5) in this regard.

Education is usually organized in general and vocational education strands – working together but with separately described requirements, organizationally distinct and with learning often taking place in different contexts (e.g. school and workplace; class and workshop). As a result, the transversal competences need to be included in both of those contexts – either doubled or contextualized. At the same time, the learning outcomes logic has not fully penetrated the educational documents and practice. The subject-based organization of education remains the cornerstone of most schools. The introduction of learning outcomes has led us to have subject contents described in terms of learning outcomes, but still, the subjects (and not some overarching general or key learning outcomes) are the organizing concepts of teaching, learning and assessment that can be seen in documents. In this regard, the VET strands of education, with historically applied concepts of competence and professional ethos differ significantly from general education – possibly employing the *genius loci* in developing TKCs.

The development of TKCs is supported by teachers, who in general declare that developing the students' ability to learn and function in society is one of their main concerns, independently of how and where they are described in the documents. Very seldom would they use terms such as ‘transversal competences’ to refer to these. The indication of these competences in the documents supports these declarations, possibly empowering teachers in these priorities.

Interestingly in some cases (e.g. France, Slovakia, Poland) interviewees said that at the secondary education level, the requirements prescribed in curricula are often assuming a previous level of fundamental skills that learners do not have. The PISA results consistently show a relative deficit of VET learners in mathematics, science and reading. A correlation of the level of these fundamental competences and levels of TKCs achievement would not be surprising at all, since they might both be determined by socio-economic status of parents. However, the main point of this observation is to underscore the importance of teaching and learning following curricula at all length (not just the selected skills – in case of VET schools often specific skills assessed during final examinations at the expense of key competences and/or general knowledge).

3.3 Scope and formulation of learning outcomes related to TKCs

Unsurprisingly, we found learning outcomes linked to all TKCs distinguished in the Recommendation on Key Competences for Lifelong Learning in every country. This can be explained by several factors. It seems that some of these competences have always been present in the heart of education “gene pool”, however, should probably be questioned if that is also the case for vocational sectors with industrial, often Fordist,

roots. Even in the policy discourse becoming more and more economic-centred (and even more so in VET), the policy-makers and teachers remain committed to the societal role of education in VET. Another significant factor is the EU policy role, which promotes specific concepts and categories in recommendations and other acts (the EU policies are often being mentioned in accompanying documents to the legal acts).

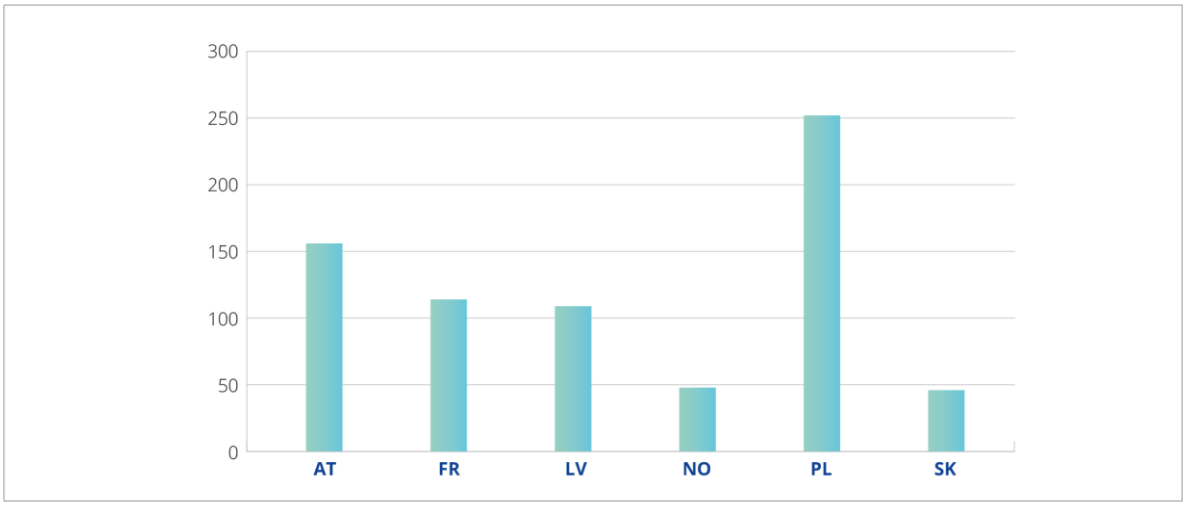
However, the questions of dynamics in this regard remain unanswered. Has each of the analysed countries put more stress on the issue of TKCs in the last 20 years? Has this focus been visible in policy narratives and/or in practice? Have external (i.e. social and economic) conditions favoured more or less development of these competences by students? The answers to these questions lay beyond the analytical context of the TRACKVET project, however, they are consequential.

The outcomes seen in curricula related to the broad categories distinguished in the Recommendation on Key Competences for Lifelong Learning in different manners. Using the descriptive categories developed in the project, we can see differences in interpretation between the documents and programmes, which have been the source of learning outcomes. The results are presented in the latter parts of the chapter, but they are in no way representative of the national approaches to the development of TKCs (as indicated before these approaches need to be seen in a much wider context than just the contents of curricula) nor are they any kind of proxy for the TKCs possessed by learners.

3.4 Data collection and limitations

We have created a corpus of learning outcomes related to TKC, based on project partners indications and materials. The number of learning outcomes collected for analysis is as follows:

Figure 1. Quantity of learning outcomes descriptions collected for analysis by country (N-740).



Source: based on country reports.

The outcomes presented in country reports and attachments were taken into account. The methodology report was prepared to exclude (or limit) biased selection of the sample for analysis (Dębowski et al., 2018). In a few cases, additional outcomes from sources linked in the country reports were included in the analysis. The outcomes in the reports were provided mostly in English, however, these were often own translations. Because of the exploratory character of this study, we have decided to take into account all translations provided.

The sample collected is not representative of the approach to outcomes in any country, therefore we do not make statements about any country in a statistical sense. Yet the type of schools and/or programmes which were selected for the analysis were nationwide documents or programmes of specific interest (the higher VET programme selected for analysis in Austria).

The collected sample of learning outcomes descriptions was then annotated using the descriptive categories developed previously in the TRACK-VET methodology report – see excerpt below.

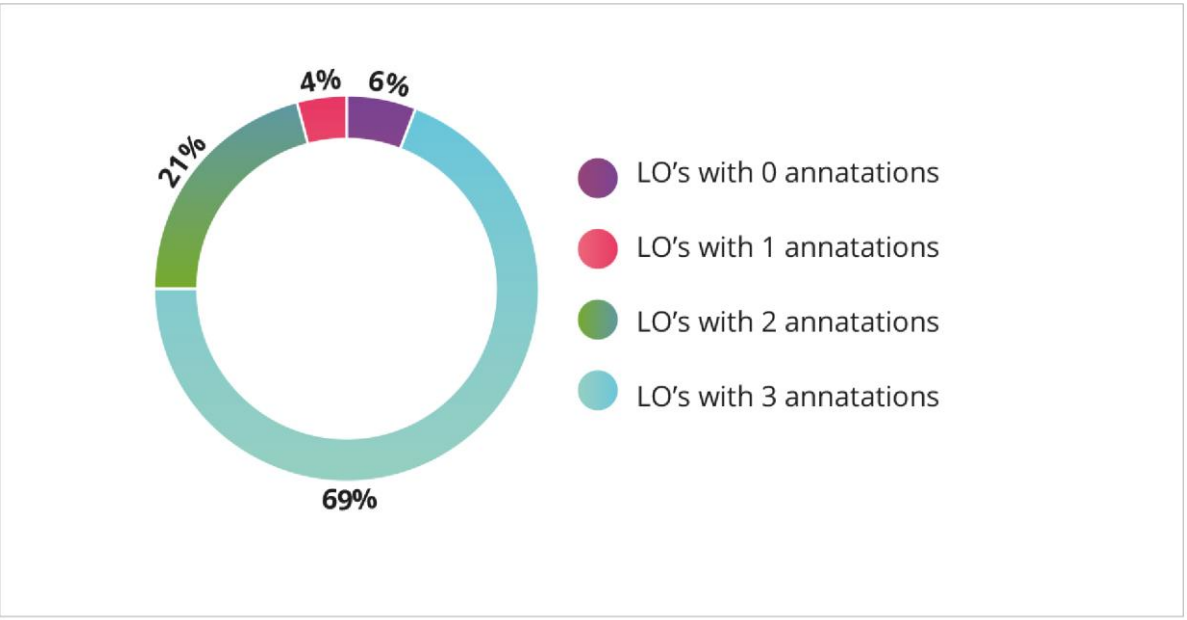
Figure 2. List of TKCs and descriptive categories used for annotation.

TRANSVERSAL KEY COMPETENCES	DESCRIPTIVE CATEGORIES
PERSONAL, SOCIAL COMPETENCES AND LEARNING COMPETENCE	Methods and strategies of learning
	Motivation and autonomy of learning
	Maintaining well-being
	Social and interpersonal relations
CIVIC COMPETENCES	Understanding of society
	Participation in public affairs
	Values and identity
ENTREPRENEURSHIP COMPETENCE	Taking action and making decisions
	Realization of initiatives
CULTURAL AWARENESS AND EXPRESSION COMPETENCE	Understanding and appreciation of culture
	Cultural expression
DESCRIPTIVE CATEGORIES RELATED TO MORE THAN ONE TRANSVERSAL KEY COMPETENCE	Critical thinking
	Problem-solving
	Media literacy
	Creativity and innovation

Source: (Dębowski et al., 2018, pp. 15–17; 47–51)

The learning outcomes descriptions collected were annotated (i.e. assigned a marker, a tag) related to at least one descriptive category, but no more than three. The logic of best-fit was used and sometimes even distant matches were marked (e.g. field related knowledge of business regulations could be matched with entrepreneurship competence). 40 objects of the sample were not annotated – either they were not related to TKCs (e.g. “fill out warehousing documentation”) or not described as learning outcomes (e.g. “Labour law.”).

Figure 3. The share of learning outcomes with regard to the number of annotations to TKCs descriptive categories.

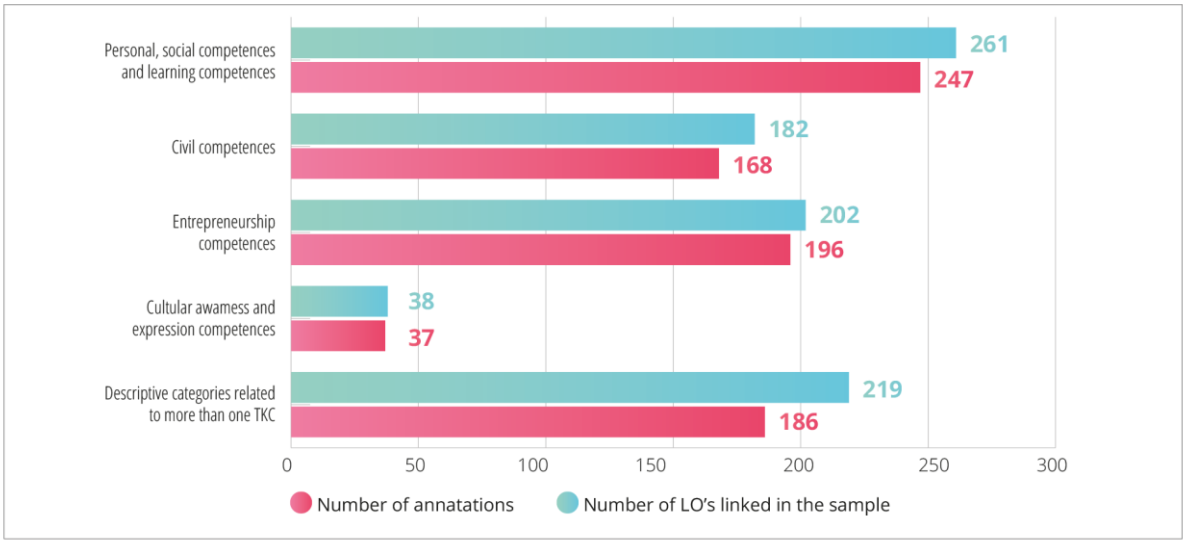


* Explanatory note: learning outcomes in the corpora could be annotated to more than one descriptive category. For example, the LO formulated as "I can reflect on my own behaviour in relation to the specific needs of other people" was annotated to the following descriptive categories: "Social and interpersonal relations", "Critical thinking", "Understanding and appreciation of culture". The last annotation may seem doubtful at first, however it is grounded in the location and use of the outcome in a given document, where an overarching frame of "respect and acceptance" is linked with this outcome with the following description: "Respect and acceptance include (... the respectful treatment of other people regardless of status, culture or personal characteristics, (…) recognizing other opinions, attitudes and values, (…), the reflection of one's own behaviour when dealing with different value systems."

The descriptive categories developed for the research (i.e. the descriptive categories such as "Taking action and making decisions" and "Realization of initiatives" for the entrepreneurship competence) have proved to be useful. Outcomes linked to a given transversal key competence usually had only one annotation in that group. However in the light of little indication of learning competence in curricula one descriptive category relating to this aspect would have been sufficient.

To verify if the descriptive categories have not been overlapping we have compared the difference between the number of annotations and number of LO's linked to a given TKC. If the number is equal that means no learning outcome was annoted to more than one category. For example only one learning outcome was annotated to both descriptive categories in the TKC "Cultural awareness and expression competence", hence there were 38 annotations and 37 LOs linked to this TKC.

Figure 4. The number of outcomes linked to TKCs and annotations linked to TKCs.



3.5 Representation of the TKCs in the sampled learning outcomes

The TKCs most often found in the sample are (in order of diminishing frequency):

1) Personal, social competence and learning competence
2) Descriptive categories related to more than one TKC
3) Entrepreneurship competence
4) Civic competence
5) Cultural awareness and expression

However, we find the most interesting results, when decomposing the findings to the descriptive categories. This is presented in Figure 5.

Figure 5. The number of learning outcomes linked to TKCs descriptive categories. Ranked from least represented to most represented in the sample.

DESCRIPTIVE CATEGORIES	Number of learning outcomes annotated in the sample
Cultural expression	8
Creativity and innovation	16
Participation in public affairs	20
Methods and strategies of learning	25
Understanding and appreciation of culture	30
Motivation and autonomy of learning	31
Values and identity	43
Maintaining well-being	49

Taking action and making decisions	56
Problem solving	59
Media literacy	63
Critical thinking	81
Understanding of society	120
Realization of initiatives	145
Social and interpersonal relations	156

The learning outcomes linked to the following descriptive categories were least represented in the sample:

- Cultural expression
- Creativity and innovation
- Participation in public affairs
- Methods and strategies of learning
- Understanding and appreciation of culture
- Motivation and autonomy of learning

In their main part curricula are more likely to have little indication for developing these aspects of competences. However, based on the qualitative data gathered in the interviews different categories could be explained by different reasons:

- The realities of vocational schools may give limited opportunities for developing cultural expression and participation in public affairs. The outcomes annotated to cultural expression were linked to foreign language expression, arts subjects in general parts of the curricula. The outcomes annotated to participation in public affairs were linked to knowing how to act and acting in the context of community and environment as well as to participation in public discussions.
- The learning competence and creativity as well as innovation category, present in the policy agenda and general aims, seems not to have been further elaborated in the detailed parts of curricula for unknown reasons. The outcomes annotated to creativity and innovation were quite diverse and amongst others linked to design, contributing ideas in teamwork, applying skills to new contexts or in many cases refer directly to the competence, e.g. “is open to change”, “use creative skills (…)”. The outcomes annotated to the two descriptive categories of the learning competence were often linked to career planning and new skills development, finding information, as well as direct references to learning, lifelong learning and learning of others.

The learning outcomes linked to cultural expression as well as understanding and appreciation of culture remain scarce. The contexts of use of these outcomes are similar and possibly the cause for relatively little representation are the same. A significant part of annotated learning outcomes is from the cognitive domain because the category encompasses “understanding” of culture.

The fact that the learning competence is among the least represented in the sample is alarming. Learning is after all the ultimate competence or the meta-competence as Winterton and Le Deist put it (2005). The following questions arise in this context:

- Do VET students have autonomy of learning and are being supported or encouraged in developing methods, strategies and motivation for learning?
- Is the learning competence being transmitted informally and therefore does not need to be listed in the curriculum? Or is this a shortcoming of the education systems? (Do we learn how to learn enough? Is this skill developed efficiently?)
- Motivation and ability to learn depend strongly on the environment (e.g. support of family and peers) and factors external to the education system (e.g. health, nutrition, home-conditions) which tools are used to support learning competence development and learning itself?

The learning outcomes linked to the following descriptive categories were in the middle of the distribution in the represented in the sample (in ascending order):

- Values and identity
- Maintaining well-being
- Taking action and making decisions
- Media literacy
- Problem-solving
- Critical thinking

The learning outcomes linked to values and identity were most often used in the context of the environment, abiding by ethical codes, respecting values of the society and others.

The learning outcomes linked to maintaining well-being are fairly well represented because of the link to the ergonomics, health and safety in the workplace. Other key contexts visible in the learning outcomes were dealing with stress, maintaining physical fitness and work-life balance.

The learning outcomes linked to taking action and making decisions were most often used in relation to analysing facts (to make an informed decision), presenting initiative, starting a business (how to, planning etc.). These were often seen both in the general and vocational parts of the curricula.

The learning outcomes linked to media literacy were mostly used in the contexts of a critical approach to sources and use of media for communicating, however, the content creation aspect was not well represented. The latter is consistent with little representation of the creativity and innovation in the sample.

The learning outcomes linked to problem-solving were mostly used in the contexts of dealing with non-standard, unpredictable situations, conflict as well as using specific methods to the identification and solving of problems. Some of the examples in the

sample were strictly linked to problem-solving in mathematics and information technology.

The learning outcomes linked to critical thinking were mostly used in the contexts of self-reflection, cross-examination and analysing or evaluating inputs (data) and outcomes. This competence was also frequently named for example in “develop critical thinking skills” or directly signalled by adding an adjective or adverb such as “critically (reflects)”, “critical (analysis)”, “logical (thinking)”.

The learning outcomes linked to the following descriptive categories were most represented in the sample (in ascending order):

- Understanding of society
- Realization of initiatives
- Social and interpersonal relations

The learning outcomes linked to the understanding of society were used in very diverse contexts, including those signalled in the methodology reports. In the sample, the aspects of understanding the aspects of society related to economy or company operations were quite often recalled e.g. “consumer rights”, operation of economic system etc. Over 60 of the annotations in this category come from “knowledge of society” subject in Polish curriculum and are from the cognitive domain, e.g. “Explains what the cultural pluralism of contemporary society consists of and where it comes from” or “Presents the philosophical origin of the concept of civil society (John Locke, Georg Hegel, Alexis de Tocqueville)”.

The learning outcomes linked to the realization of initiatives was used in the contexts consistent with the ones signalled in Annex 4 of the methodology report. Namely:

- understanding and using different approaches to planning and management of projects;
- working individually and collaboratively;
- mobilizing resources (people and things);
- the ability to plan, organise, manage, lead and delegate, analyse, communicate, de-brief, evaluate and record;
- sustain own involvement and activities of others;
- presenting the attitude of innovativeness, pro-activity, courage, agency and forward-looking.

The learning outcomes linked to social and interpersonal competences are most represented. This is consistent with their long-lasting presence in public agenda in all countries. The category includes teamwork and cooperation, leadership, communication, taking responsibility, empathy and respecting others as well as valuing diversity.

3.6 Models for describing transversal key competences

The following examples of what can be called conceptual models of approach to the description of competences related to TKCs have been described below based on the country reports (Galli et al., 2019; Lachmayr & Proinger, 2019; Stęchły et al., 2019; Tomengová et al., 2019; Zeiberte et al., 2019).

These should be treated with reserve, as they show only some aspects of the observed reality and, as very fresh hypothetical constructs, require further inquiry. These are an attempt to grasp what is specific in each case and name it, with no ambition to propose models based on a common set of dimensions – rather explore and identify relevant dimensions. In the case of 3 proposed models, these dimensions can be distinguished as 'conceptual' and 'structural'. In the former dimension, we concentrate on the defining, categorising and describing of transversal competence, in the latter we concentrate on the structure of programmes and the way that TKCs are signalled to teachers and learners.

Importantly – they are in no way normative – the examples presented are a result of pattern observation, but we aim to make no claims about these solutions being successful (or unsuccessful). Some of the findings in country reports suggest that neither the conceptual nor structural approach have a simple 'translation' into pedagogical practice – meaning that the competence frameworks and standards are often treated with reserve, as somewhat superficial (being called: artificial, theoretical or bureaucratic inventions) and the units or modules are not structuring the learning or assessment as one might assume – rather serve as a menu for composing sets of graduate competence profiles (Nijhof et al., 2007). Yet all these models are in fact ways in which policymakers emphasise the relevance of TKCs.

Model 1. The strong conceptual point of reference – the example of BIST educational standards (*Bildungstandards*) in Austria

Austrian educational standards coexist with other forms of describing TKCs, i.e. diverse approaches present in different curricula. However, they are presented here as a model solution, because of their overarching (even generic) character and strong political support that they have received. The example has been selected to show that a strongly stated conceptualization can be pursued and it has been selected over other examples (for example the Polish VET core-curriculum universal formulations) because it is refined, well documented and received a strong support of authorities.

The development of educational standards since 2004 can be understood as the initial impulse for making competences systematically visible within the education system. Formulated at an average level, not at a threshold standard, the Austrian educational standards do not claim to be verifiable but do claim to create transparency concerning the indispensable goals and results of the respective educational programme.

The Austrian educational standards (BIST) were defined for all educational programmes in the form of key learning outcomes which pupils should have acquired by their completion. Thus, they serve as standards that can be expected from graduates at transitions from one school type to another and from school to work.

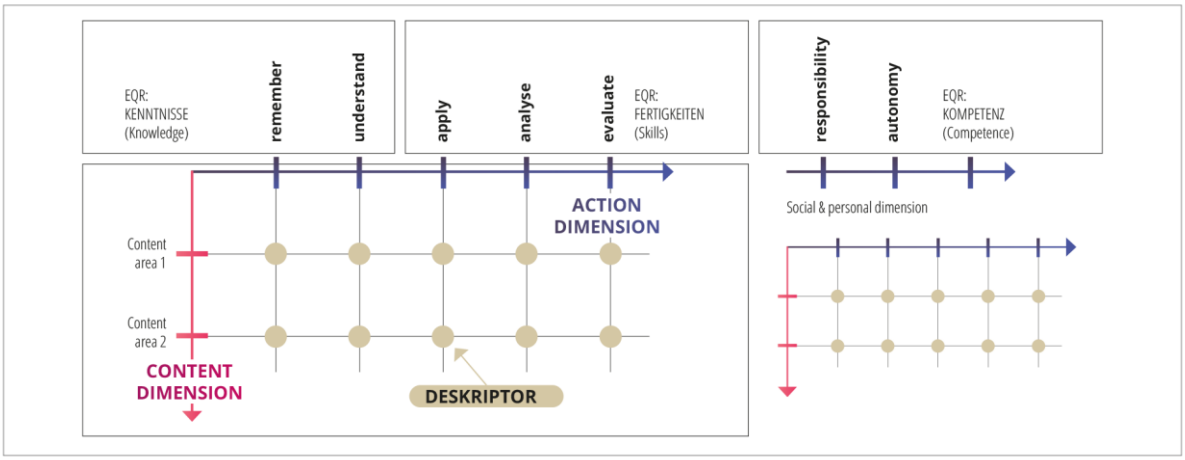
In the field of VET, both general (for all types of schools) and occupation-specific (for certain types of schools) core competences and interdisciplinary (personal and social) core competences were defined in the form of “can-do statements” as learning outcomes. They are not process-oriented and do not specify any particular learning methods to be applied either. They rather serve as guidance for teachers (particularly for the design of teaching and the creation of exam assignments), learners and parents (Tritscher-Archan & Petanovitsch, 2016). However, to some extent, the curricula and learning materials refer directly to individual educational standards, so that the individual learning units can be related to the overall learning objectives/learning outcomes (transparency). Transversal key competences are integrated into the educational standards in the area of personal and social competences (e.g. lifelong learning, social participation, orientation on values). The area of entrepreneurial competence can be found in the cross-school educational standard “Entrepreneur examination” for secondary schools.

The main reasons for the development of BISTs were the international performance studies (in particular PISA) and their results, which in many cases were regarded as insufficient. The school system had traditionally been controlled or quality-assured almost exclusively by input specifications and process monitoring, a stronger reference to outcomes seemed an urgent requirement (Specht & Lucyshyn, 2008).

A distinction has been made between the competence models for cross-school (or interdisciplinary), school-specific and social/personal competences. The educational standards “consist of a competence model for the respective subjects or departments. These are illustrated by two dimensions - the action and content dimensions”.

The action dimension itself consists of several levels (knowledge: reproducing, understanding, skills: applying, analysing, developing) and should be an orientation to the European Qualifications Framework (EQF) or National Qualifications Framework (NQF). The dimension, which is described in the EQF sense as the assumption of responsibility and independence, appears in the BISTs detached from the dimensions of ‘knowledge’ and ‘skills’ (Lachmayr, 2016). The BISTs can be understood as a matrix: one axis represents the action dimensions with the five levels (from reproducing to developing), which involve an increasing complexity. The second axis shows the content dimension, where subject-related (cross-school-level) and job-related (school-specific) contents are presented in a freely chosen order. Each content was assigned to an action dimension by numerous school workgroups. This results in intersections of content and action dimensions, which are referred to as descriptors and described using lesson examples.

Figure 6. Schematic illustration of Austrian Educational Standards (BIST).



Source: (Fritz & Staudecker, 2010; translation: Lachmayr & Proinger, 2019, p. 31)

The competence in the social and personal dimensions are further conceptualized in the following descriptive categories:

Social dimension	Social responsibility	Respect and acceptance; Empathy; Willingness to help; Confidentiality; Social participation
	Communication	Conducting a conversation; Leadership; Communication levels and nonverbal communication; Written and media-supported communication
	Cooperation	Resource orientation; Role understanding; Consensus orientation; Result orientation
	Conflicts	Clarificaion of positions; Conflict management; Solution orientation
	Leadership	Assumption of responsibility and transfer of responsibility; Decision making; Motivation ability; Goal orientation
	Appropriate appearance	External appearance and manners; Role security
Personal dimension	Personal responsibility	Self-confidence and reflection; Independence and initiative ; Understanding of standards and value orientation; Self-control; Willingness to make decisions
	Learning and working behavior	Willingness and endurance; Care and reliability; Creativity; Planning and control of work and learning processes; Transfer and networked thinking
	Lifestyle	Lifelong learning

Source: based on "Broschüre Bildungsstandards Soziale und Personale Kompetenzen 9.-13. Schulstufe. Bildungsstandards in der Berufsbildung. Kompetenzmodell, Deskriptoren und ausgewählte Methoden-/Unterrichtsbeispiele" (p. 38-48)

For more examples and details see online information: social and personal competences can be found here[7]. Austrian partners in the project underlined the contexts of implementation of this model. It was based on thorough preparations, academic support and wide coordination and harmonization across all types of schools. Considerable effort was undertaken to provide basic "instructions", tools or agreements to translate the individual subject-specific elements of different school types and schools according to common "game rules". The model requires continuous support for the intensive maintenance and updating of lesson examples.

Model 2. The multilateral network of categories – example of France

The French approach towards transversal key competences could be characterised by a richness of concepts and categorisations for the designates of TKCs. The existing standard frameworks overlap and perhaps even compete with each other. Although it seems that the key competences are strongly represented, they are not always clearly identifiable and do not necessarily appear under the same title. The diversity of categorisations is accompanied by “dilution” of key competences in professional contexts, with the notable exception of CléA qualifications (see: Galli et al., 2019, pp. 21–22). The coexistence of different categorisations and levels of description of transversal competences can be seen in all countries – however, the case of French system has been selected because of the diversity, difficulty to point a universal reference point and uncertainty about the relations between the categorisations.

The figure below presents selected divisions taken from the French country report (Galli et al., 2019).

7 https://bildungsstandards.qibb.at/show_km_v2?achse_senkrecht_id=101441&achse_waagrecht_id=101442

Figure 7. Parallel and overlapping categorisations of transversal key competences in France.

* Categories on this graph do not exhaust the scope of diversity in the French system. The presented ones are: Preamble to the programme for French; Prévention Santé Environnement standards frameworks for the CAP and the Bac pro; Electrical and connected environments trades (MELEC) Bac pro; Chemical, Water, and Paper and cardboard processes (PCEPC) Bac pro.

Source: based on (Galli et al., 2019)

The case, although it may look like an absence of systemic approach at first, provides qualities which can be seen as fundamental in the light of the learning outcomes critique. First, by asserting no single conceptual perspective it decreases the risk of reducing these concepts in practice to meaningless labels – since these need to be reinterpreted each time. There is a certain phenomenological appeal in restraining from using highly abstract concepts to communicate these competences – as a result, teachers need to construct their understanding of transversal competences and/or use several of them at the same time. Secondly, the respondents often agreed that the attitudes (as one of the dimensions of competence) are not objectifiable, hence cannot be assessed as such / separately from a related competence. Whether this results in redirecting the focus of learning to specific skills or in the flourishing of a holistic competence, remains an individual case. Finally, by allowing disciplinary and occupational variety (conceptual and actual), the transversal competence can be suited to a specific need – resulting in nuanced competence sets of learners competences:

> *Each ("disciplinary") programme approaches them and expresses them in its own way. Although some of these courses mention one or other of these key competences (for example, civic competences in the case of moral and civic education or cultural expression in applied arts and culture), most of the time, they actually include several of them, linked or correlated with each other. When they are expressed, they appear under different titles, such as "skills", "competences", "attitudes" or "knowledge".*

The authors of the French country report provided observations of both positive and negative practices related to TKCs formulation and development in France.

Model 3. TKCs unitised – example of Poland, Latvia, Slovakia

In Latvia, Slovakia and Poland all IVET programmes include modules or units of learning outcomes linked to TKCs. The recent curriculum reform has introduced a uniform programme structure for the whole IVET and similarly so for formal CVET. The modularisation/unitisation has served as a vehicle for ensuring that programmes include aspects deemed relevant by policymakers. We concentrate here on the case of Poland, with additional reference to Latvia and Slovakia.

The TKCs presence is of course not limited to the modules or units of learning outcomes - these are well represented in the general core curriculum, the qualifications frameworks and also supplementary documents for teachers.

In the case of Latvia these modules titles are:

- Entrepreneurship,
- Public and Human Security,
- Languages,
- Cultural Awareness and Expression,
- Civic Competences and Digital Technologies.

In the case of Poland these units titles are[8]:

- Workplace health and safety,
- Starting and operating business activities,
- Foreign language ability related to the occupation,
- Personal and social competencies,
- Organising the work of small teams (in upper secondary technical schools and post-secondary non-tertiary schools).

In the case of Slovakia a TKC in VET programmes are included in the 3 groups of key competencies:

- Act independently in social working life;
- Use knowledge and ICT interactively,
- communicate in Slovak mother tongue and foreign language;
- Work in heterogeneous groups.

[8] (for the core curriculum in force 2012-2021)

Depending on the nature of the programmes, the learning outcomes in the units and modules may be integrated into related general education subjects or vocational modules.

The modularisation and unitisation of curricula can be seen as an institutional response to the technical organisation of innovation (Mayer, 2003, pp. 25–27). In this sense, it is a reactive approach, aimed at appropriate choice from a set of predefined skills, which can be defined by functions. However, the inclusion of the transversal competences seems to be an effort to transgress the limitations of this structural legacy. The adaptation of VET systems to learning economy (or knowledge-based economy) in post-socialist countries began later and is conducted in a different institutional setting. It may not be a coincidence that these countries, which are sometimes characterised as dependent market economies or patchwork capitalisms (as opposed to coordinated market economies) (Busemeyer & Thelen, 2015; Nölke & Vliegenthart, 2009; Rapacki, 2019) – developed a model of training structurally closer to liberal market economies. In this case, the skills formation systems provide less of so-called holistic competences and more of specific competences. The absence of strong social partners and coordination tradition (Gardawski, 2009; Meardi, 2014), together with lower involvement of employers in the VET support such a hypothesis.

3.7 Examples of TKCs

This part of the report presents examples of descriptions of learning outcomes linked to selected descriptive categories. The intention is to show the diversity of granularity of the descriptions as well as how the different aspects of each transversal key competences are being described.

The learning outcomes that have been previously annotated to a descriptive category of TKCs have further been clustered, working titles of the groups of descriptions are given in brackets.

Personal, social competences and learning competence
Examples from two descriptive categories: Methods and strategies of learning and Motivation and autonomy of learning
[Developing professional competences and qualifications – low granularity] – Ability to assess the acquired knowledge and skills and continually improve own professional qualifications – Ability to pursue self-education and improvement of own professional competence. – Aware of: Regular self-education in improving own professional qualifications

- Describes the strengths of his personality and analyses the availability of the labour market in relation to own competences and professional plans
- Find, analyse and apply information about state of art technology in the sector, continually improve own professional competence

[Developing professional competences and qualifications – high granularity]

- Excels (improves) professional skills: 1) obtain professional information on industry from various sources; 2) defines the scope of skills and competences necessary to practice the profession; 3) analyses his/her own competences; 4) sets his/hers own goals and plans a path of professional development; 5) indicates opportunities for raising professional, personal and social competences
- Choose suitable educational offers
- Explain his/her own life plans, interests and resolutions,
- Reflect on my educational planning
- Identify training needs
- See essential work and learning steps
- Use digital tools to collect information on numerous professions and discuss opportunities and challenges in the labour market today

[Understanding learning]

- Analyses the relationship between proper sleep and the functioning of the body, in particular the impact on learning and memory processes and body immunity
- Discusses various forms of learning and assesses their biological significance (perceptive learning, instilling, habituation, trial and error learning, insight learning, imitation learning, motor learning)

[Motivation for learning]

- Autonomy and motivation to implement one's career plan
- Explain ways to promote motivation
- Positively motivate himself/ herself and others
- Take motivational measures.

[Controlling own learning]

- Optimise the learning environment (from theory to professional practice)
- Guiding and overseeing work and learning contexts, including those that are not predictable
- Control my own work and learning processes
- Developing talents and interests through participation in various forms of intellectual and creative activity

[Lifelong learning]

- Implement lifelong learning as an integral part of life and career planning
- Developing habits of systematic learning, ordering acquired knowledge and its deepening, and the synthesis of the material learned
- Developing the habit of independent, systematic reading
- Explain the importance of lifelong learning for my personal and professional development.
- Learning to learn throughout life

[Learning of others]
- Set goals for myself and can pursue them or goals set by others consequently.
- Support others to expand their resources and skills.
- Train the company's staff

Personal, social competences and learning competence
Descriptive category: Maintaining well-being
[Stress] – Chooses ways to reduce excessive stress and deal with it constructively – Describes the chemical aspects of stress – Explains the role of hormones in response to stress – Determines the factors that affect the body's homeostasis disorder (stress, harmful substances, including drugs, drug and certain drug abuse, biological pathogens) – Uses stress coping techniques: 1) recognizes the sources of stress while performing professional tasks; 2) choose stress management techniques appropriate to the situation; 3) indicates the most common causes of stressful situations at work; 4) presents various forms of assertive behavior as ways of coping with stress; 5) distinguishes between conflict resolution techniques related to the performance of professional tasks; 6) determine the effects of stress [Health and safety in the workplace] – Able to: fulfil the requirements of occupational safety and fire safety regulations, apply proper, ergonomic methods of work that do not present health risks – Adopt suitable behaviour and react appropriately so as to avoid risks – Aware of: effect of workplace environment risk factors on health, environmental and fire safety, and electricity related risks – Aware of: impact of safe work methods on personal safety and safety of other individuals – Perform office and administrative work in an ergonomically correct fashion

[Physical well-being, health]

- Discusses the health benefits of undertaking various forms of physical activity in subsequent periods of human life
- Explains the relationship between physical activity and nutrition and health and well-being, and discusses how to maintain adequate body weight throughout all life periods
- Explains what is self-examination and self-monitoring of health, and why you should undergo preventive examinations throughout your life
- Performs shaping and compensating exercises to counteract the negative effects of health on work, including sitting and using the computer
- Explains the relationship between health and the environment, and what it can do to create a health-friendly environment

[Responsibility and valuing well-being]

- Sense of responsibility for one’s health
- Gives examples of activities that are an expression of concern for one's own health and life
- Explains why health is a value for man and a resource for society, and what care for health in youth and early adulthood consists in
- Reflect on the value of having employment and what characterises a good working environment and make use of environment friendly materials

[Emotions and relations]

- Discusses the importance for health of good relationships with other people, including parents and peers of the same and opposite sex
- Is able to communicate his feelings and build proper family relationships
- Notes and appreciates the formative role of the family: in the transfer of knowledge (about life, man, the world, interpersonal relations), shaping attitudes, practicing skills, creating hierarchy of values, teaching norms and behaviors compatible with them
- Understands how interpersonal relationships are built, explains their importance in socio-emotional development; can present the essence of: camaraderie and friendship, youth crush, first fascinations, falling in love, love; draws attention to the need and value of mutual respect, assistance, empathy and cooperation

[Other]

- Gives examples of the impact of computer science and computer technology on the most important areas of personal and professional life; uses selected e-services; presents the impact of technology on social well-being and social communication

- Reflects on the problem of the impact of consumerism, workaholism and economic pressure associated with maximizing profits on human health and life and his family ties
- Presents the negative impact on human health of some psychoactive substances (tobacco, alcohol), drugs and doping agents as well as abuse of caffeine and some drugs (especially those affecting the psyche)
- Plans a project on selected health issues and indicates ways of attracting project allies and co-participants at school, home or in the local community

Personal, social competences and learning competence
Descriptive category: Social and interpersonal relations

[Communication]

- Ability to communicate with the professionals involved in work procedures
- Applies the principles of interpersonal communication: 1) identifies verbal and non-verbal signals; 2) uses active methods of listening; 3) conducts discussions; 4) provides feedback
- Communicate appropriately at the factual and relationship levels
- Communicates using information and communication technologies with members of the group cooperating on the project
- Compose messages to suit the receiver
- Coordinate my communication behaviour with my communication partner
- Understands the principles of verbal and non-verbal communication and its importance in interpersonal relations; accepts responsibility for manifested reactions, spoken and written words
- Describe what a communication content says on the relationship or factual level.
- Prepare a conversation in a structured way
- Moderate a conversation
- Hold a conversation
- Influence people (talk to, persuade)

[Cooperation]

- He/she works in a team: 1) works in a team, being responsible for tasks carried out jointly; 2) observes the division of roles, tasks and responsibilities in the team; 3) is involved in the implementation of joint activities of the team; 4) modifies the manner of behavior, taking into account the position developed jointly with other team members
- Ability to collaborate with supervisor and organize his/her own work and the work of his/her supervised staff in a target-oriented way
- Communicate and collaborate with colleagues, users of computer technology and related professionals, hear them out and give a reasoned opinion

- Accept feedback
- Aware of: the role of teamwork in accomplishing a task, responsibility of each participant
- Cooperate to solve problems with other people
- Cooperation: coordinate one's own actions with those of other people in pursuit of a shared team goal
- Demonstrate team spirit

[Cooperation – leadership]
- Influence the way employees achieve their goals.
- Lead a team
- Build and organize a balanced and sustainable cooperation,
- Lead and supervise staff
- Show empathy, goal orientation and motivation in leadership skills
- Support others to expand their resources and skills.
- Create a climate conducive to conversation, foster dialogue, encourage people to express themselves, secure the cooperation of the family and companions
- Ability to supervise his/her staff of electricians and maintain a safe workplace.

[Responsibility and autonomy]
- Act independently and accept responsibility for myself, for other people and for resources
- Act in accordance with norms and rules and my own values
- Act socially responsible, which is shown in respect, authenticity and responsibility
- Clearly state my own point of view
- Asses the consequences of my own actions upon myself and others
- Develop personal expression, argumentation and critical thinking skills
- Explain his/her own life plans, interests and resolutions
- Identify direct and indirect consequences of his/her own activity
- Is responsible for the actions taken: 1) provides for the effects of actions taken, including legal effects; 2) shows awareness of responsibility for the work performed; 3) assess the actions taken; 4) provides for the consequences of improper performance of professional activities at the workplace, including the use of hazardous substances, and improper operation of machinery and equipment at the workplace
- Review and develop your own performance and the performance of others
- Takes responsibility for undertaking activities
- Differentiate between one's own point of view and that of one's superiors
- Sense of responsibility towards others, and towards the environment
- Justify his/her own arguments, solutions, needs, rights, duties and conduct

[Social roles]

- Adapt my behaviour to my respective social role
- Adapt my external appearance to the respective social and cultural context
- Adequately behave in economic, operational and social situations and act in a targeted way
- Adopt a professional attitude
- Appear in the external appearance and role security and role awareness in line with the situation
- Behave in a manner that is appropriate to the situation and person
- Characterizes his social roles and typical behaviours
- Deal with new social roles and situations openly and confidently
- Explain the tasks and functions in a group
- Take on tasks and areas of responsibility according to my role

[Relation to others]

- Awareness of the influence of others/resistance to external pressure
- Be respectful and considerate when dealing with other people
- Come to clear agreements
- Consider other people's points of view
- Consider the points of view of one's superiors
- Constructively deal with my own and other people's interests and needs
- Contribute to the development of friendly interpersonal relations, avoid personal conflicts, prejudices and stereotyping others
- Understands how interpersonal relationships are built, explains their importance in socio-emotional development; can present the essence of: camaraderie and friendship, youth crush, first fascinations, falling in love, love; draws attention to the need and value of mutual respect, assistance, empathy and cooperation

[Relation to others - conflict resolution]

- Deal with sensitivities in the group
- Describe the causes, triggers and content of conflicts
- Develop a solution together with the conflict partners
- Handle conflicts in a solution-oriented and self-controlled manner
- Reflect on the conflict behaviour of everyone involved
- Remain calm in occasional tense situations
- Respect others' points of view
- Take steps to de-escalate
- Try to reach a consensus with colleagues and one's superiors
- See signs of an emerging conflict

[Professional roles and situations]

- Know one's role in the business and in the work team
- Maintain a good working climate with colleagues
- Maintain the appropriate distance from the customer
- Make sure customers are comfortable
- Create a welcoming atmosphere
- Strengthening the attitude of respect for other people's intellectual property
- Submit his/her own proposals to improve work, to consider the proposals of others without bias
- Take into account the values and expectations of the customer
- Take into account the values of the business
- Taking advantage of opportunities arising on the market, taking initiative, ingenuity and the ability to overcome internal and external barriers
- Make successful communication with the customer and users a priority

[Empathy]

- Express his/her own feelings and correct negativity
- Is able to communicate his feelings and build proper family relationships
- Offer adequate support to other people
- Put oneself in someone else's position
- Self-respect and respect for others (civility, tolerance, etc.)
- Sense of responsibility towards others
- Reflect on my attitudes, attitudes, feelings, values and needs
- Respond adequately to the needs of others
- Show empathy and self-reflection

Civic competences
Descriptive category: Understanding of society

[Society]

- Characterizes contemporary society and analyzes its features (open, post-industrial, consumer, mass and information);
- Characterizes historical forms of the organization of society (primary, traditional, industrial, post-industrial);
- Compare formal and informal rules, regularities, regulations, social standards, moral principles, is/her own and community expectations in the system in which he/she exists,
- Considers treating punishment as a retribution, social rehabilitation and social impact;
- Define key concepts associated with socialisation and apply these to examine features of socialisation of young people in (…)
- Describes the class-layer structure of (…) society and its local community;

- Discuss and elaborate on consumer rights and discuss consumer ethical responsibilities
- Discuss and elaborate on the value of gender equality and the consequences of a labour market segregated by gender
- Discuss the main principles of the (…) welfare state and the challenges this system faces
- Discusses the features of modern Western society (open, post-industrial, consumer, mass, information);
- Explains how social capital is created and how important for civil society (trust, cooperation networks and effective standards system);
- Explains what the cultural pluralism of contemporary society consists of and where it comes from; analyzes the consequences of this phenomenon;
- Explore local, national or global problems of current interest and discuss and elaborate on the different recommendations for solutions, orally and in writing, with precise use of social science terminology
- Formulate a problem from current social science issues and write a discursive text using terminology, varied sources and referencing to sources
- Identify the impact of waste production on the environment.
- Knowledge: The organisation of national defence and the issues involved.
- Presents - using the results of public opinion polls - a catalogue of values affirmed in (…) society and analyzes it;
- Presents the philosophical origin of the concept of civil society (John Locke, Georg Hegel, Alexis de Tocqueville);
- Presents the role of school and informal education in contemporary information society;
- Recognizes the life problems of young people in Polish society and formulates judgments on these matters.
- Reflects on the problem of the impact of consumerism, workaholism and economic pressure associated with maximizing profits on human health and life and his family ties.

[Democracy and politics]

- Analyse basic differences between the political parties in (…)
- Analyses - using the results of opinion polls - the attitudes of (…) society towards public institutions and politicians
- Awareness of engagement, one’s rights and responsibilities, the value of the Law and engagement
- Compares fascism with nazism, taking into account the organization of the state, ideology and policy towards society
- Define the concept of power and provide examples of how power is practised in the world

- Develop a spirit of citizenship: Be sensitive to other people's needs and become part of the community
- Discuss how power and influence vary due to ethnicity and socio-economic conditions
- Discuss the relationship between systems of government, a state governed by law and human rights
- Elaborate on the type of government and the most important political bodies in (…) and discuss and elaborate on a pluralist democracy in relation to indigenous peoples and minorities
- Explains the relationship between political parties and society; considers, on selected examples, the phenomenon of the crisis of political parties and the relevance of the category of "politics without ideology"
- Explains what the political culture of society is; characterizes its types in a classic approach
- Give an account of the various challenges faced by democracy, including issues of representation for indigenous peoples and minorities
- Gives formal conditions to be met by a citizen to participate in elections;
- Position oneself as an informed consumer, a stakeholder in community development and a proactive force

[Globalization and economics]

- Analyse and evaluate objectives and conflicts of objectives in economic policy
- Assess and interpret the chances and risks of entrepreneurial independence.
- Assess and reflect the importance of innovation for economic and social development
- Define the concept of globalisation and assess various consequences of globalisation
- Discuss the concepts economic growth, standard of living, quality of life and sustainable development and the relationship between these
- Distinguish supply-oriented and demand-oriented economic policy and match different measures as well as reflect them
- Elaborate on key features of (…) economic policy
- Explain the features of the (…) economic system and reflect its characteristics.
- Give an account of employee and employer organizations and their place in working life and explain the factors that influence wages and working conditions
- Know about the importance of international business and can evaluate the chances and risks of globalisation
- Know about the interactions of economy and ecology and can evaluate economic effects

[Laws and regulations]

- Analyse the extent of different forms of criminality and assault, discuss and elaborate on ways to prevent such behaviour, and explain how a modern state governed by law functions
- Know the legal framework of the economy and can gather legal information situationally
- Knowledge: Ethical questions posed by individual and collective use of digital technology. Some legal principles which regulate this use
- Observe the requirements of labour law
- Understand and observe regulatory requirements on environment protection and perform worktasks without harming the environment

[European Union]
- Elaborate on the EU's aims and governing bodies and discuss (…) relationship to the EU
- Knowledge: Citizenship and nationality: comparison of different democratic regimes
- Knowledge: The notion of European citizenship
- Presents - using the results of opinion polls - the commonality and diversity of values affirmed in European societies
- Presents and compares various models of policy towards immigrants (unification / assimilation, integration, multiculturalism) in European countries
- Shows the cultural and historical foundations of European unity

[Development, human rights]
- Discuss the characteristics and causes of terrorism
- Find examples of different types of conflicts and human rights violations and discuss and elaborate on what the United Nations and other international operators can do
- Give an account of the different explanations for why the gap between poor and rich counties exists and discuss measures to reduce poverty around the world
- Knowledge: Engagement: the notion of militancy; the major forms of political, trade union and voluntary engagement

[Ethnicity and nationality]
- Presents - using the results of public opinion polls - the attitudes of (…) society towards national and ethnic minorities and towards other nations (including immigrants
- Presents elements of the cultural heritage of an ethnic minority group in (…) (national and ethnic minorities, a group using a regional language, immigrants)

- Presents the multi-layered national identity on the example of European societies (Kingdom of Belgium, Kingdom of Spain, the Swiss Confederation and the United Kingdom of Great Britain and Northern Ireland)
- Presents the socio-cultural specificity of selected indigenous groups (e.g. On the American continent, in the Australian Union or the Asian part of the Russian Federation) and various policy models for these groups
- Presents various concepts of the nation (political and ethnic-cultural); characterizes nation-forming factors and favourable for maintaining national identity

[Intolerance]

- Explains how divisions are created in the group and in society (for example, "on their" and "strangers") and gives possible ways to counteract the manifestations of intolerance
- He/she discusses the biological and social background of various forms of intolerance and presents suggestions on how to counteract it
- He/she justifies the need to prevent racial discrimination, xenophobia and other forms of intolerance in the world and presents examples of the impact of exclusion of population groups on the social and economic life of countries
- Recognizes racism, chauvinism, anti-Semitism and xenophobia; justifies the need to oppose them and presents opportunities to engage in selected equality and tolerance activities
- Recognizes the manifestations of xenophobia and justifies the need to oppose this phenomenon

Civic competences
Descriptive category: Participation in public affairs

[Acts of participation]

- Act socially responsible, which is shown in respect, authenticity and responsibility
- Communicates in matters of social life, including public life, and discusses and presents own arguments in selected matters of this type
- Get involved in an individual or collective action plan related to sustainable development, working life, society: identify the project’s challenges; identify the issues involved; know one’s own role in a project; propose actions; prioritise actions; present the project
- Help to protect the environment and save energy
- Participate in shaping areas of society

[Acts of participation - debating]

- Participates in forum discussions
- Participates in online discussions (internet forum, chat)

- Takes part in a class, school or internet debate on freedom of expression or other rights and freedoms

[Attitudes and awareness for participation]

- Civic spirit / awareness of the importance of voting and democratic decision-making cultural openness
- Develop a spirit of citizenship: be sensitive to other people's needs and become part of the community
- Respect the rules of community life

[Knowledge for participation, the cognitive domain]

- Compare his/her own and community expectations in the system in which he/she exists
- Describe collective and individual measures for protecting the environment
- Describe ways in which I can help shape social areas of life
- Explore and discuss how one can participate in and influence the political system through different means and channels
- Presents arguments for participation in local, national and European elections

Civic competences
Descriptive category: Values and identity
[Following ethical codes] – Abide by the principles of professional ethics, professional communication and observe the standards of labour law – Principles of professional ethics – Abide by the principles of professional ethics and ethical behaviour in general – Ability to understand the requirements of environment protection legislation and perform worktasks without harming the environment – Embrace the company's objectives – Respect the rules of community life – Adheres to the principles of personal culture and professional ethics: 1) applies the principles of personal culture and generally accepted norms of behavior in a work environment; 2) accepts responsibility for entrusted professional information; 3) explains what is ethical behavior in the profession; 4) indicates examples of ethical behavior in the profession [Understanding values] – Identify and explain ethical values and the civic principles involved – Find examples of different types of conflicts and human rights violations and discuss and elaborate on what the united nations and other international operators can do

- Knowledge: ethical questions posed by individual and collective use of digital technology. Some legal principles which regulate this use
- Think critically and ethically: employ a critical and ethical approach so as to put different visions of the world into perspective and be respectful in one's values and personality
- Describe human rights, duties, interests, limitations and needs
- Compare common rules, regularities, regulations, social standards, moral principles
- Logically and realistically justify his/her own views, procedures and decisions
- Compare formal and informal rules, regularities, regulations, social standards, moral principles, is/her own and community expectations in the system in which he/she exists
- Distinguishes tolerance from acceptance; explains how divisions in society are created between "theirs" and "strangers"; recognizes the causes, manifestations and effects of intolerance and stigmatization, and presents possible ways to oppose these phenomena

[Civic attitude]

- Develop a spirit of citizenship: be sensitive to other people's needs and become part of the community
- Civic-minded attitude

[Environmental values]

- Sense of responsibility towards others, and towards the environment
- Help to protect the environment and save energy
- Eco-friendly attitude/responsible consumption in terms of the environment and sustainable development

[Family, nation, community]

- Notes and appreciates the formative role of the family: in the transfer of knowledge (about life, man, the world, interpersonal relations), shaping attitudes, practicing skills, creating hierarchy of values, teaching norms and behaviors compatible with them
- Recognizes national values related to their own cultural heritage, e.g. homeland, small homeland, community, nation, society, citizenship
- Sense of solidarity

[Customer, company, employment]

- Handle the information entrusted to me appropriately
- Discuss and elaborate on consumer rights and discuss consumer ethical responsibilities
- Discuss ethical problems related to the workplace and employment

- Work in line with current company rules and ethical norms, and regulations for environment, health and safety
- Behave in ways which are consistent with the company's values and ethics
- Ensures professional secrecy

[Differing values – the self and others]
- Respect other people and their attitudes and behaviors regardless of my own opinion
- Respect others' points of view
- Represent my own position
- Reflect on my attitudes, attitudes, feelings, values and needs
- Act in accordance with norms and rules and my own values
- Coordinate compliant behavior and my own needs
- Self-respect and respect for others (civility, tolerance, etc.)

Entrepreneurship competence
Descriptive category: Taking action and making decisions

[General entrepreneurship and initiative]
- Demonstrate initiative
- Describe entrepreneurial spirit
- Presents the characteristics and skills of an entrepreneurial man; takes part in social projects that allow them to develop
- Sense of initiative
- Take the initiative and be proactive
- Think and act entrepreneurially

[Managing and leadership]
- Achieve individual objectives as part of a single action or a project
- Control, reflect and create situations with your own initiative
- Find / choose the necessary strategies to perform management tasks in unpredictable situations
- Lead the business
- Represent own position
- Review and develop your own performance and the performance of others
- Show empathy, goal orientation and motivation in leadership skills
- Take the necessary steps to achieve my goals

[Specific attitudes and traits linked to entrepreneurship]

- Recognizes assertive, submissive and aggressive behavior; relates them to the characteristics of an entrepreneurial person
- Recognizes the strengths and weaknesses of his personality; relates them to the characteristics of an entrepreneurial person
- Recognizes the importance of entrepreneurship, including innovation and creativity in personal life and socio-economic development on a local, regional, national and global scale
- Demonstrates creativity and openness to changes: 1) describes methods and ways of solving problems; 2) takes the initiative in an unusual situation; 3) evaluate various options for action; 4) uses methods and ways to solve problems

[Decision-making]
- Check if own decisions are implemented accordingly
- Choose the right decision and goal from various options
- Makes decisions based on the information I need
- Makes decisions responsibly
- Makes finance decisions and can argue them conclusively
- Makes investment decisions and can argue them conclusively
- Makes strategic and operational decisions based on available information and argue them
- Makes rational decisions based on information available and assesses the effects of own actions

[Strategic and business analysis]
- Act according to my strengths and resources
- Analyses the micro and macro environment of the enterprise, identifies strengths and weaknesses as well as opportunities and threats of the project being planned, choosing its location
- Develop a business idea and evaluate its feasibility
- Evaluate the opportunities for and challenges to establishing a company and illustrate some of the main features of the profit and loss accounts and balance sheet
- Inspired by the experience of own and well-known entrepreneurs and based on collected information from the market, he finds an idea for his own business or social enterprise, assessing it in terms of innovation
- Set the priorities of the objectives
- Taking advantage of opportunities arising on the market, taking initiative, ingenuity and the ability to overcome internal and external barriers

[Business and company]
- Characterizes the basic organizational and legal forms of enterprises (individual business, civil law partnership, commercial law companies) and

social entrepreneurship (including labor cooperative, social cooperative, association, foundation) and, taking into account the legal and property liability of owners, selects the form for the proposed enterprise or enterprise
- Characterizes the main marketing instruments, understands their role in the functioning of the enterprise and uses their knowledge in this area to design marketing activities in the planned enterprise or undertaking
- Designing activities in the scope of setting up your own enterprise or undertaking other socio-economic undertakings
- Embody the values of the company
- Explains the principles of enterprise functioning and draws up a simple business plan; characterizes the mechanisms of functioning of the economy and market institutions and the role of the state in the economy; analyzes current changes and trends in the world and (…) economy; distinguishes and compares investment forms and the resulting risk
- Interest in running your own business and motivation to continuous self-development and investing in yourself
- Plans and performs marketing activities related to the elaborate business activities
- Prepares in the form of a business plan a project of his own enterprise or other socio-economic undertaking and presents it in writing or in the form of a presentation;
- Take into account the values and expectations of the customer
- Take into account the values of the business

[Understanding work/labour]
- Discuss and elaborate on the value of gender equality and the consequences of a labour market segregated by gender
- Explains ethical principles in business and employee-employer relations, is able to assess ethical behaviour
- Reflect on the value of having employment and what characterises a good working environment

[student entrepreneurship]
- Prepares a budget for a specific project from the student, class or school life; considers expenses and sources of financing
- Selects the form of student undertaking

[business know-how – beauty salon]
- Apply the law on establishing a beauty salon: 1) apply the provisions on the protection of personal data; 2) characterizes the types of taxes and the methods of their settlement; 3) discusses the forms of insurance for the activities of a beauty salon

- Prepares the documentation necessary to run and run a beauty salon: 1) plans the organizational and legal form of the beauty parlor; 2) prepares the application to register the beauty salon; 3) performs a cost and revenue analysis of the beauty salon; 4) draw up a business plan for a beauty salon; 5) prepares letters related to running a beauty salon
- Plans and undertakes marketing activities to run a beauty salon: 1) draws up a marketing plan; 2) uses various forms of advertising; 3) defines ways to optimize the costs and revenues of a beauty salon

Entrepreneurship competence
Descriptive category: Realization of initiatives
[Coordination and management] – Analyse workplace and worktasks independently – Collaborate with supervisor and organize his/her own work and the work of his/her supervised staff in a target-oriented way – Communicate with the professionals involved in work procedures – Set own time-line for worktask performance – Supervise his/her staff of electricians and maintain a safe workplace – Adopt a professional attitude – Develop a number of managerial objectives – Find / choose the necessary strategies to perform management tasks in unpredictable situations – Guiding and overseeing work and learning contexts, including those that are not predictable – Know the characteristics of different management styles and can evaluate their strengths and weaknesses – Lead a team – Lead and supervise staff – Set up and manage workspaces – Take on management tasks in a clearly structured area – Take on management tasks in an area with unforeseeable requirements [Planning work] – Defines the stages of the project and divides them into partial tasks – Manage resources to help manage a situation effectively – Plan and organise managerial procedures – Plans to perform the task: 1) discusses activities carried out as part of working time; 2) determines the time of task completion; 3) performs tasks within the prescribed time; 4) monitors the implementation of the planned tasks; 5) modifies scheduled tasks; 6) performs self-assessment of the work performed

- Specifies the instruments for the promotion of clothing products used on the fashion market: 1) selects instruments for the promotion of clothing products; 2) indicates tools for the promotion and sale of clothing products; 3) defines the objectives of the promotion of clothing products; 4) identifies the types of outdoor advertising media; 5) select methods for promoting the collection of clothing products; 6) identifies types of online advertising media; 7) indicates the tools used in public relations; 8) indicates the names of social networking sites used to promote the fashion brand
- Systematically develop tasks, implement them in a structured manner and establish networking with other situations

[Human resources and employer-employee relations]
- Apply for a job in an appropriate way and can handle the application procedure in a goal-oriented way
- Clearly convey goals to all employees
- Evaluate the process of goal achievement
- Explain the aims, methods and importance of human resources development and of human resource allocation
- Explain ways to promote motivation
- Influence the way employees achieve their goals
- Know methods for the selection of personnel and can evaluate their advantages and disadvantages

[Work culture / ethos]
- Work independently and take responsibility for the results of own work (…)
- Act according to my strengths and resources
- Assess own performance
- Do tasks / work independently
- Evaluate own work processes and results
- Get satisfaction and motivation for new tasks from performance
- Keep agreements
- Set goals for oneself and pursue them or goals set by others consequently
- Show commitment and perseverance to complete tasks in a results-oriented manner
- Take the necessary steps to achieve my goals
- Use effective stress management strategies for myself
- Work carefully and reliably

[Methods and frameworks for task realization]
- Apply management techniques
- Apply strategic and operational marketing instruments

- Identify and evaluate the risks of business decisions and use suitable risk-political measures
- Implement the principles and methods of the continuous improvement process
- Initiate, plan, run and conclude projects according to the method of project management
- Know the practice-oriented quality management systems and can evaluate the importance of quality management
- Know the principles and instruments of a customer-oriented way of acting and can use them
- Organise oneself and ones working environment
- Present and argue working output situationally and target-group specifically

[Finance and accounting]
- Analyse costs and evaluate their effects on prices and operating results
- Calculate business-related taxes and fees and can transfer them
- Calculate costs and prices based on given data
- Calculate the gross margin and can take entrepreneurial decisions based on these calculations
- Calculate the profit or loss of a company by means of cash based accounting
- Calculate the taxable income of natural and juridical persons and the taxes connected to it
- Compile annual accounts
- Conclude and interpret payroll accounting
- Do cost accounting
- Draw up a budget and interpret it
- Evaluate legal aspects in connection with employment statuses
- Initiate and conclude marketing procedures
- Initiate and conclude procurement transactions
- Interpret and evaluate the annual accounts of a company
- Know the most important kinds of corporate finance and can evaluate their advantages and disadvantages
- Know the most important taxes and their effects
- Post current business cases on the basis of original documents in the double-entry accounting system

[Understanding company operations]
- Describe the company's knowledge organisation system
- Describe the company's routines for personnel management, and perform basic tasks related to personnel administration
- Evaluate changes at work and recommend solutions for improvements
- Give an account of the company's organisation, strategy and main objectives

- Identify the different execution phases of the project
- Perform customer service by adapting the provided services to clients and users
- Plan, execute, document and assess administrative and technical office tasks in line with instructions, routines, procedures and existing regulations
- Plan, perform and do quality assurance work in the company's knowledge organisation system and information flow methods
- Prepare and organise documents and information in accordance with company guidelines for layouts and use of language
- Understand one's working environment
- Use the company's client follow-up system for customer service and service work

[Doing work]
- Behave in ways which are consistent with the company's values and ethics
- Get involved in teamwork
- Lead a work meeting
- Perform office and administrative work in an ergonomically correct fashion
- Perform work according to rules and agreements that regulate employment in office and administrative work, and give an account of employer and employee rights and obligations
- Represent the department in meetings
- Work independently and achieve an individual objective
- Work within the rules laid down by a work team

Cultural awareness and expression competence
Descriptive category: Understanding and appreciation of culture
[Exercising awareness] – Appear in the external appearance and role security and role awareness in line with the situation – Be respectful and considerate when dealing with other people – Respect other people and their attitudes and behaviours regardless of own opinion – Cultural openness – Participates in the discussion, justifies his own opinion, adopts the views of others or disputes with them – Reflect on own behaviour in relation to the specific needs of other people [Understanding culture] – Define the concept of culture and explain how culture, gender roles and different forms of family and cohabitation vary from place to place, and how these have changed over time

- Describe the main features of (…)-culture today and reflect on what it means to be an indigenous person
- Discuss how religious, ethnicity and cultural variation create opportunities and challenges
- Recognizes different patterns of social, moral, national, religious, ethical, cultural attitudes and shapes their identity in their context
- Specifies the properties of language as a carrier and transmitter of cultural content
- Understands intercultural relations in (…)
- Understands the cultural perception of space by man and, based on source materials, analyses the differences in its perception in different cultural circles
- Understands the notion of literary and cultural tradition, recognizes elements of tradition in works, understands their role in building universal values

[Understanding western civilization and culture]

- Distinguishes the main cultural circles, presents the values of their communities and contribution to the cultural heritage of humanity
- Presents cultural and civilization changes in the world during the cold war
- Recognizes references to the civilizational and cultural context and the meaning of cultural symbols
- Shows the cultural and historical foundations of European unity

[Arts and literature appreciation]

- In the interpretation, he uses elements that are significant to read the meaning of the work (title, subtitle, points, composition, keywords, motto); literary and cultural contexts
- Participates in artistic performances organized by local artists and performers on the occasion of charity, occasional or anniversary concerts, as well as in music workshops conducted by various creators and animators
- Participates in culture through contact with monuments and works of contemporary art, having a sense of connection with the national tradition and European cultural heritage and appreciating the achievements of other cultural circles (knows the resources of selected cultural institutions)
- Recognise some artistic and stylistic elements
- Recognizes basic motifs (e.g. Homeland, poet, mother, land, wandering), literary allusions, cultural symbols and signs of tradition and defines their functions in the work; recognizes rhetorical organization of speech

Cultural awareness and expression competence
Descriptive category: Cultural expression
[Related to foreign language] – Communicate in state official language and one foreign language

- Ability to communicate in writing and by word of mouth in state official language and two foreign languages (incl. Use of IT and Professional terminology)
- Express himself/ herself in one foreign language in written and spoken form

[Related to arts]

- In the interpretation, he uses elements that are significant to read the meaning of the work (title, subtitle, points, composition, keywords, motto); literary and cultural contexts
- He expresses feelings and emotions in relation to reality in artistic works, as well as from musical or literary inspirations (impression and expression); draws, paints, illustrates real and imagined phenomena and events (also in correlation with other objects)

[Linked to media literacy]

- Safely builds his image in the media;
- Publishes digital images in digital media and exhibition spaces: 1) specify the parameters of graphic files for publication; 2) preparing a digital photo gallery; 3) selects online publication methods; 4) performs activities related to the publication of digital images; 5) indicates the operational parameters of consumables for printing a digital image; 6) defines the technical parameters of devices for printing digital images; 7) selects the method of printing photographs intended for publication in the exhibition spaces; 8) prints photos; 9) performs activities related to the selection of exhibition systems and photography exposure; 10) publish digital images in accordance with the law
- Specifies the instruments for the promotion of clothing products used on the fashion market: 1) selects instruments for the promotion of clothing products; 2) indicates tools for the promotion and sale of clothing products; 3) defines the objectives of the promotion of clothing products; 4) identifies the types of outdoor advertising media; 5) select methods for promoting the collection of clothing products; 6) identifies types of online advertising media; 7) indicates the tools used in public relations; 8) indicates the names of social networking sites used to promote the fashion brand

Descriptive categories related to more than one transversal key competence
Descriptive category: Critical thinking
["just" critical thinking] - Demonstrate critical thinking - Develop an interest in reasoning based on argumentation - Develop critical thinking skills - Develop personal expression, argumentation and critical thinking skills.

- Think critically and ethically: employ a critical and ethical approach so as to put different visions of the world into perspective and be respectful in one's values and personality
- Think logically: employ a logical approach for the sake of consistency
- Critical or reasoned thinking (with regard to information, commercial offers...)
- Weigh up different aspects of complex tasks and problems

[self-reflection]

- Assess my performance
- Deal with my health-promoting and health-threatening behaviour
- Evaluate my work processes and results
- Evaluate one's performance with reference to the assignment, take responsibility for the result of own work
- Logically and realistically justify his/her own views, procedures and decisions,
- Reflect on how I deal with the media
- Reflect on my attitudes, attitudes, feelings, values and needs
- Reflect on my decisions
- Reflect on my educational planning
- Reflect on my manners
- Show empathy and selfreflection

[information search and processing]

- Ability to find, evaluate and creatively apply the information gained during design, construction and maintenance of electrical installations
- Ability to follow and find out about state-of-art technologies, tools and materials in the IT sector, use the web, data bases and other sources of technical information
- Critically analyses media messages
- Critically judge the information obtained
- Estimates the value of the expected calculation result, critically analyses the reality of the obtained result
- Evaluate data relating to the shipping procedures, draw conclusions
- Find, evaluate, select and make use of information
- Gather, evaluate and process cross-linked, technical information and can document it comprehensibly
- Judge the credibility of different sources of information
- Performs critical source selection
- Use a variety of digital search strategies to find and compare information that describes problems from different points of view and evaluate the objectives and relevance of one's sources
- Use and evaluate information from manuals and digital information sources for providing services and administrative office work

- Verify and interpret the data obtained

[related to groups]
- Communicate appropriately at the factual and relationship levels
- Describe what a communication content says on the relationship or factual level
- Reflect on group processes
- Reflect on my own behaviour in relation to the specific needs of other people

[scientific and academic thinking]
- Explore local, national or global problems of current interest and discuss and elaborate on the different recommendations for solutions, orally and in writing, with precise use of social science terminology
- Formulate a problem from current social science issues and write a discursive text using terminology, varied sources and referencing to sources
- Formulate, observe, sort and measure hypotheses
- Creates coherent statements in the following genre forms: argumentative character, paper, interpretative sketch, critical sketch, definition, encyclopaedic entry, synthesizing note

[critical thinking about society]
- Acquires and uses information on socio-cultural and political life, critically analyses it, draws conclusions and formulates opinions independently
- Critically analyses media messages and compares media messages about the same events or processes; formulates his own opinion based on known facts; recognizes the manifestations of unethical behaviour of journalists
- Discuss and elaborate on social science themes in a digital arena for discussion and evaluate one's understanding in light of input from the other participants in the arena
- Explains the principles of critical analysis and interpretation of various types of historical sources
- Performs critical analysis of materials from election campaigns (e.g. spots, memes, leaflets and slogans)
- Use concurrent and contradictory information from statistics to discuss and elaborate on a social science issue

Descriptive categories related to more than one transversal key competence
Descriptive category: Problem solving
[Methods, work organization] – A methodical approach: stick to a single method for the sake of efficiency – Analyse the boundaries of the problem

- Evaluate changes at work and recommend solutions for improvements
- Evaluate the process of goal achievement
- Find / choose the necessary strategies to perform management tasks in unpredictable situations
- Gather, evaluate and process cross-linked, technical information and can document it comprehensibly
- He applies problem solving methods: 1) distinguishes problem situations in terms of the source of the problem (e.g. material, emotional, personal, communication, lack of information or skills); 2) describes problem solving techniques depending on their source; 3) describes the problem situation taking into account cultural and social conditions; 4) describes alternative techniques for creative problem solving
- Identify the area of the agreement and the contradiction
- Identify the most important features of a problem, its various solutions, pros and cons in the given but also in the long-term context, criteria for choosing the ultimate optimal solution
- Make a suggestion as to how to organise space using the concepts studied
- Systematically develop tasks, implement them in a structured manner and establish networking with other situations
- Take on management tasks in an area with unforeseeable requirements
- Use strategies to develop a consensus

[Result orientation, constructivity]
- Act in a result-oriented manner in coordination with others in unforeseen situations
- Contribute cooperatively, responsibly and result-oriented
- Demonstrates creativity and openness to changes: 1) describes methods and ways of solving problems; 2) takes the initiative in an unusual situation; 3) evaluate various options for action; 4) uses methods and ways to solve problems
- Discuss constructively, actively submit progressive proposals and listen carefully to others
- Take constructive action in problem situations

[cooperative problem solving]
- Constructively deal with my own and other people's interests and needs
- Cooperate to solve problems with other people
- Coordinate my behaviour in the work process with others towards the common goal
- Develop a solution together with the conflict partners
- Develop my resources and skills in working with others

- Evaluate the achievement of results and the quality of the collaboration in my group
- Influence the way employees achieve their goals
- Support others to expand their resources and skills
- Work in a team and resolve conflict situations
- Work with others to set precise and realistic work goals

[conflict solving and performing in non-standard situations]

- Ability to resolve non-standard situations and perform worktasks under stress
- Deal with sensitivities in the group
- Describe the causes, triggers and content of conflicts
- Reflect on the conflict behaviour of everyone involved
- Resolve non-standard situations and perform worktasks under stress
- Respond appropriately to different situations including disputes and emergencies
- See signs of an emerging conflict
- Take steps to de-escalate

[mathematics and informatics]

- Apply the principles of structured and modular programming to solve the problem
- Designs problem solution (algorithm implementation) and selects the appropriate data structure
- Estimates the value of the expected calculation result, critically analyses the reality of the obtained result
- Evaluates the compliance of the algorithm with the problem specification
- Examines the effectiveness of computer solutions to problems
- He uses a greedy approach in solving problems
- Solve common mathematical problems and various situations
- Solve mathematical problems and various situations
- Uses an algorithmic approach to solve the problem
- Uses the descending and ascending method to solve the problem

Descriptive categories related to more than one transversal key competence
Descriptive category: Media literacy
[Communication using media and technologies] – Communicates using information and communication technologies with members of the group cooperating on the project – Coordinate my communication behavior with different communication media – Design communication style in written communications in a way that is appropriate for the addressee – Select communication media in a target-oriented and addressable manner

- Work with basic information and communication technologies
- Work with e-mail
- Work with various advanced information and communication technologies

[intellectual property and data protection
- Aware of: importance of awareness among computer technology users and how it is related to personal data protection and safety, and efficiency
- Aware of: safe user information storage
- Considers the problem of intellectual property; explains what plagiarism is and makes a moral assessment about plagiarism
- Explains what they are: the right to privacy, including the protection of personal data and the citizen's right in dealing with the media
- Uses media messages about knowledge of art and artistic phenomena, uses their products in his creative activities (observing the basic principles of copyright law regarding the protection of intellectual property)
- Identify the key issues associated with industrial and intellectual property
- Observe data protection and confidentiality principles

[Information search and evaluation]
- Ability to follow and find out about state-of-art technologies, tools and materials in the IT sector, use the web, data bases and other sources of technical information
- Critically judge the information obtained
- Explains where to look for reliable health and sport information, and critically analyzes media information in this regard
- Improving the ability to use various sources of information, including digital resources, assessing their reliability, reliability and substantive correctness
- Make use of a variety of ways for seeking types of information and sources
- Use and evaluate information from manuals and digital information sources for providing services and administrative office work

[Understanding media in the society]
- Acquires and uses information on socio-cultural and political life, critically analyses it, draws conclusions and formulates opinions independently
- Critically analyses media messages and compares media messages about the same events or processes; formulates his own opinion based on known facts; recognizes the manifestations of unethical behaviour of journalists
- Critically analyses media messages, assessing their credibility and impartiality, and distinguishing information from comments
- Describes the opportunities and threats to the development of society resulting from the development of information and communication technologies

- Explains the ethical principles of the media and assesses examples of controversial activities of journalists and the media
- Performs critical analysis of materials from election campaigns (e.g. spots, memes, leaflets and slogans)
- Presents the main entities of public life (citizens, citizens' associations, media, politicians and parties, power, public institutions, business, etc.) and shows how they interact and compete with each other in public life
- Reads information contained in advertisements, distinguishing them from persuasive elements; indicates positive and negative examples of the impact of advertising on consumers

[Media and multimedia knowledge]

- Characterizes basic cultural media (word, image, sound, spectacle)
- Defines the concept of multimedia as a media that combines various forms of information transfer (text, sound, graphics, animation, video)
- Lists areas in which multimedia apply (art, advertising, education, entertainment)
- Lists various forms of cultural media (spoken word, writing, book, painting image, photography, film, television program, theater performance) and uses (new media, mass media, interactive media, multimedia)

[Media as means of expression or as a tool]

- Safely builds his image in the media;
- Publishes digital images in digital media and exhibition spaces: 1) specify the parameters of graphic files for publication; 2) preparing a digital photo gallery; 3) selects online publication methods; 4) performs activities related to the publication of digital images; 5) indicates the operational parameters of consumables for printing a digital image; 6) defines the technical parameters of devices for printing digital images; 7) selects the method of printing photographs intended for publication in the exhibition spaces; 8) prints photos; 9) performs activities related to the selection of exhibition systems and photography exposure; 10) publish digital images in accordance with the law
- Prepares a presentation or other form of multimedia expression - a blog, forum, website - on topics related to local and regional culture or the broadly understood problems of contemporary culture
- Specifies the instruments for the promotion of clothing products used on the fashion market: 1) selects instruments for the promotion of clothing products; 2) indicates tools for the promotion and sale of clothing products; 3) defines the objectives of the promotion of clothing products; 4) identifies the types of outdoor advertising media; 5) select methods for promoting the collection of clothing products; 6) identifies types of online advertising media; 7) indicates

the tools used in public relations; 8) indicates the names of social networking sites used to promote the fashion brand

- Uses multimedia techniques in the production of advertising elements: 1) distinguishes between forms of audio advertising, e.g. Radio advertising, podcast, digital audio; 2) distinguishes between forms of video advertising, e.g. Television advertising, cinema advertising, interactive film, music video, top of the series or film, online video advertising, advertising using VR (Virtual reality); 3) selects the form of multimedia advertising for the advertising message; 4) performs the audio advertisement script; 5) performs an advertising movie storyboard and shootingboard; 6) performs radio advertising; 7) performs video advertising
- Uses digital media in the production of advertising elements: 1) distinguishes forms of digital advertising in the media, e.g. Website, online campaign, use of social platforms, mobile devices; 2) selects digital advertising forms to match the content of the message; 3) describes the specifics of creating a message adapted to mobile devices; 4) places elements of the advertising message on websites, including social platforms; 5) places elements of the advertising message on social media; 6) places elements of the advertising message on internet portals; 7) describes methods of building e-mail communication recipient bases; 8) describes ways to segment email recipients; 9) sends an e-mail to the recipient database using specialized tools

Descriptive categories related to more than one transversal key competence
Descriptive category: Creativity and innovation
[Declarations of creativity and openness to change] – Is creative and consistent in performing tasks – Is open to change – Demonstrates creativity and openness to changes: 1) gives examples of the impact of change on various situations of social and economic life; 2) indicates examples of the introduction of the change and assesses the effects of its introduction; 3) suggests ways of solving problems related to the performance of professional tasks in unpredictable conditions – Demonstrates creativity and openness to changes: 1) implements innovative activities while performing professional tasks; 2) justifies the need to be open to changes; 3) assesses their own creativity and openness to innovation; 4) justifies the need to be consistent in the implementation of professional tasks; 5) indicates examples of introduction of the change and assesses the effects of its introduction – Demonstrates creativity and openness to changes: 1) indicates alternative ways of solving problems; 2) evaluate various options for action; 3) examine various sources of information, use available technical equipment [Creativity and innovations in cooperation]

- Contribute my design ideas
- Develop new perspectives and approaches
- Collaborate, hear out instructions, formulate ideas and give instructions
- Evaluate changes at work and recommend solutions for improvements
- Make a suggestion as to how to organise space using the concepts studied
- Suggest a technical improvement to one's superiors
- Submit his/her own proposals to improve work, to consider the proposals of others without bias

[Innovative approach to using knowledge and skills]
- Make connections and cross-connections
- Use my skills in new tasks and problems
- Ability to find, evaluate and creatively apply the information gained during design, construction and maintenance of electrical installations

4. Assessment of TKC

4.1 Introduction to the discourse on the assessment of TKC within VET

Assessment in education defined by Curtis (2010) is a process of gathering evidence, making judgments and drawing inferences about student's achievements and performances. Pellegrino, Chudowsky & Glaser (2001, p. 42) described the assessment as "a tool designed to observe students' behaviour and produce data that can be used to draw reasonable inferences about what students know". Kechagias (2011) emphasizes three key elements that are common to any assessments practice defined as "the assessment triangle": observation, data collection and interpretation, and learners' cognition.

Assessment will therefore support effective changes not only in what is taught but also how it is taught, and consequently what is learnt and how it is learnt. Learners must be able to think critically, to analyse, and to make inferences, however, research in the area of assessment (testing) has been almost exclusively concerned with cognitive aspects. As indicated by Kyllonen (2016) **it is becoming increasingly important to consider noncognitive measurement on equal footing with cognitive measurement and to give equal time to both**. On the importance of assessment in the context of key competences indicates the Commission Staff Working Document: "Assessment is crucial for the development of key competences for two principal reasons. Firstly, by focusing on certain learning outcomes, assessment sends a clear signal that these competences are the priority for teaching and learning. Secondly, by providing information about learners' progress towards these learning outcomes, the assessment helps to adapt teaching and learning more effectively to learners' needs (European Comission, 2012, p. 8).

In the last decade, literature has therefore pointed out a change in the perspective regarding the practices, methods, tools and aims of assessment. As summarized by Segers et al. (2006), new directions in assessment regarding a shift from de-contextualization to authenticity, from single to multiple measurements, from a low to a high assessment of comprehension, from assessing a few to assessing many dimensions of intelligence, from the separation to the integration between assessment and learning processes, and from the idea that assessment is teacher-directed to the notion of student's responsibility in evaluation. Wiggins (1998) affirms that assessments need to be characterized by students' active engagement, exploration, and inquiry.

The theoretical debate on assessment and the methods to assess has suggested that "the aim of assessment is primarily to educate and improve student performance, not merely to audit it" (Wiggins, 1998, p. 7). Therefore, assessment not only plays a role of certification or final stage of a teaching a learning program, but it is considered as part of building knowledge process (Segers et al., 2006).

Assessment should provide feedback on where students are and how they could be supported to progress further, in order to promote meaningful learning. This occurs when learners are actively involved and have the opportunity to take control of their own learning process. Under this perspective the main role of assessment consist in providing feedback to learners, emphasizing metacognition, self-assessment and the transferability of knowledge and competences acquired within other settings (Packer & Goicoechea, 2000).

Assessment should be as much contextualised as possible, in order to allow learners to show their deep understanding of concepts and the related frameworks. During assessment procedures a student should be asked to make explicit his/her own learning processes and the feedback of assessment should not only give information about what students already know but also on what they could do to improve their competences (Bransford et al., 2000).

Assessment can serve both a formative and a summative purpose. Formative assessment means to provide feedback to students and teachers to promote further learning. Summative assessment contributes to the judgement of student learning for reporting and certification purposes.

Summative assessment or high-stake assessment gains importance in the context of validation of non-formal and informal learning (or RPL) promoted especially Europe in the context of implementation of the European Qualifications Framework and VNIL recommendations. This puts even more importance on including transversal key competences not only in the formative but especially in assessment for licensure[9].

[9] In this report we use the terms *assessment for licensure/certification* and *assessment for qualification* interchangeably.

Like cognitive assessments, noncognitive assessments can be used for both high-stakes (admission, licensure, or employment screening) and low-stakes (development) purposes. And as argued by Kyllonen (2016, p. 205) “slow acceptance assessment for high-stake purposes – in the widespread of acknowledgment of the importance of noncognitive skills – is due to stakeholder communities not trusting the validity of the score inferences from the measures. If only there were a real test of noncognitive skills, analogous to the SAT or PISA test mathematics and reading skills, then noncognitive assessment might be embraced for broad use. A test of noncognitive skills is in some sense the holy grail of noncognitive assessment”.

It is an open question if at the moment there are no valid measures to test transversal key competences explicitly would the testing knowledge related to TKC might be a way of doing things, not as the end point, but as the middle point in the route to inclusion TKC within education systems, especially VET systems.

4.1.1 Formative and summative assessment of TKCs

The assessment of transversal competences is particularly challenging since these competences are not easily definable, neither completely separated from competences related to contents. In line with these considerations, the assessment of transversal competences according to Kechagias (Kechagias, 2011, pp. 129–130) should:

A. serve diagnostic, formative, summative, and certification purposes;
B. use models of competence development based on cognitive research, but transforming psychometrics to deal with new kinds of assessment and making students’ thinking visible;
C. account for new modes of communications (e.g., ICT);
D. include collaboration and teamwork (i.e., integrate individual performance evaluation by assessing collaborative tasks);
E. include local and global citizenship; interpreting assisted performance (i.e., ensuring accessibility and customization of items for students with special needs);
F. ensure validity; and
G. consider cost and feasibility.

The **methods of assessment** of transversal competences should therefore be concerned on three key issues: (Gibb, 2014)

1. transversal competences should be clearly specified in order to define “good performances” and to contextualize it into the educational or organizational goals, characterizing the broader learning environment;
2. content of assessment, which is related to quality and asks for fairy methods and tools for evaluating such competences, using observations, data and inferences and quality information;
3. consequences (outcomes) of transversal competences assessment, which should consist in making learners aware of their behaviour, reflect on their own

experiences, self-motivate and going on in a path of formative assessment for receiving constant feed-back for self-improvement.

Assessment tools should therefore be authentic and contextualized (i.e., using skills in context), adopting multiple measures, having high levels of comprehension, assessing many dimensions of intelligence, offer an assessment integrated with the learning process, and being student-centred (Segers et al., 2006).

For assessment purposes, the self-regulated learning research, therefore, suggests a higher profile for classroom and workplace observation and dialogue than for questionnaires and tests.

It has been clearly identified that students gear their learning behaviour to the assessment method used. The way in which tests are carried out in education directs what a student learns and how a student learns to a great extent.

Formative assessment of TKC

In the perspective of TKCs development, competence-based assessment is meaningful. Competence- based assessment means that professional behaviour is tested in a realistic context as well as the underlying knowledge and skills pertaining to that behaviour.

There is widespread recognition in education research, that assessment strongly influences teaching and learning. This synergy of assessment, learning strategies and teaching practices leads to the importance of formative assessment that has been first defined by Michael Scriven in 1967. Scriven considered evaluation as formative when providing information to assess the effectiveness of a curriculum and guide educational further choices. With a view to teaching and learning processes formative assessment is a tool for improving the teaching-learning process for students. Formative assessment leads to educational decisions, actions and awareness. In the current debate formative assessment is considered in its potential to enhance learning and performance (Kechagias, 2011)). Harlen & James (1997) describe formative assessment as the assessment that is directed towards promoting learning and that is, therefore, part of teaching practices. Formative assessment takes into account the progress of each learner, does not refer to fixed criteria and provide diagnostic information. Students play a central role in this function of assessment: they are requested to be active in order to understand their strengths and weaknesses and to decide how to improve and progress in the learning path. Feedback is a key aspect of formative assessment because it clarifies the expected performance (Huhta, 2010) and helps students become aware of their learning efforts. Formative assessment can be set up in various ways, for example, peer feedback, diagnostic testing, interim feedback given by experts, use of learning tasks, etc.

On the other hand, the need for assessment to be relevant to complex contexts, including occupational contexts and social contexts more generally, means that assessors need to be able to exercise their judgement in any given set of

circumstances (Cedefop, 2010b). The professionalism of assessors is very important, because of the assessment of the single acceptable outcome should be replaced by performance which is demonstrated in different ways in different contexts according to individual attributes. Training and development of teachers as a competent assessor is essential. The precise balance between the specification of learning outcomes and the judgement of assessors will also depend on the assessment purpose.

Summative and final assessment of TKC

The summative assessment focuses on information about students' achievements at the end of a specified learning period (e.g. final exams, chapter tests, and project's outcomes). It may be conducted during education or be the final assessment decisive for licensure. In many education systems, this is the type of assessment witnessed in classrooms. Recent literature in the area of assessment and learning, considers summative assessments the assessment of learning, due to the emphasis on the end-product of learning rather on the process of learning (Tasouris, 2015).

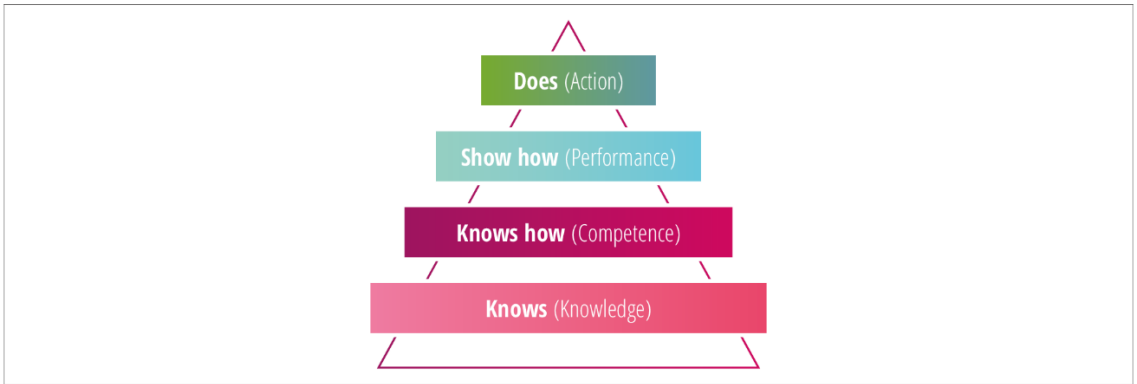
Summative assessment is the assessment with which it is indicated that the student is competent at a certain level and, as an endpoint, earns an education degree, qualification or a credential. Summative assessments are often high stakes.

A summative assessment may be a written test, an observation, a conversation or a task. It may be recorded through writing, photographs or other visual media, or through an audio recording. Whichever medium is used, the assessment will show what has been achieved. It will summarise attainment at a particular point in time and may provide individual and cohort data that will be useful for tracking progress and for informing stakeholders.

4.1.2 Competence-based assessment and Authenticity

During the last three decades, competence assessment was a widely discussed topic around the world. The framework for assessment proposed by Miller (1990) clarifies the relationship between knowledge performance and competence which is shown in the below figure.

Figure 8. Framework for assessment



Source: Miller (1990)

Knowledge is a prerequisite for being competent. Competence means, that student is able to apply knowledge in concrete situations, while performance is the ability to use this knowledge to perform concrete action. The implication is that performance must be measured or observed in order to assess competence, and many different test are probably needed. Assessment has focused mostly on “knows” and “knows how”: recall of factual knowledge and the application of this knowledge.

To determine someone´s competence, observing behaviours in action is needed, and this is represented by the top layer of the pyramid in Miller´s model. Traditional knowledge-based assessments have usually low predictive value for professionals upon graduation and did not reinforce the types of knowledge needed to success in the professions. As indicated by Wimmers & Mentkowski (2016) to serve the needs of the professional workplace we need to focus on student’s ability to use his or her knowledge, and competence was the measurement of an examinee’s ability to use his or her knowledge. Competency-based assessment is the assessment of a person’s competence against prescribed standards of performance. Competency-based assessment is the process of determining whether a candidate meets the prescribed standards of performance. Despite the fact that Miller´s pyramid is primarily intended to serve as a framework to define and categorize different assessment tools, his model gives a good idea about which characteristics are influencing the development of competence. Competence is context-dependent, multi-dimensional and interconnected, and sensitive to time.

In vocational and professional education authenticity of the professional assessment comes to the scene in the work of Wiggins (1991). Authentic assessment is always crafted with an eye towards the real world context of implementation. Authenticity, the degree to which an assessment mirrors the ways in a which tested knowledge and skills will be used in real world, is a critical characteristic of assessment in profession (O’Neal, 2016). Wiggins (1998) offers definition of authentic assessment containing 6 essential characteristics:

1. The assessment experience reflects the way content, skills, and behaviours are implemented in the real world.
2. The assessment requires the learner to make a series of informed choices in order to navigate a problem with many potential outcomes.
3. The assessment requires action on the part of the learner, and those actions would be recognizable to an expert as inherit to the field being tested.
4. The context of the assessment is as similar as possible to the content of the real world equivalent.
5. The assessment requires the learner to employ a range of complementary skills in order to navigate the problem.
6. The assessment includes feedback on performance, and the opportunity to be reassessed after having incorporated that feedback. Because of this, authentic assessment sometimes overlaps with “performance assessment”.

From an educational theory viewpoint, the contextualized nature of authentic assessment match very nicely with social constructivist theories of how students learn: deeply understanding the material, and representing it in a contextualized necessities (Maclellan, 2004; Maclellan & Soden, 2004). Other educational theorists argue, that more content specific instruction and assessment was necessary given the poor evidence for the transferability of knowledge and skills from one domain to another.

The second concern was about the reliability and generalizability of authentic assessment (Hodkinson, 1991). In response, defenders of authentic assessment claimed that reliability is critical in norm-referenced grading but authentic assessment is criterion-referenced and established according to an external reference point, then reliability becomes moot as we are not comparing learner to learner, but learner to standard (Burke & Jessup, 1990). But Wiggins (1998) stated, that authenticity is not a binary state wherein we can divide traditional exams as “inauthentic” and real-world-focused assessment as “authentic”. All assessments exist on a continuum of authenticity.

Reliability of more authentic assessment methods lies on assessors, their networking and discussions. Regular standardization of grading practices, communication between assessors at multiple sites, and continuous discussion of the quirks of any given assessment tool are all methods by which reliability may be driven up for authentic assessment.

Van der Vleuten and Schuwirth (2005) proposed an expansion of the characteristics by which we might choose an assessment. In addition to the traditional descriptors of *reliability and validity,* they have added the concepts of *educational effect, feasibility, and acceptability.*

Educational effect describes the catalysing effect that an assessment might have in improving or even motivating students´ learning of a skill or topic. Feasibility describes

how affordable and implementable a particular assessment might be. Acceptability describes how likely instructors and students are to endorse the particular assessment tool or method.

Base on previous explanation there is worth, in vocational education and training, to use several assessment methods that lie on different points of authenticity spectrum: multiple choice coming from broader context, simple ill-defined task close to professional context, and assessment at work. Very important is collection of performance data from students during education and training. The accumulation of evaluations can give a complete picture of learner´s performance and potential.

4.2 Assessment models in TRACK-VET partner countries

Assessment of TKCs is embedded within the national legal organisational solutions related to assessment/examination. For this reason, before describing solutions regarding assessment of TKC within the TRACK-VET project countries we will present assessment practices in the TRACK-VET partner countries. We wanted to answer the following questions:

1. What qualifications are being awarded to learners in IVET and CVET programmes discussed in the country report. Do these qualifications confirm strictly professional competences or also general competences?
2. How does the assessment look like across different types of schools/qualifications which were described in the country report?
3. How IVET qualifications are being awarded. What are relations between formative and summative assessment?
4. Are IVET qualifications available for CVET and adult learners. If yes, are the assessment procedures the same for adult learners as for the IVET learners
5. Who defines the content of the assessment?
6. What is the structure of the exam, grading mechanism and the passing rate.
7. Who is conducting the assessment, a teacher, an external evaluator?
8. Are the tasks within the summative assessment leading to certification the same for all learners?
9. Is the practical training at the premises of employers obligatory part of the vocational study programme.
10. In IVET are pupils receiving grades related to “behaviour/conduct”? Are these grades visible on the VET certificates, school leaving certificates?

We asked each partner to provide answers to these questions which are included in the Annex 2 to this report.

In all countries, apart from France, assessment leading to a VET qualification is organised as a final examination, in this sense VET examinations within IVET systems resemble credentialing tests (Swygert & Williamson, 2016) or licensure testing (Impara & Murphy, 1995). In France there has been a shift in assessment policy and the final examination has been withdrawn – still in some professions assessment for qualifications is organised as the final examinations but in more and more professions assessment is organised continuously during the learning process at schools.

VET qualifications, in all countries, in most cases, allow to work in a trained profession – i.e. there is no need for a qualification holder to acquire additional certificates, licenses (apparat from certain profession or regulated trades where other licenses or entrance examination or evidence of relevant professional experience are required).

		Assessment leading to a qualification/certification	
		Continuous	Final
Scope of competences being assessed for the purpose of certification	General and VET	France (*)	Austria, Latvia
	Only VET	-	Poland, Slovakia, Norway
*In France, still in some professions assessment for qualifications is organised as the final examinations but in more and more professions assessment is organised continuously during the learning process at schools.			

In Norway, Poland and Slovakia assessment relates only to professional competences, whereas learning outcomes which are defined in the general core curricula are not being assessed during final VET examinations in these countries. In Austria, Latvia and France assessment leading to a VET qualification includes obligatory learning outcomes defined in a general core curricula. This is important observation as many learning outcomes related to TKCs, especially related cultural awareness learning outcomes are embedded within general core curricula during subjects related to mother tongue, history, political science, geography or civic education, ethic education or religion classes.

Table 4. Obligatory part of general education in the certification programmes in Austria, Latvia, France

Austria	Colleges for Higher Vocational Education and Training (BHS) conclude with amatriculation and diploma examination after five years. Both certify general higher education and in the BHS also a professional qualification with immediate job entitlement is certified. The matriculation and diploma examination comprises three cornerstones with seven exam sections: 1. a diploma work including its presentation and discussion 2. standardised and non-standardised written exams with options (depending on the school type) 3. oral (non-standardised) exams with various options (depending on the school type) In general, students can decide if they want to take three written and three oral or four written and two oral partial exams All students write a diploma work either alone or in a team (of 2-5 people) which covers a topic that corresponds to the educational objective of the respective school type. The diploma work covers a

	problem which requires comprehensive theoretical and practical knowledge coming up to the state of the art in the subject disciplines or in business and technology and also requires creative and innovative approaches to solutions. Written exams such as German, English, French, Italian, Spanish and Applied Mathematics are standardised and laid down centrally. In addition, there are subject-specific examinations which aim to test key qualifications specific for the school type. In the BHS-HAK this refers to a specialist examination in business administration. This is not laid down centrally. The oral exams are also standardised by specifying topic areas in the individual examination areas. Although these exams are prepared and checked by the teachers at the school location, comparability is ensured by specifications, such as the development of a competence-oriented assignment, which not only requires reproduction but also transfer and problem-solving competence. The reorganisation of the exam committee – the examiner (usually a teacher of the school) and the expert assessor (usually someone from the educational board who jointly make a proposal on the mark – also contributes to a certain degree of standardisation of the exam procedure
Latvia	The final state examinations on completion of an IVET programme include: 1. a vocational qualification examination; 2. at least four examinations in general education subjects: a centralized examination in Latvian, a centralized examination in one foreign language at the learner's choice, a centralized examination in mathematics and at least one examination at the learner's choice. The theoretical and practical part of the CVQEis developed in NECby Vocational Education Department VET Examinations Division (VET ED) and is exactly the same in all centres/schools which conduct examinations in a given profession
France	The qualifications reffered to in the French report are mainly those awarded by the Ministry of Education (MEN). These qualifications confirm both professional and general competences For the general examinations, as for the vocational ones, there are two main methods of assessing candidates, depending on the institutions in which they are studying: final one-off assessments or continuous assessment (CCF). Its important to highlight that CCF is not a continuous formative assessment conducted all along the training period but it is organized as a one-off examination too, situated in an intermediate point of the training period and not

	necessarily at the end. CCF is however the most common type of evaluation. In order to obtain a full qualification several exams are necessary. The general education examinations may differ. Some of them are one-off written examination, some others (CCF especially) are based on the implementation of a project followed by an oral examination. In both cases, teachers (sometimes assisted by professionals for vocational examinations) conduct the assessments.

Source: TRACK-VET country reports.

In Latvia, Norway and Poland assessment is designed by the external agency and is being conducted by external evaluators accredited by state or regional agencies. In Austria, France, Slovakia assessment leading to a qualification is designed and conducted at the school level by the teachers, mostly according to the national rules and guidelines.

		Who conducts assessment [agent of judgement]	
		Teacher	External agent
Who defines the content of examination	School teachers [based on the national guidelines]	France, Austria, Slovakia	-
	External agency/body		Poland, Latvia, Norway

In all countries the practical training organised at the premises of employers is obligatory part of the vocational study programme. It is common that employers are assessing learners' competences and the grades they are giving are included in the semestral grades. Obligatory practical training can last from 8 weeks in Poland or 22 weeks in France (Bac Pro qualifications) to even two years in Norway.

> Austrian report: Since 2014/15, internships are a central and compulsory element of training in the BHAK and serve to supplement and deepen knowledge and skills acquired in class. They must be completed within a defined period at a company outside of school education. Among the objectives are the acquisition of work values such as punctuality, reliability and responsibility, as well as the strengthening of social and communicative competence by dealing with superiors, colleagues, customers, learning to work in a team, and so on These are clearly related to transversal key competences, above all to social, personal and

entrepreneurial competence. By means of mandatory work records, e.g. in the form of practice diaries or portfolios, learning processes are visualised and reflected upon, and learning outcomes are documented.

In all of the countries the dominant method of assessment is performance assessment accompanied by written or oral part. Apart from Poland in all countries there is also an oral part during VET examination. In Austria within *BHS-HAK* programmes learners need to conduct group project. In France portfolio method is being used as an complimentary assessment method leading to a certification whereas in Slovakia there learners need to demonstrate outcomes of the project.

Slovak report: Although the TRACK-VET transversal competences are not explicitly stated in assessment criteria of the upper secondary school final examination, the methods and forms of finalizing the studies allow demonstrating the level of transversal competences. The presentation of the projects represents the student´s level of independent learning (personal and learning competence), working with information, processing it, using ICT and presenting to the public (social, civic competence). The ability to work on projects in a group develops students' social and interpersonal competences, develops co-operation and empathy. The opportunity to present the most successful professional work within the final exam gives students space for cultural awareness and expression. Final examinations at upper secondary vocational schools present the competences of students in the field of economic education and entrepreneurship as their natural component (entrepreneurship competence). Final grade involves level of TKC in theoretical and practical part of final examination.

Table 5. Methods of assessment leading to a certification

	Written	Performance	Oral	Group Project	Portfolio
Austria *(BHS-HAK)*	X	X	X	X	
France *(Baccalauréat Professionnel)*	X	X	X		X
Latvia	X	X	X		
Slovakia	X	X	X		
Norway	X	X	X		
Poland	X	X			

Source: based on TRACK-VET country reports.

However, in none of the countries where assessment is organised as final examination, grades or achievements obtained during the learning process are not taken into account – from the perspective of the acquiring of VET qualification effort put by

learners in acquiring grades or other activities is almost non-relevant. This is crucial observation from the perspective of development of TKCs within VET systems.

During the school time competences are being developed in various contexts, i.e. while participation in classes and interactions with teachers and peers, while participating in the company training (apprenticeships, work-based learning) but also while engaging in other activities like mobility projects (e.g. Erasmus+), skills competitions and others. If these activities are not taken into account in the process of obtaining VET qualification than the structure and the content of the final examination plays huge role affecting the school practice. From the perspective of development of TKCs the crucial question is whether final exams leading to VET qualifications refer to transversal key competence or not. This question will be answered in the next section.

Validation of non-formal and informal learning. It is interesting to note that in some countries assessment methods used in the certification process are the same for school learners and adults who want to acquire VET qualifications via recognition of prior learning procedure (or validation of non-formal and informal learning) whereas in other countries assessment procedures are different.

In Austria, Latvia, Poland and assessment procedures are exactly the same and CVET/adult learners take exactly the same exams as IVET learners.

> Polish report: All qualifications available for IVET learners are also available for CVET and adult learners who want to take recognition or prior leaning procedure. Irrespectively whether examine takers are regular IVET learners or adults they are being examined in the same way – they solve the same professional tasks and take the same written test.

In France validation procedures vary depending on the status of the schools. Candidates coming from private schools or non-accredited apprenticeship centres, can only complete final exams. These exams take place in an exam centre (school) and candidates have to be assessed by teachers they do not know. In Slovakia there are no RPL procedures implemented so far within VET system. In Norway, however assessment methods differ.

> Norwegian report: At upper secondary level the following methods have been developed for validation of non-formal and informal learning in respect to the requirements stipulated in the national curricula:
>
> - Dialogue-based method: The dialogue-based method is based on discussions between assessor/specialist and the adult. The specialist focuses on the knowledge and experience of each individual and attends to specific problems andqueries in the curriculum. The assessor/specialist can use a computerised or manual tool based on the curriculum in question. This method requires individual preparation and a one-to-one meeting. The dialogue-based method can be combined with portfolio assessment, self-assessment and testing. This has been tested out on a large number of candidates.
> - Assessment of portfolio: Assessment based ona portfolio is a method based on written documentation, photos, etc.The candidate sends a “charting” form to a “service centre” together with certificates and reports. Modules and subjects are

approved on the basis of the documentation submitted, and additional education is offered so that individuals can acquire the desired certificates. This method demands good written documentation of individuals' own skills and does not require one-to-one meetings. Undocumented and tacit knowledge is difficult to reveal. After admission to upper secondary education, a discussion takes place toarrange the course according to actual knowledge and skills.

- Vocational "testing": Vocational testing starts off with an interview, where the background, training, work experience, language skills and objective of the adult are charted. After the first general interview a professional specialist interviews the individual in the particular subject, after which the individual shows the abilities in practice, so that both the theoretical and the practical side of the trade is assessed. Working on the basis of this practice, the adult may be offered either additional education to bring him or her up to a Craft or Journeyman's certificate level or public certificate useful for job seeking. This method complements other methods in that the assessment of non-formal learning is also possible, and where required, parts or allthe practical side of the vocational subjects can be approved

4.3 What data and country reports tell us regarding assessment of TKCs

From the information provided in national reports we can surmise that there is no formal or standalone assessment of TKCs in any of the participating countries. However, since the TKCs are defined in VET educational programmes we can find practices of factual assessment of TKCs embedded in the standards of assessment of other (content based) competences.

4.3.1 Formative assessment and summative assessment during the school practice

In all countries national VET systems provide various opportunities to develop transversal key competences. Although assessment strategies related to TKCs are very often not formulated explicitly they can be found embedded in a number of other assessment methods. Systems of assessment contains mainly written and oral tests which are sometimes supplemented by situated assessments and portfolios or other methods.

In all countries national legislation indicates that teachers should be using different assessment methods (portfolio, case studies, group work, role play, dossier, experiment, project work, discussion, brainstorming, games, field trips) according to agreed evaluation criteria during the course of study focusing on different learning outcomes indicated in the core curricula of general and vocational education. Taking into account quite broad coverage of the learning outcomes related to the TKCs in the

core curricula (see chapter 3) TKCs should be covered – at least in theory – in the assessment practices of the teachers in all analysed countries.

Table 6. Assessment of TKCs indicated in national legislation – examples of Austria Slovakia and Latvia, derived from the national reports.

Austria	Legislation on performance appraisal and performance appraisal (or assessment) is mandatory for teachers and students. In Austria, they are enshrined in the school education law SCHUG §18ff and in the performance appraisal ordinance (LBVO). Most paragraphs specify what (curriculum), how (oral and written exams, exercises, collaboration) and to what extent is examined and how the results should be stated in grades. Some are rather non-binding target provisions (e.g. equal distribution over the entire semester, introduction to self-assessment, "in-depth" examination only "on subject areas that were taken in a reasonable period before") (LBVO §5 para 6), equivalence of "participation" with other types of examinations such as tests or schoolwork.
Slovakia	In accordance with the instructions of the State Educational Programme, each individual school develops the evaluation criteria and assessment rules within its School Educational Programme. They are subject to compliance with them after their approval. The School Educational Programme should declare clear criteria, for example, for oral exam, written assignment, group work, laboratory work, etc. It distinguishes: -Continuous examination (examining mastering of the subject matter of one or several lessons), -Summative examination (examining mastering of the subject matter of a thematic unit or the entire assessed period), -Final examination (finals, maturita, graduation exams or corrective exams). From the TKC point of view, the Regulation No.21/2011 –evaluation and assessment at upper secondary schools in point 5 states: “At the end of the grading period, the quality of the work and the learning outcomes achieved by the student are assessed. At the same time, an account is taken of the systematic student´s work, his/her personal and social competences such as responsibility, effort, initiative, willingness and ability to cooperate...” The evaluation criteria and assessment rules must be developed for the whole period of study. They are set out in the School Educational Programme and are binding for the teacher and student. According to the State School Inspection (ŠŠI) report for the school year 2016/2017 [11], the internal system of student assessment (evaluation criteria and assessment rules),

Latvia	The ways how learning outcomes are going to be assessed, methodological techniques, the scope and number of tests and assessment criteria are determined by the teacher, with due regard to the content of the subject and the VET programme implemented. There are certain key principles set out in the regulatory acts on vocational and general education that are taken into account when assessing knowledge, skills, attitudes and competences: 1.the principle of summing up: learning is assessed by summing up the positive achievements in memorizing and understanding, use of knowledge and creative activity; 2.obligatory testing: the learners are assessed on how well they have mastered the compulsory content of the program; 3.transparency and clarity of the criteria defined for the knowledge, skills, attitudes and competences to be acquired: subject or module-based programs include compulsory content and basic requirements for achievements that are accessible and clear for all participants of the learning process; 4.diverse ways for assessing learning outcomes: different ways of testing and kinds of tests; 5. feasibility: the test should allow the learner to demonstrate knowledge, skills, abilities and attitudes in tasks and situations at all levels of acquisition; the scope of intermediate and results to be tested has to correspond to the content of the curricula
Poland	Schools have generally large freedom in developing their programs. However, the programs must be in line with the requirements and learning outcomes defined in general core curriculum and VET core curriculum. A school teaching program should be approved by the school principal upon consultation with the teaching council. In implementing curricula, teachers may choose textbooks from a list approved by the Minister of National Education or choose to use other educational resources or exercise materials instead of textbooks (for example, contents downloaded from the Internet, copied or created by the teacher such as slide shows, presentations, notes, excerpts from literature, etc.). Teachers also have the statutory right to choose teaching, learning and assessment methods.

Source: TRACK-VET country reports.

The country reports mention the following activities which are present in all analysed countries:

1) **compulsory internships at companies**. Learners and/or their teachers keep the work records (e.g. internship diary or portfolio). During the internships various competences including TKCs are being developed. Keeping the work

records might contribute to development of self-learning, learning to learn and self-evaluation competences

Austrian report: Among the objectives are the acquisition of work values such as punctuality, reliability and responsibility, as well as the strengthening of social and communicative competence by dealing with superiors, colleagues, customers, learning to work in a team, and so on These are clearly related to transversal key competences, above all to social, personal and entrepreneurial competence. By means of mandatory work records, e.g. in the form of practice diaries or portfolios, learning processes are visualised and reflected upon, and learning outcomes are documented.

Norwegian report: The pupils must take active part in assessing their own effort in the subjects, ones' own competence and academic development. The objective is that one is to reflect over and become aware of ones' own learning. Such self-assessment is part of the periodic assessment.

2) organisation of projects within school practice

Austrian report: the theme, activity (such as producing a film, organising an event, performing a theatre play, organising a charity concert, etc.) and objectives are chosen jointly by teachers and learners. With the support of their teachers, learners obtain the necessary information, from which they derive relevant planning. Project-oriented teaching aims to enhance learning of networked thinking and holistic approaches. Acquisition of these skills is promoted by an interdisciplinary approach to the topic. The joint work on a topic and the plan to reach a certain objective creates the necessity to cooperate and communicate, resolve conflict where it arises, coordinate work, deal with conflict, etc. Therefore, interpersonal and social learning are synonymous with the acquisition of subject-specific competences within the framework of projects

Latvian report: fragment of the assessment practice conducted at the school level. "In a group discussion, please, consider what type of company you would like to establish and what goods or services you would like to offer! What are the needs you plan to satisfy with your product (or service)? Develop, as a group, and draft the goal of the company's business activity and a description of your goods. Present the project developed with the appropriate reasoning"

Table 7. Examples of formative assessment – Latvian report

Method	Subject	Example of assessment
A short test in writing, Q&A	Economics Subject: *Demand, supply and balanced market.*	Goal – to test the ability of a student to read the supply-demand information from the chart and the ability to compile a supply-demand chart. Assessment is carried out during a lesson, observing and advising students, if necessary. Answers are discussed collectively right away. Ethical aspects of the subject may also be covered. Students get feedback during the lesson.
Work in groups, in pairs and individually.	Individual and Societal Dimensions of Security Subject: *How do your*	Goal – improve the understanding of how one's actions affect the safety of other people. Students use a worksheet "How do your actions affect the safety of other people?" and fill out the mind map:

	actions affect the safety of other people?	write down three examples of actions potentially harming another person, for example, on the street, during the Chemistry lesson, within family, on the beach etc. List one accident for each action. Teacher initiates discussion in pairs or groups. Students present their findings, collectively evaluate the ability to act responsibly and see the risk of potential harm to the safety of another person. Teacher summarizes the results.
Work with images and text, discussion, work in pairs	Basic Advertising Subject: *Information security in advertisements*	Goal – train the ability to identify security issues in the mass media. Students carefully browse through the 6examples and fill in the table–what is being advertised and is everything depicted safely and ethically. Students present their conclusions. Teacher asks guiding questions. After the discussion students work in pairs, choosing one advertisement and devising the best method of advertising the particular product/service. Present the result. Teacher summarizes the results.
Source: Latvian TRACK-VET report.		

3) participation in contests and/or competitions organised at the national and international level (e.g. WorldSkills, EuroSkills)

Austrian report: they aim to encourage both subject-specific competitions but also and mainly interdisciplinary competitions. Examples include the nationwide school competition on innovative ideas ‘Jugend Innovativ’, idea competition NEXT GENERATION, state championship ‘Students Debate’, national championships for the participation in EuroSkills competitions, student competition on citizenship education95 and foreign language competitions.

Polish report: learners are encouraged to participate in the national contests verifying knowledge and skills in particular professions. Contest are usually organised by universities, technical universities, professional associations and others. If such contest is recognised by the Ministry of Education then winner or finalists of these contest are exempted from the written part of the vocational exam. In 2019 there were 30 types contest covering more than 100 professions. The exemption of a winner or finalist of a tournament or thematic Olympiad from the written part of the vocational examination means that a learner is obtaining the highest result in the written part of the vocational examination, i.e. 100%.

Polish report: Freed from theory project constitute example of a contest in which upper secondary learners (including VET learners) in group of 3-5 people conduct social impact projects in real life. The teams are supported by online materials (courses, presentations, etc.) uploaded on the dedicated platform, and accredited teachers and professionals who share their knowledge and expertise with the learners who participate in the projects. All projects are assessed by a number of criteria: efficient management, communication, number of people who benefitted from the project, amount of money raised (if relevant), number of resources confirming existence of social problem. Students who finish their projects win certificates in project management signed by PMI R.E.P. and take part in the Grand Final. The best teams are being awarded prizes which are given by the top officials

(Prime Ministers and Ministers) and CEOs of the private companies. In 2019 learners from 25% of upper secondary enrolled to the Freed from theory project and over the last six years more than 3000 projects were conducted reaching more than 25 million beneficiaries. While conducting the social projects a number of TKCs are being developed:

- Personal, social competences and learning competence: teamwork, time management, self-confidence
- Civic competences: participation in life of a community, critical thinking, responsibility for others
- Entrepreneurship competence: Taking actions and making decisions, forging partnerships, problem solving and creativity
- Cultural awareness and expression competence: understanding local context, communication, empathy

Latvian report: The second most common method of assessment of learning outcomes and achievements is participation in different projects. The TKC (foreign language, ICTs, social competences) are essential to students for participation in research projects. Therefore, if necessary, schools provide also paid training in order to make sure that students are prepared to participate in such projects. For example,the TKC are developed in training companies founded by educational establishments with the support from the Junior achievement. Another group of projects is is related to diverse collaboration among vocational education institutions (business plan competitions, workshops, brainstorming sessions etc.). The group of individual projects is supported by the Career centre: Business day at the school, trips to companies, career-choice visits to schools, which the corresponding student has graduated from or visits (enrollment) of pupil from their former school, as well as professional workshops, Open Days and Shadow Day.

4) **field trips, excursions, company visits, visits**. Visits to establishments – such as companies, public institutions (such as Parliament, Vienna International Centre), museums, social institutions (such as institutions for the care of people with disabilities), trade fairs (such as the job information fair) – also count among the teaching methods to promote key competences.

Latvian report: The third the most common method of the assessment of learning outcomes and achievements is called An hour at the museum. There are approximately200 museums in Latvia. Every largest museum has one or several tutors, whose main task is to develop and implement educational programs for diverse target audiences. Educational establishments broadly use this option, adapting the potential of a museum for the purpose of acquisition of the curriculum. In the case of the visit to a museum, the method of assessment is much more interesting for students and for a teacher, because the visual materials acquired at the museum–handouts, photos and videos–can be used in the class. For example, in the museum students can see photos only under the supervision of the tutor, but afterwards they can try out different techniques of taking photos and complete the task assigned by the teacher at school.

Latvian report: Each learner group gets a separate task that has to be accomplished during a field trip to the company. After the field trip the learners of the group present the

accomplished task. Assessment: knowledge acquisition, practical application, collaborative and social competences.

5) **mobility projects.** EU funds mostly from the Erasmus+ and ESF funds significantly contribute to organisation of mobility projects. All of the country reports mention their positive impact on the development of TKCs. Country reports mention also longer mobility projects reaching or even extending six months motilities. Some country reports also indicate other sources of financing mobilities: e.g. cities cooperation, scholarships, family budgets.

Polish report: Another area in which TKC are being developed and tacitly assessed during the VET school practice are the international mobility programs financed mostly by the Eramus+ and/or ESF funds. Polish VET schools are outstandingly active in efforts to organize mobility programs for their learners. According to FRSE data more than 1200 VET schools in 2014-2019 applied for funds to organize mobility programs.

6) **lessons from subjects defined in the general education school curriculum** (e.g. history, geography, mother tongue, political science, ethics, religion). Although not equally comprehensive for all competences, clear references to transversal key competences can be identified in the general educational goals and concrete objectives in the curricula and in the educational standards, in the teaching design and in assessment.

French report: For the 2-hour (written) history/geography/civic education test for the baccalauréat professionnel, one of the three sections focuses specifically on moral and civic education, which is the part most likely to mention citizenship-and civic spirit-related key competences. In the one-off test, this section represents only 1/5 of the overall mark (4 out of 20). The questions on this topic in the 2015 examination (for example) covered “the organisation of the UN and its missions”; candidates were issued with a document to help them. Can we really speak of assessment of competences? […] It should be noted that the main competence assessed is still the ability to produce a written text, which is not one of the key competences covered here.

Norwegian report: TKC is largely an aspect of the general curriculum, which is currently being transformed into a new general curriculum, scheduled to come into force in 2020-2022.

7) developing portfolio

Latvian report: The most common methods of informal assessment of outcomes is a professional portfolio summarizing personal achievements and the evidence of behavioural and learning style. The summarization requires project materials, awarded diplomas, certificates, presentations, awards, references etc. The interviews revealed that the summarization of learning, hobby group activities and professional or civic activity is mostly used by the students of higher motivation, because it is not mandatory. It was noted that educational establishments use different methods to support and rouse interest (including

demonstration of best examples of previous students) in building portfolio starting from the first months at school.

However, despite references to the need for assessment of TKCs and to use various assessment method, summative assessment translating into grades form certain subjects prevails. Learners receive grades which compound into account in the semstral grades and grades given at the end of school year. In Austria and Slovakia learners are being graded on 5 point scale, in Norway and Poland on 6 point scale whereas in Latvia on a 10 point scale.

Austrian report: Whenever there is no direct linkage to the competences, the coverage of the competences depends largely on the willingness of the teachers. The focus is still rather on the subject-specific knowledge, than on the TKC.

Polish report: To develop transversal key competences teachers should use different techniques and methods (e.g. workshops, presentations, group working) in order to stimulate learners. But according to the studies conducted by Educational Research Institute (IBE 2014) teacher-centred teaching prevails. Although there are no comprehensive studies regarding development and assessment of transversal key competences within the formal VET, anecdotal evidence and conducted interviews suggest that VET schools prepare learners for the exam, therefore the content of the VET exam is of crucial importance.

Slovak report: In Slovakia continuous assessment is a responsibility of teachers in schools. Formative part of assessment is weak, continuous assessment is predominantly collection of marks for summative purposes.

Country reports indicate that the assessment methods used by during the school practice are in fact limited focused mostly on knowledge and professional skills and even they might relate to TKCs, these competences are evaluated mostly in the context of cognitive skills.

Austrian report: Despite the overall competence orientation in VET, it is to be assumed that summative assessment still is the dominant form of assessment in Austrian schools when it comes to the determination of grades, not only from the teacher's view, but also from the pupil's and parent's view. Their allocation (i.e. the repetition of class, the change from primary to secondary school) and selection function implies assessment based upon social reference standard. When it comes to assessment, summative assessment is still the dominant form of assessment in schools. Studies have shown that for the teachers - despite numerous seminars, workshops and school-related training events - still summative aspects of performance evaluation are dominant and approaches for the systematic use of more formative performance diagnoses can only be recognised as in the beginning. Although, there was a stronger competence-orientated education initiated through the development of the BISTs, their weakness is that they do not have a normative character

French report: Writing – the typical way of testing knowledge – is by far the most frequently used method for common courses in Lycées professionnels. This in itself

indicates the secondary status of the key competences in these courses. In fact, the importance accorded to them is both limited and difficult to ascertain with any degree of accuracy. So, for the 2-hour (written) history/geography/civic education test for the baccalauréat professionnel, one of the three sections focuses specifically on moral and civic education, which is the part most likely to mention citizenship-and civic spirit-related key competences. In the one-off test, this section represents only 1/5 of the overall mark (4 out of 20). The questions on this topic in the 2015 examination (for example) covered "the organisation of the UN and its missions"; candidates were issued with a document to help them.

Coverage by the assessment of each of the TKCs at the school level varies. Most common are assessment practices related to personal and social skills including team work and entrepreneurship. The focus on personal, social skills, team work or entrepreneurship depends on the profile of competences of a given profession. For example the nature of teamwork within massage therapist profession is different than for bricklayers. Similarly the nature of social competences between professions related care giving (e.g. babysitter, caretaker of an elderly person) is different for car mechanic.

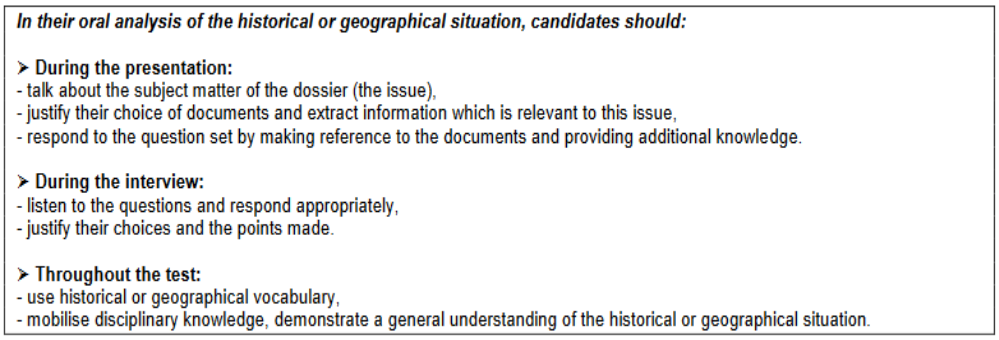
French report: In France, the entrepreneurial competence is closely linked to management training and, where assessment is concerned, to the existence of management tests (often called "applied management") related to particular specialisms, particularly the craft specialisms at level 4. So the baker BP includes a (one-off) written test in applied management with a high coefficient: 6. It includes two sub-tests, one of which covers "the economic and legal environment and business management". For the hairdressing specialism, the management test consists primarily of a "sub-test in the management and administration of a hair salon" with a coefficient of 3. This consists of a one-off written test (3 hours) and oral and written tests (2 hours) in the form of continuous assessment. The assessment covers, among other things, "the ability to analyse an organisational, managerial or administrative problem" and the relevance and consistency of the analysis based mainly on legislation. In response to questions on the different aspects of management (financial management, human resources management...), candidates may be required to "suggest solutions for developing the hair salon". But they may also be required to study documentation for a forthcoming installation; in which case, they will be asked to make a choice and then justify it. In fact, the subjects' ability to carry out an analysis supported by the mobilisation of knowledge is of great importance. Written tests of this type are also found in other craft specialisms: butchery, culinary arts, etc. They are not totally absent from the industrial specialisms, but they are of lesser importance. So the "Process manufacturing installations manager" BP includes a written test (coefficient 2) entitled "production management analysis". Furthermore, the job of running the business itself is not without a managerial dimension which involves "optimising results". In other words, the managerial dimension and the key competences may result in separate assessments. But they can sometimes also be assessed in combination with other competences.

Written tests are used less frequently in the assessment of personal and social competences. As these competences are not as closely linked to particular disciplines as entrepreneurial ones (economics, management, law), their assessment is more closely linked to those related to the technical skills specific to a trade or occupation.

Competences related to cultural awareness are usually part of the general education programmes but they focus is mostly on verifying subject knowledge and/or oral skills.

> French report: Therefore, whether it takes the form of a one-off test or continuous assessment, the moral and civic education test is transversal to history and geography. It is based on civic topics (democracy, secularism, for example) included in either the history or geography sections. Consequently, the importance actually attached to it in the dossiers or during the oral tests is very vague. So it is extremely difficult to determine the importance of this component. Assessment relates primarily to the disciplines of history and geography. […] key competences are sometimes referred to in the vocational courses for certain qualifications. This is particularly the case for "entrepreneurial" or "personal and social" competences, the other key competences covered in this study featuring rather less.

Extract from the baccalauréat professionnel assessment sheet for history and geography



In their oral analysis of the historical or geographical situation, candidates should:

➢ **During the presentation:**
- talk about the subject matter of the dossier (the issue),
- justify their choice of documents and extract information which is relevant to this issue,
- respond to the question set by making reference to the documents and providing additional knowledge.

➢ **During the interview:**
- listen to the questions and respond appropriately,
- justify their choices and the points made.

➢ **Throughout the test:**
- use historical or geographical vocabulary,
- mobilise disciplinary knowledge, demonstrate a general understanding of the historical or geographical situation.

Source: French TRACK-VET report.

In most countries, guidelines, if any related to how the assessment should be conducted are of very general character and detailed instructions and assessment criteria are very often missing. So in fact the schools and the individual teachers are working alone within single institutions. It is not common that teachers cooperate between each other within single institutions not to mention cooperation between institutions or professions. Also support from the national agencies in terms of production practical guidelines or assessment training is of limited character. Many interviews conducted within this study confirm Coates (2019) observation that assessment practices within VET schools have not changed much in the recent decades and focus mostly on knowledge and professional skills – despite significant changes on the labour markets and skills demands from the employers site.

> Latvian report: Lecturers stress the necessity for modern, up-to-date methodological auxiliary materials for acquisition of the TKC. Normative documents define the submissions, sample programs list themes, yet there are not enough specific, methodical materials for lecturers. Currently they have to update educational materials, required for acquisition of a subject or module, on their own, using resources within one's own discretion and reach.

However, this should be mentioned that in almost all countries efforts have been made to modernise assessment systems within VET, so not all activities have already been

visible either in the strategic documents or legislation or to stakeholders who were interviewed for the purpose of country reports.

> Austrian report: Currently, a pedagogical reform is being implemented, which was started in 2018 and is a consistent next step towards the competence orientation within the school system. It contains the implementation of competence grids for primary school and lower secondary school as well as a new performance appraisal ordinance to ensure, that curricula, educational standards (in the subjects for which they have been formulated), teaching materials and performance assessments are coordinated and reflected in the teaching practice. The LBVO, which currently applies to all types of schools, was introduced in 1974 and has only been slightly amended since then. The aim is to "cast the LBVO into a new form" and to orient it towards the concern of competence orientation. In this context, competency grids will play an important role, as they make competencies relevant to assessment and their degrees of development clear and define requirement levels. The new LBVO is to enter into force for secondary school level II in the school year 2021/22.
>
> Latvian report: vocational education isfurther reformed through the next ESF-supported project “Nozaru kvalifikācijas sistēmas pilnveide profesionālās izglītības attīstībai un kvalitātes nodrošināšanai” (Development of the sectoral qualifications system for the improvement of vocational education and quality assurance) (2016-2021), which aimed at improving the content of vocational education.
>
> Norwegian report: The new curricula are to be implemented step wise towards autumn 2020. There is a separate process for the vocational trades, starting autumn 2018. The outcome of this renewal process regarding the status, development, assessment and validation of transversal key competences is now uncertain. One aim of the renewal process is to make the content of the subjects more relevant with more clear priorities, and the coherence between the different subjects is to be improved (The Norwegian Directorate for Education and Training, 2018). Moreover, the renewal process aims at strengthening the development of the pupils' in-depth learning and understanding, with the core value-foundation to be promoted in the subject-specific curricula. Critical thinking and reflection will become an important part of what the pupils are to learn at school. Also, there will be a strengthening of the practical and aesthetic subjects. The pupils should, amongst other, work interdisciplinary with three specific topics; democracy and citizenship, sustainable development and public health issues, and life coping skills.

4.3.2 Grading the behaviour

In all countries, apart from France, pupils are receiving grades related to “behaviour/conduct”.

In **Austria** in the SchUG - School Instruction Act – it is laid down, that pupil’s behaviour at school is assessed by use of following grades: very Satisfactory, satisfactory, less satisfactory, unsatisfactory. The grades for the pupil's behaviour at school are to be used to assess the extent to which his personal behaviour and his placement in the class community meet the requirements of the school rules or the house rules. The assessment shall take into account the pupil's abilities, age and efforts to behave properly. The assessment is to be decided by the class conference at the request of

the class board. These grades are not visible on VET certificates or school leaving certificates.

In **Norway** pupils are receiving grades in a three-gradient scale. These grades are on VET certificate and school leaving certificate.

In **Slovakia** behaviour is graded only in school certificate in the end of school year during initial formal education. Grade is in range from 1(very good) to 4(unsatisfactory) and depends on respect of the rules and school regulations. Grade of behaviour should not be connected with academic achievement /non-achievement and opposite. Final exam doesn´t have behaviour grade.

In **Poland** conduct is assessed on the following scale: excellent, very good, good, acceptable, unacceptable and inadmissible. The mark for behaviour should not influence subject marks, or promotion to the next grade. The mark is indicated on the school leaving certificate but not on the VET certificate or VET diploma. The interim and annual classification of conduct includes the following basic areas: 1) adhering to student responsibilities; 2) acting in accordance with the good of the school community; 3) care for the school's honour and traditions; 4) care for the beauty of the mother tongue; 5) care for own and other people's safety and health; 6) dignified, cultural behaviour in and outside of school; 7) showing respect to others.

4.3.3 Assessment leading to a certification

In Latvia, Slovakia, Poland, Norway final examination leading to a certification does not refer to TKCs explicitly. This means that in the VET practice TKCs are not part of the certification process. Even if the TKCs are being assessed by teachers during the continuous assessment conducted during teaching process, the outcomes of this assessment is not taken into account in the certification process leading to a VET qualification.

Country reports were giving some examples of the questions in the written part of the VET final examination which might refer to TKC – but in fact they relate to knowledge or cognitive part of the TKCs not to transversal skills or competences. Good examples provides the Latvian and Polish reports.

> Latvian report: examples of question related to initiative-taking and entrepreneurship for external standardised assessment (summative) for “Computer Technician” qualification
> - Question no. 64. On what issues does the employer have to consult his employees?
> - Question no. 65. What is the maximum duration of the trial period in an employment contract?
> - Question no 66.What determines the procedure of setting and reviewing the monthly salary amount?”
>
> Polish report: examples of question during external exams for a firefighter exam.
> Unit of learning outcome: Organisation of work of small teams
> Learning outcome: plans and organizes the work of the team in order to perform the assigned tasks
> - Question no. 26: For tasks related to the preparation of equipment during rescue

operations, in accordance with the principles of the organization of chemical and ecological rescue carried out by the ksrg who should be assigned to carry out this task:
A. driver
B. rota supporter I
C. rota supporter II
D. rota leader I

In Austria within *BHS-HAK* programme integral and obligatory part of the assessment leading to a certification is to conduct a group project. In Austria In school-leaving examination, besides written and oral part, there is a diploma project: a project work conducted in the last year of VET education and culminating in a pre-scientific diploma thesis. While the central part of creating a project and thesis relies on expertise in given field and context, there are number of transversal competences included; namely acquisition and evaluation of information, ability to work in teams and independently as well, critical thinking and creative and innovative approach to problem solving. Therefore the overall quality of project and thesis relies heavily on student's level of TKCs and naturally the evaluation of thesis must be partly evaluation of TKCs. Furthermore, the final examination is conducted as a presentation of project and thesis followed with discussion – a setting where additional TKCs (as own work presentation, argumentation, critical thinking etc.) are manifested and evaluated.

Austrian report: The new approach to final examination at BHS gives more weight to the so-called diploma projects that learners carry out in their last year. These projects are a standard part of the exams besides written and oral exams. This includes a project work, a diploma thesis at pre-scientific level (20-25 pages by each team members, including abstracts in German and in English/another foreign language they have acquired at school) and its presentation and discussion. Teams of learners work on comprehensive projects relevant to their sector and in line with the objectives of their programmes, ideally in cooperation with/commissioned by partners in business and industry. Complex project assignments require learners to do research and apply and combine their knowledge, skills and competence and use state-of-the art methods and tools/equipment. They also require learners to work independently and in teams, develop their entrepreneurial spirit and critical thinking and use creative and innovative approaches to solve problems. They also need to demonstrate project management, drafting and presentation. Experienced teaching staff supervises the projects. These all refer to TKC.

In France where more and more common is withdrawal from the final examination, oral tests, where appropriate, are used as an alternative method of assessment or are supplementary to written tests. A test may be based on both, with a dossier (of work) followed by an oral, or one of these methods might be preferred for practical reasons. As the French report states that the oral test takes two different forms depending on whether it is used to assess common courses or specialised vocational courses. In the first case, candidates are questioned about a dossier produced individually or collectively on a set theme. In the second case, candidates are questioned about situations encountered during periods of workplace training or based on a case study.

French report: in the case of civic and moral education, assessment consists of an oral test involving the presentation of a dossier, produced in a group or individually, which includes three or four documents of different types, and an analysis of them in the light of an issue

covered in class. The main theme is either a history topic or a geography topic. The presentation is followed by an interview with teachers (10 minutes), in which candidates must justify the choices they made in their work. The type of assessment employed is somewhat hybrid, including both summative and formative dimensions. This test includes both the dossier, with the work done and monitored in class, and an oral test with a mark which counts towards the CAP qualification. In the case of the Bac pro, this teaching content is also assessed in an oral test based on dossiers -one for history and one for geography -with more time for questions. The topics of civic and moral education must appear in one of the documents studied in these dossiers and are also examined in the interview

In oral examinations a dossier is required to be prepared beforehand on a given theme, then a presentation and interview with teachers in which students are to justify their choices in their work. For a specialized courses the dossier may also contain student's experiences during internship. Other form of assessment in specialized courses is that a student is given a real-life problem scenario and he has to resolve it using both his knowledge as well as skills (that can be described as transversal- e.g. organization of group of workers). In situated assessment and scenarios a simulated situation (a role-play exercise) is given – for example an unexpected problem in management – and student is required to resolve it. As a complementary assessment tool, portfolios are being used – a kind of student's CV of achievements, work experiences, self-evaluation, trainee evaluation of student (while at internship) etc. It's mainly used to make learners think about their experiences – itself, it promotes learning to learn and while a student is responsible for her own portfolio, it gives a perfect real world scenario in which student has to decide about priorities, set goals and work on them and generally manage her own work.

Table 8. Summary of assessment practices related to TKCs

	Assessment forms		
Transversal key competences	Assessment for qualification (final examination leading to certification)	Continuous assessment at the school level teacher (formative or summative)	Other forms of assessment (e.g. competitions, skills contests)
Learning to learn	No practices found explicitly referring to assessment of learning to learn competences	Preparation and consolidation of a career plan under teachers supervision [All countries] Continuous self evaluation as the	Participation in activities/contest organised by NGOs, chambers, professional associations which support learners in evaluation of their learning progress

		formal requirement [NO] Internship diary/reports stimulating to reflect on what has been learnt [All countries]	[e.g. Freed from theory project in Poland]
Social and civic competences	Tests as provided in the respective curriculum, usually related to team work [AT – group project as a part of the final examination in other countries questions related to knowledge]	Assignments in class, homework assignments [all countries] Grades related to behaviour/conduct which are visible on the school leaving certificate [all countries apart from France]	Learner's portfolio: contains information on the learner's participation in the academic events of the educational institution and out-of-class work activities in the educational institution and beyond Acknowledgements: for example, of participation in events organized by the institution or municipality and in their preparation. Internship diary/report: is a document certifying fulfilment of internship tasks, and the learner uses it for analysing the course of his/her internship with account of the tasks fulfilled. The internship report includes the information collected by the learner on the company (organization) where the internship takes place and its activities.

Initiative-taking and entrepreneurship	Depending on the qualifications and VET programme/type of school. In schools with the business profile learning outcomes related to entrepreneurship are extensively assessed. [Austria: in BHS-HAK programmes business administration are examined in a uniform manner across the country].		National entrepreneurship competitions
Cultural awareness and expression	Knowledge assessed within general education examination (e.g. matriculation)		Projects either organised by national/regional authorities or NGOs [e.g. KulturKontakt Austria: projects and activities related to cultural education jointly with schools or *Freed from Theory* project in Poland]
Other competences related to TKC important in the national context			

Source: based on the TRACK-VET country reports.

5. Conclusions

5.1 Summary of opinions of stakeholders interviewed by the TRACK-VET project teams

TKC are highly demanded by the labour market and we seek that better TKCs will be utilised in the professional careers of VET graduates contributing to increased employment rates. With this perspective the project was looking for evidence and information concerning the following questions: how are TKCs defined and specified (explicitly and implicitly) in the VET curricula, who is responsible for their development, and how TKCs are developed, assessed and certified? During the TRACK-VET project, we have collected 136 interviews form the six countries, according to the following table.

Table 9. Interviews conducted within the TRACK-VET project

	Austria	France	Latvia	Norway	Poland	Slovakia
Number of interviews	14	26	42	15	21	18

All of the interviews were scheduled according to the accepted by the project team scenario. Partners approached the most knowledgeable teachers, researchers, employers and decision-makers in the area of competence development and assessment in the VET sector. Below we include list of topics, questions which were asked by the national teams:

A. Perception of transversal key competence concepts and terms - are stakeholders familiar with
B. Should TKC be developed within VET. The importance of transversal key competences in vocational education and training and balance between professional competence
C. Should TKCs be assessed within the school practice and for the purpose of licensure
D. Role of teachers and headmasters in development and assessment of TKCs
E. Role of employers
F. Actions to be undertaken – recommendations regarding development and assessment of TKCs

5.1.1 Perception of transversal key competence concepts and terms

Although not all respondents were familiar with the term “transversal key competences”, almost all respondents were familiar with the concepts behind it. EU Recommendation on Key Competences proved to be a good translation tool and definitions turned out to be clear for respondents. We might conclude that the approach of operationalisation of TKCs proposed by the TRACK-VET and described in chapter 2.2. proved to be efficient and provided a good base for conducting interviews as well as collecting data for comparative purposes.

However, although EU Recommendation approach to the key competences proved to be useful in discussions about TKCs by the TRACK-VET partners, many respondents indicated that the term itself is not clear and transversal key competences are not sufficiently operationalised for the purpose of their development and assessment within the school practice or from the perspective of examination agencies (see section 5.1.3).

> Slovak report: Experts' answers state that the term transversal key competences is often replaced by terms such as key competences, interpersonal competences, soft skills, transferable competences, and cross-section competences. Especially in the case of key competences, we found it problematic, because the substitution of four transversal key competences by eight key competences may be confusing. Based on this finding, it would be appropriate to consider the concept of transversal key competences and to try to find a term that would clearly evoke the importance of transversal key competences

> French report: Still, in spite of the efforts made to define frameworks and recommendations for the sake of maximum consistency, the many steps taken to define them and specify the contents are proving to be extremely disparate, both in terms of the underlying concepts and even the way these key competences are expressed. Therefore, competences and key competences are still very much characterised by the ambiguity of the copious literature, which has failed to produce a consensual theoretical framework which might remove the ambiguities they convey.

5.1.2 Should TKCs be developed within VET? The importance of transversal key competences in vocational education and training and balance between professional and general competence

We were sceptical of the idea, that the respondents would confirm that all distinguished TKCs should be developed within formal VET, especially IVET. We also wanted to learn if any of the TKCs are treated to be more important or relevant than others.

In Austria, Latvia, Norway, Poland, Slovakia interviewed experts were strongly in favour of development all TKCs within formal VET, however in France experts were much more hesitant.

Austrian report: Experts confirm the importance of processing and developing TKC in VET. In fact, transversal learning should be perceived more important than subject-specific learning: TKC cannot become obsolete like professional knowledge, and are at the same time the prerequisite for professional learning.

Norwegian report: Consequently, there is little doubt that learning to learn is considered the most important goal. In this way, it makes sense to conclude that teachers are acting very largely in accordance with The Norwegian Directorate for Education and Training's politics, as we have already mentioned, i.e. Norwegian Directorate for Education and Training's emphasis of the importance of learning to learn and, not least, reflecting on one's own learning.

Slovak report: Respondents are aware of the importance of transversal key competences. They perceive them as competences that are linked to life-long application regardless of a particular study or working area. According to them, transversal key competences are also competences applicable across all professions and can be considered as a prerequisite for successful entry into the labourmarket and society. These competences are usable in all areas of life (civil, personal, and work). According to the experts, transversal key competences are crucial not only to a specific profession but across all professions, even in everyday life. It is important to recognize that "we don´t prepare students only for labourmarket but we also prepare citizens for life."

Latvian report: Therefore, some respondents faced difficulties in arranging the TKC by importance, because they considered them equally important and overlapping. However, all respondents named personal, social and learning competence the most significant TKC. On several occasions, this TKC was listed even above professional competencies. It is justified also by the fact that in a course of time a profession may change radically, or even cease to exist. This is where the related inter-disciplinary skills, personal, social and learning competence, come in handy–to survive and orientate oneself in the new circumstances.

Country experts were unanimously indicating learning to learn competence as the most relevant. In other cases, experts were indicating that that importance of particular TKCs depends also on the profession in question. In some professions social competences are also professional competences. Development of these TKCs which relate to citizenship and cultural awareness was often mentioned in the context of migration and refugee movements as well as the often heterogeneous composition of school classes.

Norwegian report: A healthcare and childhood teacher, for example, was very concerned about social skills and cultural awareness. In practice, it was about working with people. Future healthcare workers must at least be able to deal with people from different cultures and backgrounds. A crucial question is how they will be able to provide equal health care. It's not about universal schemes, but that the schemes are communicated in ways that ensure that patients and users can obtain customizedand thereby equal healthcare. This requires a lot of people's ability to communicate and empathize. When we asked teachers of electronics about the same thing,they were, unsurprisingly, much less willing to attest to the usefulness of social and communication skills. At the same time, there are developments in several areas. One example is in automotive mechanics, where they used to stay inside the workshop most of the time, but in response to new technology are expected to have face-to-face contact with customers

Polish report: Out of the 4 bundles of competences constituting TKC respondents participating in the study were putting strong focus on learning to learn competences, social

competences related to team work and attitudes in taking responsibility for owns action. Competences related to cultural awareness were given less significance by most respondents. However, some respondents indicated that in light of societal turbulences in Europe, among others related to radicalisation, also VET schools should be more focused on the development of competences related to cultural awareness.

In a number of reports it was indicated that accent on development of TKCs should be even strengthened, but at the same time there were worries that more emphasis on TKCs would be put at the cost of development professional skills – a situation which might not be desirable.

Norwegian report: In the discussion about TKC in the curricula, one can discern a distinction between the need to specialize competencies, which points to professional standards, on the one hand, and breadth, and the need to sponsor conversion skills, on the other. In discussions about breadth vs. specialisation, TKC, one may assume,is primarily related to breadth, and thus conversion skills. This distinction is relevant in discussions of VET. As one of the interviewees pointed out: “Conversion skills are far more important in professional and vocational education than in many other vocational skills”. It was also pointed out that TKC could give a boost to VET’s reputation. “Focus on transverse competencies can improve the reputation of vocational education, because vocational education appears to be broader …”.

Slovak report: Most experts recommend that transversal key competences should be more extensive than professional competences because, in their view, professional competences can be easily and quickly acquired by the students in practice (e. g. when working at the company). However, this does not mean neglecting professional competences. In Vocational Education and Training, it would be wrong to focus only on transversal key competences or only on professional competences. During studies at vocational schools, it is necessary to integrate adequately both transversal and professional competences, to find the right balance between them. One of the expertsbased on his foreign experience in Switzerland even proposed to keep balance: 50% of professional competences and 50% of transversal key competences (calling them "soft skills"). Concerning the importance of the transversal competences, the experts see these competences as equally important in vocational education and training although they have noted that the order of importance may vary dependingon the field of study. For example, the economic sectors should put higher importance on developing entrepreneurship competence

Norwegian report: Some of the concern is, even though everyone agrees that TKC is important, that it is difficult to prioritize these competencies in the final curricula. What will end up at the back of the queue, the interviewees often asked. The question is not whether TKC is important in VET, but whether it is correct that it is so importantthat it takes up space from something else. An interviewee put it like this: I do believe transverse skills will get a lot of space, but I’m worried about how to develop/measure, especially social and emotional competencies.

Latvian report: The respondents, who act also as supervisors of practical training noted that the TKC, which are acquired at educational establishments in Latvia, even exceed the demand in the labour market. It was discovered while applying for practical training at various work places. At the same time, employers taking part in the practical training have expressed discontent with the level of education of students. In most cases it concerns professional competencies […].

As indicated earlier, stakeholders interviewed in France had sceptical opinions related to the need of strengthening TKCs development. French report states in a number of place the more focus on TKCs would be even harmful. It also indicated that even employers are not requesting for development of TKCs which is contrary to the statements included in other reports. This issue could be further studied.

> French report: it also appears that the perceived value of these competences is not always obvious to the educational leaders (inspectors) from the Ministry of Education whom we met. They are not something which will become established naturally. But neither are they totally rejected, as they still have some relevance.
>
> French report: This ambiguity and these doubts are all the more significant given that the employers' demands and expectations of these competences are low. We should remember that employers' representatives "are involved" in the production of occupational standards frameworks. The lack of precise demands on their part, except for a number of attitudes (punctuality), does not help to clear up the questions. "What's funny about Europe is that... it's true that even if there is sometimes room for improvement... you've seen the work the professional consultative committees do, but we still tend to listen to what our own professionals want. But I don't hear many of them asking for key competences... When professionals say what you're saying, I don't think they're necessarily thinking about the competences... they're reacting like I just did then, they want kids who have more or less all the social skills: they want them to understand that you can't just turn up when you like, to behave in a socially appropriate way, say hello'... Really it's just good old-fashioned common sense, there's nothing new about it.
>
> French report: For me the competence-based approach is a Trojan Horse, it's also designed to remove the focus on academic disciplines in schools and that really worries me in terms of equality, access to knowledge and empowerment. What do we expect of vocational education, simply to transmit skills? and the training that is provided has its content watered down, in the CAP for example we're heading towards a 17% cut in timetable content, so the place of moral and civic education and even history-geography in the Lycée pro we're really going to be dealing with soft skills, history-geography would become history-geography/citizenship... we'll be organising it jointly with our colleague from administration and management and we're going to be working on writing for professional purposes, mobilising French-language skills for the sake of 'knowing how to put together a CV, a letter of application, knowing how to answer the telephone' these are the major trends we're observing and we're heading towards general applied courses" Teacher.
>
> French repot: I don't think anyone is concerned about developing these competences in a more formal way. Anyway, we tend to listen to what our own employer and employee representatives ask of us, but I don't hear many of them asking for key competences. It's true that if an opinion is expressed in the professional world ... the real question we need to ask is **who keeps inventing all this in Europe to the point that the business world couldn't care l**ess..." General inspector for industrial sciences and technology

5.1.3 Should TKCs be assessed within the school practice and for the purpose of licensure?

As indicated in the previous sections, in almost all countries, apart from France, experts were indicating that VET should be contributing to development of TKCs to a larger extent. Experts were also agreeing that an assessment constitutes important element of competencies development within the school system, because it motivates all the actors and focuses their attention on the most relevant aspects. This is in line with the literature review conducted in section 4.1.

> Norwegian report: Moreover, if TKC is not systematically assessed, it will in practice be recognized as a topic of little or none importance. Teachers as well as pupils will most likely not pay much attention to competences that are not assessed.

Experts from most countries were agreeing that TKCs should be developed and assessed during the school practice mostly in a formative way, supporting deep learning with the usage of various assessment methods.

However, experts and interviewed stakeholders in all countries were not sure about including TKCs for the purpose of awarding qualifications, i.e. during the final examinations. Despite acknowledging that final examinations shape the education practice and despite the fact that TKCs are considered important, the experts interviewed were not in favour of inclusion TKCs in the licensure process – on the contrary they were sceptical. This scepticism regarded especially social competences and competences related cultural awareness. Inclusion of competencies related to entrepreneurship and team work in the assessment for licensure was much less controversial .

> Norwegian report: In extension of this discussion we were presented with what may seem to be a dilemma: in order for TKC to be acknowledged as important in practice, it must be measurable, but if TKC is laid down in curricula in ways that make it measurable, it loses its importance as TKC. This means that it requires a reduction of TKC – a type of operationalization –which appears to stand in contrast to the idea of TKC.
>
> Slovak report: Interestingly, three of the experts perceive entrepreneurial competences as the only TKC that can be assessed and quantified. All other transversal key competences help create complex personality of a student and are being developed during the whole study process. The process of TKC development of students is visible for a teacher and allows him/her to carry out formative assessment of TKC.
>
> French report: Furthermore, these courses are often assessed by means of written tests (see above) which do not really lend themselves to the assessment of competences. And this aspect does not come in for any criticism; neither the teachers nor the inspectors showed any desire to change the assessment methods. The reason for this is that assessing these key competences does not seem to be an absolute necessity.
>
> French report: “So that’s why we believe in educating someone beyond just knowledge but it’s not about assessment but what we teach them”. General inspector, MEN. This extract can be interpreted in several ways, all of which are plausible. In the case of these competences, developing certain dispositions or “attitudes” is more important than assessing them. Assessment is secondary, as this interviewee confirms. “So the nature of the request itself, he could do that, even if it wasn’t marked, he was able to respond to that communication request so you get the sense that there’s something that has improved his critical thinking skills. But it’s true that there’s no assessment” General inspector, MEN These

competences may be mentioned in the programmes/standards frameworks without necessarily being assessed. Mixed up and combined with others, which are better identified, they are assessed along with them.

Concerning grading mechanisms most experts indicate that narrative / descriptive way of expressing feedback is more appropriate than traditional point scales.

Austrian report: The rating by a grade is problematic especially with TKC and would lead to a "behavioral grade". Therefore, currently "binding exercises without assessment" are the solution to the grading problem.

Slovak report: Two of the experts refused the alternative of grading system (marks 1-5) very strongly. In their view it is very important to learn to accept feedback and criticism. They say that this is feasible only in a narrative way

French report signals an important aspect related to the fact that many VET learners come from unfavourable backgrounds, and too much emphasis on assessment related to attitudes or behaviour might result in their further discouragement.

French report: “So as for behavioural attitudes in terms of socialisation and education, we’ve got kids who are no longer there, because the institution was tough on them, who don’t particularly like it, as they often come from places where there’s latent violence, things have been exacerbated and the pupil’s attitude, such as it is, it’s not a suitable basis for assessing an attitude. Ours is a subject area which is a factor of education and socialisation, a bit like physical education, so we tend to develop competences without assessing them.” Local Inspector, MEN

5.1.4 Role of teachers and headmasters in development and assessment of TKCs

All country reports indicate the central role of teachers in development of TKCs. It was especially indicated in the Austrian, Slovak and Polish reports.

Slovak report: Transversal key competences development depends on teachers themselves, on the quality of content and the teaching process. Interviewed experts emphasized that teachers are the most important factor in the development process of transversal key competences. One expert said: „We can find a lot of papers and instructions how to prepare things for a business, how students should learn about life and culture, and be proud of it [...] but the question is: How can I –the teacher – do that well in my school? What do I do for it, how do I teach it?"

Austrian report: In addition to the new teachers' education, it is positively noted that in the many years of training and further education for teachers the competence orientation / TKC has been given more consideration. This seems particularly important from the point of view of the fact that the activation, support and promotion of TKC among young people is a considerable extra effort for teachers, which also requires a more differentiated pedagogical didactic report. To be able to teach, entrepreneurially‘ a series of books and teaching materials focusing on the Austrian approach to entrepreneurship have been published.

At the same time, some reports indicate that teachers are not always prepared to develop and assess key competences.

> Slovak report: the respondents' answers indicate doubts about teachers being adequately prepared to develop transversal key competences of their students. The experts also pointed out the importance of initial education of teachers. There are different kinds of universities providing initial teacher education in the Slovak Republic (especially educating teachers for lower and upper secondary education and vocational subject's teachers). The pedagogical part of initial teacher education is provided in different quality and quantity. To prepare teachers for transversal key competences development of students requires reconciliation of all initial teacher education programmes

> Polish report: Competence and motivation of VET teachers. VET directors participating in the study indicated that they face more and more problems with recruitment of competent and motivated professionals to work in schools. It was also indicated that less students are enrolling to pedagogical studies and this negative trend has been exacerbated during the last years. Below respondent's opinion is presented on this issue. "Private labour market offers significantly higher wages, therefore it is very difficult to hire competent professionals, actually in any profession or sector. Many of VET teachers work almost double shifts and this makes difficult for them to engage in extra activities or training related to development of TKC".

Integration of TKCs within professional and general education subject should be done consciously as many teachers feel that the content is already overloaded

> Slovak report: The experts also pointed out that they still see some problems in the VET education process. The state curriculum (State Educational Programme) is overloaded by obligatory content and additional curricular activities are not accepted by teachers very well. Some schools perceive transversal key competences as an additional load of content; however, other schools understand them as an integral part of preparation process for profession. Professional approach of schools towards the transversal key competences development differs but all schools have to cope with it.

5.1.5 Role of employers

All country reports indicated that employers can and should play an important role not only in development but also the assessment of TKCs. TKCs as fuzzy concepts have different shades and individual realizations in different contexts, they may be best developed in a setting close to their use and assessors should be able to see if competence is both usable in a given context and adaptable to a variety of contexts.

> Norwegian report: (…) adult learning and the formal and informal skills one can and must acquire in the workplace are of great value. And to some extent, it is just this type of TKC. But when we ask an employer about what he thinks about training programmes to learn TKC, he responds quickly: "This is one type of knowledge you learn in the school of life –and it must be both general and specific. That's why it's best if it happens in the firms". The fact that TKC has both general and very specific aspects is very interesting. It's transverse, but maybe more, it's also general. The distance from being in all subjects to being in practice in

no subjects may be short. But given that it is so relational, perhaps the most obvious thing is to see TKC in connection with the workplace as a learning arena.

Polish report: Many respondents indicated that employers may play important role not only in development of professional skills but also TKC, especially those TKC which are relevant to perform professional tasks, such as team work.

Austrian report: Since 2014/15, internships are a central and compulsory element of training in the BHAK and serve to supplement and deepen knowledge and skills acquired in class. They must be completed within a defined period at a company outside of school education. Among the objectives are the acquisition of work values such as punctuality, reliability and responsibility, as well as the strengthening of social and communicative competence by dealing with superiors, colleagues, customers, learning to work in a team, and so on. These are clearly related to transversal key competences, above all to social, personal and entrepreneurial competence. By means of mandatory work records, e.g. in the form of practice diaries or portfolios, learning processes are visualised and reflected upon, and learning outcomes are documented

French report: Generally speaking, the inspectors perceive TKCs as attitudes or behaviours which are not necessarily very objectifiable and therefore difficult to assess, except perhaps in the workplace. From this perspective, for some of them, periods of workplace training would be an appropriate situation for assessing these types of competence.“ Anyway, there are some competences where the business is the best place because it’s the most specific, maybe all the transversal competences where in a business people are much more vigilant, perhaps as to what is going on in collaborative and team projects and interactions between the various trades. I still think that the business world is perhaps more logical for developing those competences” General inspector for industrial sciences and technology.

5.1.6 Foundation skills and family background

In many reports, experts were indicating that significant barrier to the development of TKCs as well as the professional skills within the VET system is often lack of basic or foundation skills among VET learners, especially among those aspiring to receive EQF level 3 qualifications. These deficits have numerous effects, some of which are: delaying TKCs development (until after the skills seen as more important or prerequisites are developed), limiting the ability of individuals to learn and adapt their competences to new contexts. Some students have problems with the translation of “theory to practice” (at the same time, a significant amount of knowledge related to TKCs is often provided in the general core-curriculum) or using TKCs in different contexts such as work-school or employer A – employer B. This situation has been described by one of the project researchers as “losing the T from TKCs”, meaning that in extreme cases there is a risk of developing team-work, communicaton, social competence, cultural competence, which would only be working in the one given setting they were being developed in – hence negating their transversal character in such an individual case.

The low level of cognitive abilities is to some extent a problem of political and social nature. On the one hand, these strands of skills formations systems are being seen as vehicles for increasing social-cohesion and providing groups of disadvantaged

learners with skills and future opportunities for a better life. On the other hand, in some countries the negative selection of candidates to vocational education leading to EQF 3 qualifications combined with under-funding and prestige deficit of programmes all to often lead to dead-ends: unpreparedness, demotivation and frustration. The literature provides evidence that delaying tracking is especially beneficial for the “low-achievers” (Jakubowski, 2021; Ozer & Perc, 2020).

> Austrian report: After having asked what factors would hinder the acquisition of transversal competences, the family background in combination with puberty was mainly mentioned. On the part of the student cohorts, an expert also perceives a change: for example, a new generation of students is being talked about, whose behaviour would be equated with a meaninglessness of the school. The omnipresent mobile phone is not the problem, but the lack of interest and the no longer existing strive for knowledge.
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> Latvian report: It is commonly assumed that to a great extent the foundation of the TKC is formed by the family.
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> Polish report: During interviews experts were pointing out that many IVET learners, especially from the basic vocational schools possess low foundation skills, such as literacy, numeracy and this impedes development of transversal key competences - despite the fact that Polish learners note high results in the PISA survey. As Lis and Miazga (2016) shown, based on the PIAAC data, level of competences of basic vocational schools graduates were on similar level as graduates of lower secondary school (gymnasium), which signals poor contribution of basic vocational school to development of these skills. Much higher level of basic skills is noted in among upper secondary technical school (technikum) graduates. Experts in the study were indicating that low levels of foundational skills among VET learners (not all, but many of them) poses limitations in development of TKC and professional skills.

5.1.7 Actions to be undertaken – recommendations from the country reports

In this section we present recommendations for actions formulated by the national stakeholders. Interestingly recommendations are quite similar across the countries and are the following:

1. Promotion of school culture and approach that promotes the development of TKCs during learning at school during various activities. The role of headmasters and municipalities which govern schools was emphasised.

> Latvian report: Furthermore, the importance of the respective school culture is emphasized. There is a responsibility at the teacher-pupil level, but not just in the classroom but in the school location (school climate, classroom community), which can also be certified in terms of TKC.
>
> Slovak report: The strategy that promotes the development of transversal key competences often depends on school headmasters. One of the interviewed heads of upper secondary schools introduced his good experience with transversal key competences development as

being an inseparable part of education in his school. He gave examples of presentations of students´ own products to younger classmates; he also talked about students´ products presented at scientific competitions and the science fair and said that such events give students the opportunity to improve their skills andlearn from each other. Although transversal key competences are not clearly defined in the state curriculum, he said that the richness of the school environment and extracurricular activities create conditions for the development of a complex personality of students. It is a clear example of the fact that we neednot expect a strategy for the development of transversal key competences only from policy makers, the school culture is also important for their development.

2. Introduction of mixed assessment methods. VET systems should be using a more diverse mix of assessment methods, mostly for the formative purpose. At a minimum, the methods should be extended beyond traditional written summative assessment (which has a role to play but is in no way sufficient). Notable examples given were: group projects, situated assessment and portfolio.

French report: The question of TKCs is somewhat different in the case of vocational and specialised courses. We have already seen that the way in which the qualifications are created prioritises occupational tasks, particularly in their technical component. At best mixed in with the other competences, TKCs have quite a mixed existence in vocational subjects. Situated assessments, which are essential in competence-based approaches, do not focus on them and are not based on them. In spite of this, the people we spoke to, both inspectors and teachers, agree that situated assessment - and particularly that which include a social component - is undoubtedly the most effective way of helping to develop these competences and even of assessing some of them.

French report: We are thinking here, for example, of the presentation of projects or the compilation of portfolios, a kind of file of situations which we will look at later because they represent another subject for discussion.

French report: These new methods are designed to address the problem of assessing competences in general, not specifically transversal competences which, as we have shown, were not straightforward, either for those involved in drawing up the standards frameworks, or for the education or assessment experts whom we will discuss later. According to an inspector from IGEN (Inspectorate General for National Education), the method which he has tried to deploy in the Bac Pro in Management and Administration, for which he is responsible, would at least make it possible to assess a specific key competence which had not been mentioned previously: reflexivity and learning from one’s experiences, which he sees as a potential means of developing other competences:“... all young people should have the right to keep a complete record of all their activities; and even three years later should have this record somewhere. It’s a stupid question, we’ve developed that but compared with work placement passports what are we doing, it allows us to have reflexivity and for the young people to keep going back over what they’ve done with the teachers, with others, with tutors with anything at all, so there we work on the key competence through the competence of reflexivity, which is about learning from your experience; so that means something to us and it can even lead to assessment, too General inspector, Economics and Management group.

French report: In any case, these key competences, we’re going to have to link them to identified situations, to workplace situations why not but also to identified social situations so we can assess them satisfactorily. But put simply socialisation is not going to be about the production of a social project that worked or didn’t work it’s about knowing how to handle a

collection of socialisation situations which the young person might experience. That's why passports and traceability are important where the key competences are concerned, I believe, even more than elsewhere.So to assess key competences once again we've got to link them to situations, it's a way of trying to incorporate them in a different way it's something very nebulous, you might say." General inspector, Economics and Management group.

3. Supporting teachers and trainers. Teachers must be offered courses, and some of these courses should probably be compulsory. As already mentioned in a number of places of this report, preparation of teachers to develop and assess TKCs is of crucial importance. Not only the preparation of materials, guidelines but also the provision of adequate training.

   Additionally, VET systems should attract the most competent professionals to the profession and in some countries, there is a problem of negative selection to the teaching profession. Also, it was mentioned that teachers should be provided adequate incentives from the school principals, and/or municipalities who are in charge of school management. Another aspect relates to the cooperation of teachers within schools between different subject teachers but also between teachers of different schools.

   Slovak report: One expert rightly states that „in the context of continual education of teachers they need some methodological guidelines, but it is always better to get specific practical training. Their development should be supported by school itself [...] via cooperation between teachers, agreements how to develop certain competences in cross-curricular way". Another expert rightly claims that "Not only student´s personality, but also the personality of the teacher must be profiled [...] the student is in the first place, not my teaching subject".

   Latvian report: Methodologists noted that it is rather difficult to attract new teachers to educational establishments and revealed instances of poor level of pedagogical skills of professionals coming from places of work.

   Latvian and Polish report: Most teachers prefer traditional transmisive methods of teaching, but this does not support adequate TKC development of students.

   Slovak report: Experts stressed the importance of education aims and objectives and the way how to measure their fulfilment. Teachers should learn how to teach students to work together, how to present their own attitudes and work. They should also learn how to assess group work, student's products and projects. Assessment criteria at the school level are very important because they influence teaching methods. Teaching methods are voluntary and depend on each teacher.

   Austrian report: The guiding principle for the learning coaching concept is the paradigm shift from teaching to learning. Courses aim to empower teachers to advise and assist learners in self-organizing ability and setting goals. They learn to analyze learning strategies and to reflect learning processes and learning outcomes and learning progress with the learners: Learning coaching has the goal of building successful learning attitudes.

4. Operationalisation of the TKC for the purpose development of TKC and assessment. In most country reports interviewed experts were pointing out that TKCs are not sufficiently operationalised for development and assessment during

school practice. As a result, it is difficult for teachers as well as examination agencies to develop and assess these competencies.

Austrian Report: Assessing the TKC in school life is proving difficult, reminded an expert of previous practice classes in teacher education where aspiring teachers and their class were observed through disposable mirrors ("Venetian mirror"). Critics note that the BISTs are "beautifully written words" on paper but in practice they are not easy to fulfill, let alone easy to verify.

Latvian report: Lecturers stress the necessity for modern, up-to-date methodological auxiliary materials for acquisition of the TKC. Normative documents define the submissions, sample programs list themes, yet there are not enough specific, methodical materials for lecturers. Currently they have to update educational materials, required for acquisition of a subject or module, on their own, using resources within one's own discretion and reach.

Norwegian report: Formulations concerning key competencies in the curricula – for both young and adult students – are few and far between, and they are not particularly strong. It is quite to difficult to operationalise all of the TKCs.

French report: In fact, the key is can we objectivise these competences which we refer to as “soft skills”, “interpersonal skills” , “behavioural competences”. It goes off in all directions.Either we can write them in terms of requirements, in terms of context, because I can see what that covers and above all Ican see what I’m going to be able to observe and assess... but, now, let’s have good general, digital and complementary common cores for health and safety, learning to learn... teamwork, we can indeed identify situational competences, assess them, that makes sense.. we’ve got to find approaches which can be measured..., we have to create a standards framework and list what we’ll be able to measure and observe at a particular level. We can do that for teamwork, but it’s not as simple for others” Employers’representative, Co-coordinator at the COC.

5. Preparation of clear guidelines regarding developing TKCs within subjects, including general and vocational subjects. Central agencies or research institutes should be used to design practical examples showing both good practices and bad practices, i.e. practices that should be avoided.

Slovak report: Experts stressed the importance of education aims and objectives and the way how to measure their fulfilment. Teachers should learn how to teach students to work together, how to present their own attitudes and work. They should also learn how to assess group work, student’s products and projects. Assessment criteria at the school level are very important because they influence teaching methods. Teaching methods are voluntary and depend on each teacher.

Latvian report: Methodologists noted that it is rather difficult to attract new teachers to educational establishments and revealed instances of poor level of pedagogical skills of professionals coming from places of work

Austrian report: Therefore, basic "instructions", tools or agreements are needed to translate the individual subject-specific elements of different school types and schools according to common "game rules" (eg in the form of BISTS, using Bloom active verbs) as well as the intensive maintenance of lesson examples decentrally to support.

Austrian report: In the case of a competence-oriented design of the lessons, attention should be paid to a coordinated and harmonized approach across all types of schools to be set up in the beginning (to avoid differences in the realization and use synergy effects), as well as a scientific accompaniment

Austrian report: A possible risk is seen in a separate TKC teaching unit that is not accepted by students as an "important subject" (as for example, mathematics) and thus not taken seriously. All the more the motivation of the pupils depends on the relevant experiences of the teachers.

Austrian report: Also a high number of learning coaches is supportive. The guiding principle for the learning coaching concept is the paradigm shift from teaching to learning. Courses aim to empower teachers to advise and assist learners in self-organizing ability and setting goals. They learn to analyze learning strategies and to reflect learning processes and learning outcomes and learning progress with the learners: Learning coaching has the goal of building successful learning attitudes.

Norwegian report: Regarding TKC, however, the ideal of universalism is challenged due to problems of implementation. The teachers' ownership of their teaching is important. On the one hand, teachers must have a degree of freedom to design the teaching in harmony with their own belief. On the other hand, TKC must be included as part of the total competences in a way that ensures that the pupils are taught the same subject across schools and teachers.

- Teachers must have clear guidelines or recommendations regarding teaching TKC in every subject
- There must be examples available showing how TKC can be incorporated into the teaching, i. e. a sort of ‘best practice’.
- Teachers must be offered courses, and some of these courses should probably be compulsory. Based on the experiences in this report, there will be many teachers who agree that TKC is important, but still do not see how TKC should affect their teaching.

6. Tightening cooperation with employers and municipalities which govern schools. Companies are places where the integration of individual skills into a competence takes place, TKCs are to be seen as the factor crucial for professional competence and/or holistc competence. The cooperation of employers with education sector apart from organizational aspects, should lead to common concepts of competence.

Norwegian report: TKC is highly a question of how enterprises and schools can improve their co-operation. While the educational institutions emphasize that it is difficult to teach and evaluate TKC, employers place great emphasis on the importance of TKC when hiring new employees. With regard to IVET and CVET, TKC could appear as particularly relevant if introduced as a subject focusing on the link between schooling and the working life.

- Plans must be made for how TKC are to be taught in the enterprises
- TKC mustbe included as in integrated part of becoming a professional worker. Then the problems of assessment in schools will be given less attention

Latvian and Polish reports: Cooperation among employers and education establishments, municipalities and other social actors is important;

Austrian report: Dual system of VET is seen as a good base for transversal key competences development, according to views of the interviewed experts. In the framework of dual education, students can carry out training at the employer's workplace with the real possibility to develop transversal key competences. Due to the previous practice at the workplace, the adaptation process for employees is then stress-free and smooth.

7. TKCs should be more prioritised in the school practice but taking the small step approach is recommended. Promotion activities of activities related to TKCs cannot be too extensive as this might pose the risk of defensive attitudes of teachers. One of the examples of such an approach might be the organisation of the “TKCs days” within the school or employers practice.

   Austrian report: Experts recommend tackling the topic of TKC in learning and teaching in a rather sensitive way: Awareness raising should not be too extensive for all TKC areas at the same time. This would equate to an overstimulation and probably to a defensive attitude.

   One solution is that schools are required to devote whole days to TKC. Then TKC will be prioritized, thus not as a part of the ordinary teaching. Such a change will make the management of the schools responsible, rather than the individual teacher. At the same time, the schools will need help on what kind of scheme they will follow on such days:

   - TKC must be prioritized
   - Periods of TKC projects, putting TKC on the top of the agenda for a whole day or more. During a TKC period, other subjects are to be included as a part of the teaching
   - A detailed example of a TKC-project period must be available

8. Promotion of schools taking part in international contests and projects

   Austrian report: There are numerous approaches in Austria to promote TKC through action-oriented, project-oriented and interdisciplinary teaching. Also participating in competitions, the planning of school activities by the young people themselves (eg parents' day, school festival) and practice companies, the preparation of a diploma thesis and the compulsory internship and their documentation on the e-portfolio contribute to the development of TKCs

   After all, the importance of international networking is stressed. By way of example, knowledge transfer can take place through peer-review, but also through participation in international project offers

   Austrian report: Schools also have an opportunity to participate in ERASMUS projects that allow students´ exchange in schools. Within these exchange periods, students have the opportunity to acquire not only language competence but they also have an opportunity to develop their transversal key competences. Basic strategies for transversal key competences development include appropriate teaching methods, active learning methods, training companies, small businesses, school start-ups, Junior Achievements, as well as students’ vocational competition (SOČ).

5.2 Recommendations from the DASCHE project

The TRACK-VET project was being conducted in synergies and parallel with the DASCHE project titled: *Development, Assessment And Validation of Social Competences In Higher Education.* DASCHE project was implemented in partnership of Universitaet Bremen (Germany), Akademiskas Informacijas Centrs (Latvia), Centrum Pro Studium Vysokeho Skolstvi, V.V.I. (Czech Republic), University Of Durham (United Kingdom), Universiteit Twente (Netherlands), SGH Warsaw School of Economics (Poland, leader).

The DASCHE project materials, reports and other publications may be found on the website http://dasche.eu/. Here we are presenting the main recommendations and lessons learnt stemming from the DASCHE project which in our view are relevant from the perspective of the TRACK-VET project.

5.2.1 Lessons learnt from the DASCHE project

- Shaping social competences of graduates is one of the crucial goals of higher education;
- There is too less attention paid to what the social competences are and by means of what didactic methods they are to be shaped;
- This situation should be changed starting with a debate on conceptualization of social competences on institutional and national levels; such debates were carried on in chosen countries only;
- Higher education institutions are getting too less support from legislation and from decision-makers of different levels to implement an effective process of designing and implementing the social competences into teaching and learning process;
- Only in chosen higher education institutions and countries the activities devoted directly and intentionally for shaping social competences were undertaken.
- More often it is understood as a side-effect of the teaching and learning process and left to the teachers' personal engagement;
- But teachers are not sufficiently prepared to integrate effectively social competences into study courses;
- Achievement of social competences is not well recognized and evaluated by quality assurance agencies.

5.2.2 Main recommendations from the DASCHE project

Recommendations addressed to institutional decision-makers and academic teachers:

- Since social competences are specific to institutional missions and national contexts and the needs of students; a one-size-for all approach is not beneficial and not recommended.

- Teachers need pedagogical support to effectively integrate social competences into courses of study; therefore, at institutional level, Higher Education Institutions (HEIs) should ensure adequate resources dedicated to the development and teaching of social competences e.g.: funds, time, staff.
- The development of social competences in study programmes would be facilitated by the development of teaching guidelines for study programme designers or supervisors.
- HEIs should disseminate good practice from programmes and courses - sharing recommended methods of shaping social competences among academic teachers; providing programmes for developing teachers competences in the area.
- Study processes should be more closely connected with the professional practices of the field in order to strengthen the social competences that are needed for the labour market. This can be achieved through the organization of meaningful study internships, traineeships for teachers, involvement of industry professionals in the implementation of study courses, joint research projects leading to innovative practice.
- Courses of study need to be reconsidered with part of the structured study process being given over to social competences which are directly expressed in credit points. In addition, informal extracurricular activities or additional study activities could be integrated into the formal study programme and awarded credit points for participation.
- Offering ECTS for voluntary activities, for example, involvement in running student organisations or community/charity or other volunteer work (Loukkola & Dakovic, 2017)

Recommendations addressed to decision makers such as government Ministries or Quality Assurance Agencies:

- Provide formal support for the inclusion of social competences into the official role and remit of higher education – if currently absent in policy documents. This needs at least the following:
    - A consideration of the conceptualization of social competences,
    - Establishment of a framework and guidance for developing social competences, and
    - Support for the development of social competences in practice by, opening research/innovation programmes focused on SC development, financial support to HEIs initiatives in the area, etc.
    - The national qualifications frameworks can be used to support the process including the development of social competencies through all levels of the education descriptors.
- Broader promotion of social competences, for example, running information campaigns about social competences. Open debate on the definition and development of social competences in higher education.

- Support for the education of teachers (in initial and further education) to promote the role of social competences in higher education.
- Supporting HEIs to recognize and validate social competences achievements as a form of prior learning. For example, preparing guides for HEIs, the creation of formal regulations supporting RPL. National guides outlining how to link non-formal and informal learning into formal programmes.
- Engaged Quality Assurance Agencies to promote the importance of social competences and methods of assessment. Social competences should be an element of the external evaluation of programmes but there is no reason to include prescriptive requirements regarding social competence education into programme accreditation standards or ESGs, because they are not defined at such a level of detail. Accreditation agencies might consider making social competence education part of their assessment of institutional missions and visions with regard to the quality of education in institutional audits.

5.3 Lessons learned from the TRACK-VET project – reflections for further activities

In this section we present our observations stemming from the analysis of the TRACK-VET country reports, internal discussions within the TRACK partnership and during the seminars organised within the project. This section should be treated as complementary to section 5.1. Below we are presenting 29 observations which we divided into the following blocks:

- Importance of TKCs in VET
- Learning outcomes and their operationalisation for development and assessment
- Different models of assessment practices within the analysed countries
- The need for TKCs assessment within the formal VET
- Broadening assessment methods
- Knowledge about TKCs assessment methodologies and practices
- Teacher competences and development
- Cooperation between teachers and with external stakeholders

Importance of TKCs in VET

1. Analysis of the strategic documents (strategies, core curricula) in the six countries confirmed that TKCs are high on the political agenda. Also conducted interviews confirmed that formal VET should be contributing more strongly to challenges appearing currently in European societies (immigration, the radicalisation of views, changes in labour relations and labour markets) and to contribute more to development of TKCs. However, some reservations should be made:
    a. stakeholders in France presented much scepticism toward the development and assessment of TKCs (see section 5.1.2);
    b. many stakeholders expressed worries that focusing on the TKC might be at the cost of time devoted to the development of specific professional skills. So more focus on TKCs must be done in synergies with development of professional skills, not at its cost;
    c. many stakeholders, including teachers, expressed worries related to proper understanding of the TKCs, methods of their development and assessment (see sections below).

2. Although all distinguished TKCs are interrelated, *learning to learn* competence was indicated to be the most relevant by the project experts. However, learning outcomes related to learning to learn competence were the least represented in the national curricula of general education and VET.

Learning outcomes and their operationalisation for development and assessment

3. We have identified different models of embedding TKCs in VET, which relate to two dimensions – the conceptual and the structural. The concepts relating to TKCs can form a coherent strong reference point (conceptually but also politically) as well as a multilateral network of categories. The concepts behind TKCs were usually supported by additional materials – guidelines, materials, standards etc. The unnamed third option is a deficit of clear and/or shared concepts relating to TKCs which coincides with the existence of separate units/modules related to TKCs in curricula.

4. Uneven distribution: some TKCs are much less frequently mentioned in documents. The learning outcomes linked to the following descriptive categories were least represented in the sample: Cultural expression, Creativity and innovation, Participation in public affairs, Methods and strategies of learning, Understanding and appreciation of culture and Motivation and autonomy of learning.

   Partially this can be explained with the perceived specificity of VET – having less in common with cultural expression than the general strand of education or, according to stereotypes, leading to work that does not require creativity and innovation. However, the fact that the learning competence is among the least represented in the sample is alarming. The following questions arise in this context:
   - Do VET students have autonomy of learning and are being supported or encouraged in developing methods, strategies and motivation for learning?
   - Is the learning competence being transmitted informally and therefore does not need to be listed in the curriculum? Or is this a shortcoming of the education systems? (Do we learn how to learn enough? Is this skill developed successfully?)
   - Motivation and ability to learn depend strongly on the environment and factors external to the education system (e.g. health, nutrition, home-conditions, support of family and peers) which tools are used to support learning competence development and learning itself?

5. Descriptions are often vague and reduce TKCs to the knowledge domain. This relates to the problem of ontological status of TKCs. If skills are a social construct then social competence (and TKCs in general) even more so. As a result, what we are left with are either general statements (leaving interpretation to practitioners) or knowledge descriptions – much easier to define and which may be observed in controlled conditions. The rest has already been said by Charles Tilly:

“As a historical concept, skill is a thundercloud: solid and clearly bounded when seen from a distance, vaporous and full of shocks close up. The commonsense notion – that “skill” denotes a hierarchy of objective individual traits—will not stand up to historical scrutiny; skill is a social product, a negotiated identity. Although knowledge, experience, and cleverness all contribute to skill, ultimately skill lies not in characteristics of individual workers, but in relations between workers and employers; a skilled worker is one who is hard to replace or do without, an unskilled worker one who is easily substitutable or dispensable.” (Tilly, 1988, pp. 452–453)

6. Lack of understanding of TKCs may lead to “Losing the T from TKC”.
   Because TKCs interrelate and are often embedded into concepts of professional competence, differentiation between professional skills and transversal competences (or social, or any other sub-category) creates a false dichotomy. Whereas TKCs is an analytical concept used to describe similar aspects of human capabilities observed in varying situations. However, as it turns out, not using these „artificial” categories may in some cases (e.g. time limitation and assessment focus on specific skills) lead to incomplete development of the relevant competence. This is especially relevant for countries in which there is a deficit of concepts of competence. For this reasons using time and resources to adequately define and describe learning outcomes related to TKCs within school curricula and qualifications standards is a precondition for their more systematic development and designing assessment methods and tools within formal VET.

7. Descriptive categories related to competences defined in the Council of the EU adopted on key competences for lifelong learning (2018) turned out to be a useful platform in discussion between partners. To establish a common understanding and prepare country reports TRACK-VET transversal key competences had to be operationalised. The developed descriptive categories can be found in Annex 4, a sample of the approach is presented below.

Table 9. Operationalisation of TKC within TRACK-VET project – example of Personal, social competences and learning competence.

DESCRIPTIVE CATEGORIES	COMMENTARY / EXAMPLES	TRANSVERSAL KEY COMPETENCES
Methods and strategies of learning	The category 'Methods and strategies of learning' is linked with domains of knowledge and skills, it refers to specific 'tools' (i.e. strategies and methods) for enhancing one's learning. It could be observed as for example: - the ability to set learning objectives and plan learning, - the ability organize and manage learning activities, - the ability choose learning paths, sources, guidance.	PERSONAL, SOCIAL COMPETENCES AND LEARNING COMPETENCE
Motivation and autonomy of learning	Motivation and autonomy of learning is closely linked to the domain of attitudes and values. It could be observed as for example: - pursuing and persisting in learning (autonomy and self-discipline); - presenting a positive attitude towards learning and willingness to learn; - awareness (identification) of one's learning process and needs; - reflecting on one's learning activities and outcomes, self-assessment;	
Maintaining well-being	Maintaining well-being can be observed as for example: - understanding of the components of a healthy mind, body and lifestyle, with awareness of the environment and oneself; - coping with stress and uncertainty; - distinguishing between personal and professional spheres; - presenting assertiveness and integrity (with respect to others).	
Social and interpersonal relations	Social and interpersonal relations could be observed as for example: - Understanding codes of conduct and manners accepted in different societies and environments; - awareness of basic concepts relating to individuals, groups, work organization, gender equality and non-discrimination, society and culture, national and European identities;	

Different models of assessment practices within the analysed countries

8. In all countries, apart from France, assessment leading to a VET qualification is organised as a final examination. In Norway, Poland and Slovakia assessment relates only to professional competences/skills, whereas learning outcomes which are defined in the general core curricula are not being assessed during final VET examinations in these countries. In Austria, Latvia and France assessment leading to a VET qualification includes obligatory learning outcomes defined in general core curricula. This is an important observation as many learning outcomes related to TKCs, especially related cultural awareness learning outcomes are embedded within general core curricula and developed within subjects related to mother tongue, history, political science, geography or civic education, ethic education or religion classes.

The need for TKCs assessment within the formal VET

9. TKCs are almost non-existent in the final exams leading to a VET qualification – Austrian BHS-HAK programmes in which group work project is part of the assessment were an exception in the analysed sample. This is seen by the interviewed experts as drawback which is difficult to resolve at the moment. On the one hand lack of assessment of TKCs significantly diminish incentives of the VET

system to develop TKCs focusing its attention on competences that are part of the assessment system but on the other hand because of lack of solid assessment methodologies regarding TKCs there is a common fear among stakeholders to put forward assessment tools and methods which will not be valid.

Broadening assessment methods

10. There is no clear recognition of the role of formative, continuous and summative assessment within the formal VET in the analysed countries. Summative assessment is predominantly knowledge oriented. Assessment criteria and tools for competence assessment are not yet fully recognised, models of competence assessment are under development.

11. According to most interviewed experts, formative and summative assessment conducted within IVET should be strengthened. This should require the introduction of assessment methods beyond written and oral examinations. However, the introduction of more diverse assessment methods can only be possible if the teachers are equipped with the relevant tools and training support. In this regard, national and regional authorities and agencies have an important role to play.

12. Over the last decade the shift from the traditional 'test culture' towards a 'broad assessment culture' is visible and has recently gained importance. The broad assessment culture relates to the implementation of 'active learning methods'. In the broad assessment culture, evaluation is not just the last part of the learning process, but instead, an integral part of learning. Evaluation does not merely serve the goal of judging students, but also (and more importantly) guides students to gain knowledge, skills and attitudes through feedback mechanisms. TKCs development is not possible if old fashion teaching methods and strategies are applied. Transmissive teaching does not allow key competence development, especially TKCs. Proven teaching methods for TKCs development are guided activities (debate, discussion, workshops, case study, project tasks, simulation); active learning activities (role play, business game, brainstorming, excursion, outdoor training); experience-based methods (dialogue, group discussion, movement activities, art activities, written activities, dramatization, simulation, explorations, work-place training, development of creativity and cooperation).

    Formative assessment helps learners develop their key competence, involving them in setting goals, planning learning and assessing progress; provides timely feedback via teachers and peers, enhances motivation in teaching and learning. Peer and self-assessment are inevitable aspects of successful formative assessment.

Summative assessment of key competences means the assessment for the purpose of reporting learner´s achievements at the end of a period of learning. Suitable methods for this type of assessment are: standardised tests, attitudinal questionnaires, performance assessment, using one or more from these methods.

13. Using portfolio assessment method. Information collecting during a period of learning (portfolio) enable performance-based assessment, which helps to develop key competences. The portfolio method enables storing a variety of examples demonstrating learner´s development and possibly also the application of key competences in a range of contexts during the learning process. In connection with explicit guidelines, portfolios can provide a structure for learners to carefully select entries with the support of their teachers. Reflecting on the learning outcomes and the progress towards them is therefore integral to the assessment.

14. Using situated assessment and workplace assessment of competences. The integrated understanding of competence gives prominent attention to both key occupational tasks and to the various attributes that practitioners need for competent performance. According to this approach, competence is understood in terms of knowledge, abilities, skills and attitudes displayed in the context of a carefully chosen set of realistic professional tasks which are of an appropriate level of generality. The integrated view of competence puts major emphasis on the contextual workplace performance, including attributes as cognitive skills, knowledge, critical thinking, problem-solving strategies, interpersonal skills, affective attributes and technical/psychomotor skills.

15. Using project-Based Assessment. Project-based assessments are an opportunity to utilize and measure the higher-order thinking skills of students. A project-based assessment will apply multi-faceted skills to be encompassed into a cumulative project. This can be a singular project at the end of a grading period or it can be done at designated intervals throughout the marking period. Some benefits of project-based assessments include the overall vantage point of subject correlation with industry applications.

16. Project-based assessments are an alternative to tests that allow students to engage with their learning in more concrete ways. Instead of merely studying theory, a hands-on project asks students to apply what they've learned to an in-depth exploration of a topic. The projects can be used as part of the ongoing learning process or as a capstone assessment in place of a traditional final exam.

Knowledge about TKCs assessment methodologies and practices

17. The TRACK-VET project revealed that there still is a huge knowledge gap in terms of methodology of assessment of TKCs in almost all countries. Lack of materials available to teachers and examination agencies devoted to assessment methods and tools seems to be the result of lack of sufficient knowledge regarding assessment and not lack of will or resources to produce such materials. In our view, this causes reluctance towards introducing assessment of TKCs in the formal VET programmes.

18. Works on the assessment tools and methods within VET sector are rarely supported by the psychometrics studies and considerations. The TRACK-VET study and conducted interviews confirm Coates (2018) and Richardson & Coates (2014) observations, that relevant professional capabilities and capacities are required to change assessment practice, which in the field of vocational and training in short supply. Vocational education itself lacks dedicated assessment professionals, and there appear to be too few assessment specialists with relevant industry experience. The lack of a professional assessment community is an obvious impediment to change. Building a new profession of assessment experts or a community of faculty with interest in assessment requires investment by VET institutions and stakeholders, yet can ultimately be addressed through training and development.

19. The feedback given through assessment has an important impact on the learner's motivation, self-esteem and awareness of his/her learning process. For this reason not adequate assessment methods of TKCs are considered to be more harmful than not using assessment of TKCs at all.

20. Development and assessment of TKCs at the school level is still a grey area. There are no systemic studies of the teacher practices in this regard. Intuitively we assume that TKCs must be developed during school practice during various activities but systemic knowledge is still lacking.

21. Formal VET assessment systems might benefit a lot from studying assessment solutions and practices implemented within the licensure assessment programmes designed by professional agencies or bodies (e.g. licensure and certification assessment solution in the medical professions designed by medical boards).

Teacher competences and development

22. Some of the interviewed experts including teachers perceived TKCs as atomised, separate from other subjects, and less important than subject-specific competence. They feel concerned that a focus on TKC development will decrease the level of

knowledge or specific skills of students. This indicates a lack of understanding of the nature of transversal key competences.

23. Some teachers are not capable to develop TKC, they are not prepared, not educated for TKC development, they do not have developed teaching strategies for active learning of their students. Some of them perceive TKC development as an additional workload.

24. The professional competences of teachers should include pedagogical competences for assessment of key competences for formative and summative purposes, techniques for generating assessment information, interpreting various sources of assessment information (including data from tests), facilitating peer and self-assessment, assessing competences across the curriculum in collaboration with other teachers, reporting assessment information to colleagues, learners and parents, attitudes that support professional reflection and enquiry, and changes that improve assessment practices.

25. To enhance the effectiveness of the assessment practices, cooperation and collaboration between teachers, trainers and other professionals is inevitable. Teachers learning communities can facilitate developing and understanding of the meaning of the key competencies, the implications for teaching, learning and assessment, exchanging evidence and experience, observing and discussing one another´s practices, providing feedback and support for developing key competencies

Cooperation between teachers and external stakeholders

26. As noted in earlier parts of the report TKCs are being developed in numerous ways. Development and assessment of learners learning and effort is usually conducted by individual teachers working alone within single institutions. Supporting cooperation within schools between teachers could contribute to increased quality of assessment conducted at the school level. Also, national or regional authorities or agencies could support cooperation between schools and even professions as TKCs assessment methods could be shared by professionals from different sectors. Sharing design and development of assessment procedures, tools and methods contributes to reducing redundancy, duplication and expensive fixed costs associated with resource production (Coates, 2015).

27. The regular involvement of employers in assessments, including off-the-job assessments, needs to be encouraged but not only to conduct an assessment during work placement/internships periods but also to assess materials and assessment tools developed by teachers and examination agencies.

28. Promotion of VET learners involvement in competitions, contests, and social projects is of crucial importance. In some VET systems, finalists of these competitions are exempted from part or all of VET examinations.

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Annex 1. Sources of examples of learning outcomes by country

AUSTRIA:

Curriculum for the Secondary College for Business Administration, 2014
https://www.hak.cc/files/syllabus/bmb%20Translation%20Lehrplan%20HAK%202014.pdf

School Organization Act, §2 Mission of the Austrian school, 1962
https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=10009265

Teaching principles general and interdisciplinary tasks of the school
https://www.bmbwf.gv.at/Themen/schule/schulpraxis/prinz.html

FRANCE:

Decree no. 2006-830 of 11 July 2006 relating to the common core of knowledge and competences and modifying the Education Code
https://www.legifrance.gouv.fr/telecharger_rtf.do?idTexte=JORFTEXT000000818367&dateT exte=29990101

Decree no. 2015-372 of 31 March 2015 relating to the common core of knowledge, competences and culture
https://www.legifrance.gouv.fr/telecharger_rtf.do?idTexte=JORFTEXT000030236421&dateT exte=29990101

Conseil supérieur des programmes. *Programme charter: charter covering the design, implementation and monitoring of teaching programmes and methods of assessing school pupils*
http://cache.media.education.gouv.fr/file/04_Avril/37/5/charte_programme_csp_312375.pdf

Teaching programmes for primary and secondary schools, special official bulletin, 26 November 2015
http://cache.media.education.gouv.fr/file/MEN_SPE_11/67/3/2015_programmes_cycles234_4_12_ok_508673.pdf

Programmes for applied arts and culture.
Preparatory course for the CAP: Ministry of education official bulletin no. 8 of 25 February 2010

http://www.education.gouv.fr/cid50634/mene0925395a.html
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http://cache.media.education.gouv.fr/file/special_2/23/8/arts_appliques_cultures_artistiques_44238.pdf

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https://sbssa.ac-versailles.fr/IMG/pdf/Programme_CAP_PSE_BO_no30_23-07-2009.pdf) For the Bac pro: the framework in the special official bulletin no. 2, 19 February 2009 https://sbssa.ac-versailles.fr/IMG/pdf/Programme_BAC_PSE_BO_no2_19-02-2009.pdf

Programme for moral and civic education For the CAP and the Bac pro: Order of 12 June 2015
http://www.education.gouv.fr/pid25535/bulletin_officiel.html?cid_bo=90243

DGEFP circular no. 2008/01 of 3 January 2008 relating to the Ministry of Employment's policy of intervention to provide access to the key competences for people making the transition into the workforce

https://travail-emploi.gouv.fr/publications/picts/bo/29022008/TRE_20080002_0010_p000.pdf

Act no. 2014-288 of 5 March 2014 relating to vocational training, employment and social democracy
https://www.legifrance.gouv.fr/telecharger_rtf.do?idTexte=LEGITEXT000028685180&dateTe xte=20190102

Apapp. *Cahier des Charges national App : cadre de référence du label App.* Rouen, 2011.
http://www.app-reseau.eu/upload/Cahier%20des%20charges%20APP%202011.pdf

Inventory record sheet for the “Apprenant agile - Showcase one’s ability to learn and adapt” qualification. http://inventaire.cncp.gouv.fr/fiches/4162/

Article 160 of the National Inter-industry Agreement of 5 October 2009 states that the COC will help to establish a Common core of competences

Article 12 of the National Inter-industry Agreement of 14 December 2013 states that “the COC will be responsible for establishing the Common core of vocational competences by the end of the first semester of 2014. It is also responsible for setting out the requirements for the issue of a qualification related to the Common core of vocational competences listed in the
Inventory”

Act no. 2014-288 of 5 March 2014 relating to vocational training, employment and social democracy.
States that only courses which enable students to acquire the Common Core of Knowledge and Competences are eligible for the personal training account.

Decree no. 2015-172 of 13 February 2015 relating to the common core of vocational knowledge and competences.
Creates and defines the Common Core of Vocational Knowledge and Competences
https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000030236421

Art D 6113-1 of the Labour Code sets out the requirements for the issue of the CléA qualification.
COPANEF is responsible for certification but the power to issue the qualification is also delegated to CPNEs
https://www.juritravail.com/codes/code-travail/article/D6113-3.html

Composition, role and missions of COPANEF are set out in articles L 6123-5 and R 6123-5 of the Labour Code: establish the direction of joint policies on vocational training and employment, coordinate these policies with government policies and those of other stakeholders, set out the policies to be implemented by the FPSPP, compile a list of courses eligible for the personal training account in conjunction with the government, monitor the implementation of the personal training account and carry out any studies and investigations which are deemed necessary and disseminate and promote the work of the COC
https://www.legifrance.gouv.fr/affichCodeArticle.do?cidTexte=LEGITEXT000006072050&idAr ticle=LEGIARTI000021340266&dateTexte=
https://www.juritravail.com/codes/code-travail/article/R6123-5.html

The composition and role of COPAREFs are set out in article L 613-6 of the Labour Code: https://www.juritravail.com/codes/code-travail/article/L6123-6.html

COPANEF. *Socle de connaissances et de compétences professionnelles: cahiers des charges – Appel à propositions.* Paris, 2015.
Charter for access to the key competences for all

http://www.app-reseau.eu/upload/Charte_pour_lacces_de_tous_aux_CCE35.pdf

Standards Framework for Brevet professionnel - Baker Order of 15 February 2012
http://eduscol.education.fr/referentiels-professionnels/e085.html

Standards Framework for Baccalauréat professionnel - Baker and pastry chef Order of 2 July 2009
http://eduscol.education.fr/referentiels-professionnels/a096.html

Standards Framework for Baccalauréat professionnel - Production line manager Order of 30 March 2012
http://eduscol.education.fr/referentiels-professionnels/index3a4a.html

Standards framework for the CAP in Hairdressing
http://eduscol.education.fr/referentiels-professionnels/b231.html

Standards framework for the CAP in Beauty Hairdressing Perfumery
http://eduscol.education.fr/referentiels-professionnels/cap_ecp.html

Standards framework for the Bac Pro in Beauty Hairdressing Perfumery
http://eduscol.education.fr/referentiels-professionnels/bacpro_esth_cosm_parf.html

Standards framework for the Bac pro in Support, care and personal services
http://eduscol.education.fr/referentiels-professionnels/a127.html

Standards framework for the Bac pro in Electrical and connected environments trades
(MELEC)
http://eduscol.education.fr/referentiels-professionnels/indexdbe3.html

Standards framework for the Bac pro in Chemical, Water, and Paper and cardboard
Processes (PCPEC)
http://eduscol.education.fr/referentiels-professionnels/a133.html

SLOVAKIA:

MŠVVaŠ SR. 2016. ***Odborné vzdelávanie a príprava: skupiny odborov ŠVP*** [State Educational Programme: Vocational education and training - groups of study programmes]. [cit. 2019-01-24] available online http://www.siov.sk/Vzdelavanie/SVP.aspx

Zákon č. 245/2008 Z.z. o výchove a vzdelávaní (školský zákon) [Education Act] available online https://www.minedu.sk/12272-sk/zakony/
Zákon č. 568/2009 Z.z.o celoživotnom vzdelávaní [LLL Act] available online https://www.minedu.sk/12272-sk/zakony/

Vyhláška o ukončovaní štúdia na stredných školách č. 318/2008, novela č. 142/2018 [Decree of the finalisation of study at upper secondary schools]. [cit. 2019-05-20] available online https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2018/142/vyhlasene_znenie.html

Metodický pokyn č. 21/2011 na hodnotenie a klasifikáciu žiakov stredných škôl [Regulation of the evaluation and assessment at upper secondary schools] available online https://www.minedu.sk/metodicky-pokyn-c-212011-na-hodnotenie-a-klasifikaciu-ziakovstrednych-skol/

Zákon č.61/2015 Z.z. o odbornom vzdelávaní a príprave [Act of vocational education and training]available online https://www.minedu.sk/12272-sk/zakony/

POLAND:

Resolution of the Minister of National Education of 23 December 2008 on the core curriculum for pre-school child development and general education in specific types of schools [Rozporządzenie Ministra Edukacji Narodowej z dnia 23 grudnia 2008 r. w sprawie podstawy programowej wychowania przedszkolnego oraz kształcenia ogólnego w poszczególnych typach szkół, Dz.U. 2009 nr 4 poz. 17] http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=wdu20090040017

Resolution of the Minister of National Education of 7 February 2012 on the core curriculum of vocational education [Rozporządzenie Ministra Edukacji Narodowej z dnia 7 lutego 2012 roku w sprawie podstawy programowej kształcenia w zawodach, Dz. U. 2012, poz. 184] http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20120000184

Resolution of the Minister of National Education of 16 May 2019 on the core curriculum of vocational education and additional vocational skills for selected occupations in vocational education [Rozporządzenie Ministra Edukacji Narodowej

z dnia 16 maja 2019 r. w sprawie podstaw programowych kształcenia w zawodach szkolnictwa branżowego oraz dodatkowych umiejętności zawodowych w zakresie wybranych zawodów szkolnictwa branżowego, Dz.U. poz. 991] https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20190000991

Resolution of the Minister of National Education of 15 February 2019 on the aims and tasks of voactional training in sectors and classification of occupations in vocational education [Rozporządzenie Ministra Edukacji Narodowej z dnia 15 lutego 2019 r. w sprawie ogólnych celów i zadań kształcenia w zawodach szkolnictwa branżowego oraz klasyfikacji zawodów szkolnictwa branżowego, Dz.U. poz. 316] http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20190000316

NORWAY:

Core curriculum – values and principles for primary and secondary education [Overordna del – verdiar og prinsipp for grunnopplæringa]
https://www.udir.no/lk20/overordnet-del/?lang=eng

The school year 2020–21 the National Curriculum "Kunnskapsløftet 2006" valid for year 10, Vg2 and Vg3
https://sokeresultat.udir.no/finn-lareplan.html?fltypefiltermulti=Kunnskapsl%C3%B8ftet%202006&spraakmaalform=Engelsk

The school year 2020–21 the National Curriculum "Kunnskapsløftet 2020" is valid for year 1-9 and Vg1
https://sokeresultat.udir.no/finn-lareplan.html?fltypefiltermulti=Kunnskapsl%C3%B8ftet%202020

LATVIA:

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https://visc.gov.lv/profizglitiba/dokumenti/standarti/ps0122.pdf

Occupational standard for Electrical Technician
https://visc.gov.lv/profizglitiba/dokumenti/standarti/ps0198.pdf

Occupational standard for Logistics Worker
https://visc.gov.lv/profizglitiba/dokumenti/standarti/ps0425.pdf

IVET for "Computer Technician" qualifications
https://visc.gov.lv/profizglitiba/dokumenti/programmas/modularas/eikt_001/programmas/p01.pdf

IVET for "Electrical Technician" qualifications
https://visc.gov.lv/profizglitiba/dokumenti/programmas/modularas/energ_001/programmas /p01.pdf .

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https://visc.gov.lv/profizglitiba/dokumenti/programmas/modularas/transp_001/programma s/p01.pdf .

CVET for "Construction electrician" qualifications
https://visc.gov.lv/profizglitiba/dokumenti/programmas/modularas/energ_001/programmas /p03.pdf.

CVET for "Commercial worker in advertising services" qualifications
https://visc.gov.lv/profizglitiba/dokumenti/programmas/modularas/komerc_001/programm as/p05.pdf.

Methodological guidance for the development of modular professional education programs. ESF project "Nozaru kvalifikācijas sistēmas izveide un profesionālās izglītības efektivitātes un kvalitātes paaugstināšana" [Development of a sectoral qualifications system and improvement of the efficiency and quality of vocational education and training], NEC, 2015

Daugavpils Technical School. IVET program "Electrical Technician", 2018. (NEC VET Curriculum Department files)

Jelgava Technical School. IVET program "Computer Technician", 2018. (NEC VET Curriculum Department files)

Jēkabpils Agricultural Business College. IVET program "Computer Technician", 2017. (NEC VET Curriculum Department files)

Kandava Technical School. IVET program "Computer Technician", 2017. (NEC VET Curriculum Department files)

Kuldīga Technical School for Technology and Tourism. IVET program "Logistics Worker", 2017. (NEC VET Curriculum Department files)

Liepāja Technical School. IVET program "Computer Technician", 2017. (NEC VET Curriculum Department files)

Liepāja Technical School. IVET program "Electrical Technician", 2017. (NEC VET Curriculum Department files)

Liepāja Technical School. IVET program "Logistics Worker", 2017. (NEC VET Curriculum Department files)

Ogre Technical School. CVET program "Computer Technician", 2017. (NEC VET Curriculum Department files)

Priekuļi Technical School. IVET program "Computer Technician", 2017. (NEC VET Curriculum Department files)

Rēzekne Technical School. IVET program "Electrical Technician", 2018. (NEC VET Curriculum Department files)

Rēzekne Technical School. IVET program "Computer Technician", 2018. (NEC VET Curriculum Department files)

Rīga State Technical School. IVET program "Computer Technician", 2018. (NEC VET Curriculum Department files)

Rīga State Technical School. IVET program "Electrical Technician", 2018. (NEC VET Curriculum Department files)

Rīga State Technical School. IVET program "Logistics Worker", 2018. (NEC VET Curriculum Department files)

Rīga Technical College. IVET program "Electrical Technician", 2018. (NEC VET Curriculum Department files)

Rīga Technical College. IVET program "Logistics Worker", 2018. (NEC VET Curriculum Department files)

Rīga Technical College. IVET program "Computer Technician", 2018. (NEC VET Curriculum Department files)

Rīga Trade Vocational Secondary School. IVET program "Logistics Worker", 2018. (NEC VET Curriculum Department files)

Smiltene Technical School. CVET program "Accountant", 2017. (NEC VET Curriculum Department files)

Valmieras Technical School. IVET program "Logistics Worker", 2018. (NEC VET Curriculum Department files)

Ventspils Technical School. IVET program “Computer Technician”, 2017. (NEC VET Curriculum Department files)

Ventspils Technical School. IVET program “Electrical Technician”, 2017. (NEC VET Curriculum Department files)

Annex 2. General information about assessment solutions within the TRACK-VET partner countries

General information about assessment in VET – **Austria**	
1. What qualifications are being awarded to learners in IVET and CVET programmes discussed in the country report. Do these qualifications confirm strictly professional competences or also general competences?	The Austrian country report mainly focuses on the 5 year programme for Business Administration (NQF/EQF level 5), which is offered at Colleges for business administration (BHS-HAK). It concludes with a matriculation and diploma examination which consists of the assessment of general competences (mother tongue, foreign language, mathematics) as well of vocational competences. The general competences are assessed within a centralised examination which is carried out standardised at all 5-year VET programmes. The vocational competences are assessed through a written diploma thesis (pre-scientific work) carried out during the last year of school and their presentation as well as through written and oral exams within the matriculation and diploma examination. With the diploma work also transversal competences are being assessed. This form of assessment is only carried out in the higher level 5-year vocational programmes! There are other programmes in Austria, which have other forms of final assessment: **Medium level programmes that lead to skilled workers' level (BMS, three to four-year-programmes at NQF/EQF level 4) in Austria:** The three to four-year programmes at VET schools, like four-year-programmes at VET, provide general and commercial education in an integrated form. They are completed with a final examination after 3 or 4 years of school attendance and also contain practical parts (e.g. accompanied practical training in companies). The main focus is to confirm professional competences but also general competences (as foreign language) are confirmed. **Apprenticeship-leave exam in Austria** During the training in an apprenticeship, the compulsory vocational school (vocational school) imparts the basic theoretical knowledge to the apprentices in an extra-occupational, professionally relevant course. It promotes and complements both in-company training and general education.

	The final examination consists of a theoretical and a practical part: In the theoretical examination, there are usually several written exams and takes place before the practical part. Candidates, who have successfully completed the last year of vocational school, do not have to take the theoretical examination. The practical part is divided into several subjects and consists of a part where practical tasks have to be carried out (e.g. test work, project work, business case), and at least one oral part (e.g. technical discussion, oral part to business case). Thus, the final apprenticeship-leave exam is mainly about professional competences but has some elements of general education. After both, medium level programmes and apprenticeship training, the graduates have the possibility to take an external vocational maturity test or university entrance examination, which confirms general competences (the first also vocational in one specialist area), to get access to studies at university or university of applied sciences. After completion of each of these 3 programmes (higher level, medium level and apprenticeship), a concrete vocational qualification is being awarded.
2. How does the assessment look like across different types of schools/qualifications which were described in the report?	**Austria:** See question 1
3. How IVET qualifications are being awarded. What are relations between formative and summative assessment.	Commentary: *Are qualifications being awarded upon the school completion or do the learners need to take an exam. Are grades acquired during the school year taken into account in awarding qualification.* For the IVET programmes mentioned above, it is similar to the Slovakian situation: Formative assessment is done by teachers throughout the school year – at the end of each semester the grades awarded determine the final grade in the given semester. These final grade are not taken into account in final examination in medium level programmes nor in maturity examination in higher level programmes, however, in the non-standardised examinations the teachers in the examination committee are aware of

	student's grades throughout their education.
4. Are IVET qualifications available for CVET and adult learners If yes, are the assessment procedures the same for adult learners as for the IVET learners	In Austria, in the second educational path one can complete a matriculation and diploma examination or an apprenticeship. The IVET qualifications are available for CVET and adult learners but not to the same conditions as for IVET learners: There are VET schools and VET colleges organised as evening schools for adults/employed learners. Matriculation and diploma examination can be acquired after 8 semesters/4 years (in IVET it is 5 years), graduation from evening VET school is possible after the 4th semester/2 years (in IVET it is 3 years). Also, there are distance education or telelearning courses as well as mixed forms (presence and distance learning), to complete those programmes as adult learner. The learning and assessment is organised in modules. Students can individually select modules; module certificates are issued every six months, which provide information on the modules that have been successfully completed. Once all modules as well as the final examinations have been completed, the programme is finished. For apprenticeship there is the possibility of an extraordinary final apprenticeship examination (LAP) to make up for the final apprenticeship examination. Requirements: Work experience through practising the profession (e.g. as a unskilled worker) or through a broken off apprenticeship. More than half of the apprenticeship period must have been completed. In this case, the assessment is the same as in the normal final IVET apprenticeship exam.
5. Who defines the content of the assessment	Commentary: *We would like to know if the content is designed at the central, regional, school level* **Austria:** Final summative assessments which are carried out centralised and standardised (i.e. for general competences) are defined by the Ministry of Education.

	The content of the final summative assessment of vocational competences is defined by the school. The formative assessments during the course of the programmes is, of course, also defined by the school.
6. The structure of the exam, grading mechanism and the passing rate.	Commentary: *We would like to know if the exam is divided into parts and if there are threshold to pass an exam.* How long does each part of the assessment takes place. **Austria**: 1) Written work: The written work at a vocational secondary school is called a "diploma thesis". It is a technical paper of about 80 pages which is written jointly by a team of students. Usually there are two to five students per team. Since the diploma thesis should have a strong practical relevance, the topics are always concrete and mostly deal with real experiences. These projects are realized outside of regular school hours, often in a partner company. Each student team is supported by a teacher. The diploma thesis must be completed at least 6 weeks before the date of the Matura; the project is presented in the classroom, discussed and then graded. 2) Each student must take a total of six examinations; it is up to the student to decide whether he/she would prefer to take three written and three oral examinations OR four written and two oral examinations. Depending on the type of school, there are also very different rules as to which subjects are regarded as compulsory written examinations. In any case, the subject examination is regarded as obligatory (in the HAK area this would be accounting, for example). The other compulsory subjects - German, mathematics and a living foreign language, such as English - can, however, be interchanged. For example, in a HTL (technical college) it is common practice to opt for a written Matura in German AND / OR English. If a written Matura is NOT taken in German, Mathematics or the living foreign language, this subject will automatically become an oral examination subject! All questions are provided by the school and the respective teachers, not by the Federal Institute. 3) The subject German has an identical structure for all vocational colleges and general secondary schools. A total of three subject blocks are

	offered, from which one must be selected for processing. Each topic has at least two sub-topics, one of which usually has a topical and the other a literary reference. 4) Since the introduction of the Central Matura, the subject Mathematics has consisted of two parts: - Part A consists of 5 task groups with a total of 19 subgroups and serves to test the basic competences of the Matura students. The corresponding tasks are provided by the Federal Institute. - Part B consists of a school type specific question, which is adapted to the respective curriculum; for example, in a HAK mainly financial mathematical tasks are set. 5) English, French, Spanish and Italian are considered to be standardised foreign languages - and thus selectable by the pupils. The Central Matura is usually based on a reference level B2 in English and B1 in all other languages. The tasks include listening and reading comprehension and writing skills. Both standardized and individual examples are tested; the exact breakdown is as follows: - in the area of listening and reading comprehension there are two AHS & BHS overlapping tasks, one BHS overlapping task plus one school type specific task. - in the area of writing competence there is one BHS comprehensive task, one BHS comprehensive task with school type specific content plus one task that is completely tailored to the respective school. 6) All questions in the oral part of the Central Matura are school-centred, which means that the questions are assigned by the respective school, not by the Federal Institute. In an oral examination, all teachers in the current Matura classes create a pool of questions from which the Matura student draws the examination questions himself/herself. After a preparatory period, the questions are discussed before the commission. The main argument in favour of the central examination positions is primarily the comparability, which can otherwise be reduced by, for example, school-specific focal points. The fact that in cases of hardship agreements could even be made is also no longer possible.

	The Central Matura consists of three components which are assessed independently of each other. These three components are the oral and the written Matura examination, in addition a pre-scientific paper (VWA, sometimes also called diploma thesis) must be completed. The overall performance is then made up of equal parts of the individual results. The first (pre)scientific paper The pre-scientific paper can be written in any subject that was offered with at least four hours per week. The supervision ratio of teachers to students is limited to 1 to normally 3 (maximum 5) in order to ensure optimal supervision of the student. The subject of the VWA must be chosen or worked on by the student in the 7th grade. A teacher may not refuse a requesting student, but may reject the student's topic. In this case, it is generally advisable to follow the experience and advice of the teachers. At the beginning of each pre-scientific work, the student must submit an expectation horizon in which the topic, personal impulses, first literature and an approximate outline must be specified. Since the specifications of the Federal Ministry of Education formulate a concrete expectation of the length of the VWA (40,000 to 60,000 characters, formulated as continuous text), pupils who, for example, graduate in the geometric area of mathematics are at a disadvantage. A similar situation is conceivable for other natural science subjects with a high representational aspect. The Ministry's handouts also suggest, for example, that a certain structure be adhered to. This contains an abstract, a concise summary of the contents, in which an outline of the topic is presented without interpretation or analysis, and the main section also includes a foreword and a bibliography, as well as an optional glossary or appendix. In any case, the abstract must contain a specific question which will then be dealt with. The written examination The second part of the Matura consists of centrally organised written certificates of achievement. In all cases, students must take an examination in the subjects German, mathematics and a living foreign language. A fourth subject can be taken in accordance with the student's own school career and individual strengths, in which case it is advisable to look at previous certificates. In principle, all subjects in which

	school papers were written during the Upper School are eligible. In some subjects, the teacher writes the exams himself (biology, music, computer science, physics, sports, descriptive geometry), while in other subjects the Ministry writes the exams (German, mathematics, English, French, Latin, Russian, Spanish). Writing takes five hours in foreign languages, four and a half hours in mathematics, and four hours in all other subjects. In case of poor results in the second component of the central Matura, so-called compensatory examinations, centrally prepared additional oral examinations can be taken. Although this possibility means an additional learning burden, it improves the actual grade without this being apparent later on the Reifeprüfungszeugnis. The examination board consists of the chairman of the examination board, the headmaster, the class director and the actual examiner, the subject teacher. The chairman of the Examination Commission is not entitled to vote on the grading. The oral examination The number of oral tests, the third component of the Central Matura, depends on the number of written tests already taken. If a student has taken four written examinations, he/she only has to take two oral examinations. If he has taken three exams, he has to take three oral exams. Possible examination subjects are all subjects that have been taken during the entire upper school with at least four hours per week during the year. For the actual examination, a student selects two areas of the respective subject from a subject catalogue, from which he may then choose one. The number of possible subjects is subject specific, for example there are exceptions for subjects with a practical part, such as physics. However, the number of topics is determined by the number of lessons per week during the course of the upper school. The examiner then determines the questions on the chosen topic, which have been prepared beforehand by the review board. For the examination discussion, the examinee prepares for the concrete question for 30 minutes, the subject discussion, the actual examination then takes 10 to a maximum of 15 minutes.

	The examination board consists of five people in the oral Matura: In addition to the actual examiner, it also consists of the examination chairman, the headmaster, the board of directors of the class, and an assessor, who must be competent. The chairman of the examination committee is not entitled to vote when grades are awarded. If the class board is also the examiner of the student, it is represented by another teacher in its board role. One of the three parts of the examination can take into account a focus, such as the performance in mathematics lessons at schools with a focus on mathematics and science. Success rate at centralised standardised Matura exams at BHS: 93.2% (2015/16)
7. Who is conducting the assessment, a teacher, an external evaluator. Please provide a short description of how the examination looks like based on the some example, see the description	Austria: The procedure is described above. grades are on a scale 1-5 (1- outstanding; 5- poor).
8. Are the tasks within the summative assessment leading to certification the same for all learners?	**Austria**: The tasks are the same for all learners of a specific programme in IVET (as described above).
9.1 Is the practical training at the premises of employers obligatory part of the vocational study programme. 9.2 How long does the practical training last?	Practical training at the premises of employers is an obligatory part in most vocational programmes, which is included in the curricula by compulsory internships. In apprenticeship training of course most or at least half of the programme is practical training at the premises of employers. With the school year 2014/2015, the Federal Ministry of Education and Women (BMBF) introduced a compulsory internship in “Secondary College of

9.3 Are employers assessing learners' skills during the period of practical training, is this assessment influencing final grade of learners?	Business Administration", "Secondary Business School" und "Add-on Coursees of Secondary Colleges of Business Administration". Pupils have to complete a paid compulsory work placement/internship in relevant companies once or several times during the summer holidays. In some cases the school year is shortened somewhat for this purpose (e.g. schools for tourism). Usually they have to last at least 8 weeks in VET colleges, in some also 12 or even 24 weeks (in colleges for tourism) and at least 4 weeks in VET schools (full-time). The compulsory internship is to be prepared and followed up in detail in the relevant subjects in the school. During the internship, the pupils have to keep a documentation, which is then part of the relevant subject. There is no assessment in terms of grades by the employer. But as the internship is to be prepared and followed up in the school subjects, it is influencing the grades of the pupils. According to the curriculum, the compulsory internship serves to supplement and deepen the knowledge and skills acquired in the subjects in a company or organization. Furthermore, the compulsory internship is intended to promote insight into social relationships as well as operational and organizational contexts and to give the students an insight into the world of work. In addition to professional, social and personal skills should also be acquired. With a curriculum reform in 2016, the subject of company practice was newly introduced in technical, commercial and arts and crafts schools. In the 2019/20 winter semester, the very first cohort of pupils went through the curricular innovation company practice. The subject of business practice is defined as a compulsory subject in technical school curricula and is implemented in the last school year (7th semester) in the form of blocked lessons lasting ten to twelve calendar weeks (four to five days per week). However, technical students at four-year schools can choose between practical experience and an in-depth general education. It is intended that the practical experience will be completed in a company, but if this is not possible, the school must provide a corresponding company-like learning environment. The implementation of the operational practice is therefore subject to a great deal of educational leeway, within

	which different variants of implementation are possible.

General information about assessment in VET – **France**	
1. What qualifications are being awarded to learners in IVET and CVET programmes discussed in the country report. Do these qualifications confirm strictly professional competences or also general competences?	The qualifications refered to in the French report are mainly those awarded by the Ministry of Education (hereafter MEN). This includes vocational qualifications at level 3 and 4 in the European Qualifications Framework (hereafter EQF) : -the vocational baccalaureate (*Baccalauréat Professionnel)* (level 4 in the EQF, available in either initial or continuing training) - the *Brevet Professionnel* (hereafter BP, also a level 4 in the EQF but open only to workers) with fewer students -the *certificat d'aptitude professionnelle* (hereafter CAP, ranked at level 3 in the EQF and open to both school pupils and workers). These MEN vocational qualifications (*baccalauréat professionnel* and CAP) can be obtained through the school system or continuing training; but the former is by far the most frequent. These qualifications confirm both professional and general competences. In addition to these vocational qualifications, there is the Cléa certificate. CléA (the common core of vocational knowledge and competences) is an initiative designed for (low level education) workers and job-seekers and set up by a number of employers' organisations and trade unions. This qualification could be defined as a formal qualification awarded outside the school system, and achieved after a continuing training path. This qualification targets only transversal key competences.
2. How does the assessment look like across different types of schools/qualifications which were described in the report?	*The MEN qualifications* For the general examinations, as for the vocational ones, there are two main methods of assessing candidates, depending on the institutions in which they were studying : final one-off assessments or continuous assessment (hereafter CCF). It's important to highlight that CCF is not a continuous formative assessment taking place all along the training period but it is organised as a one-off examination also, situated in an intermediate point of the training period and not necessarily at the end. CCF is however the most common type of evaluation. In order to obtain a full qualification several exams are necessary.

	The general education examinations may differ: Some of them are one-off written examination, some others (CCF especially) are based on the implementation of a project followed by an oral examination. In both cases, teachers (sometimes assisted by professionals for vocational examinations) conduct the assessments. For the vocational qualifications, the methods of examinations may vary considerably depending on the subject. They are generally in written form, national and anonymous - particularly in the case of general educational courses (French, History...) and common courses (Economics and Management...). For the specialised vocational courses, there is a wider range of types of examinations. There are practical assessments which take the form of "role-play situations". Assessment may incorporate "*périodes de formation en milieu professionnel*" (PFMP - periods of workplace training). It can be in form of oral presentations or involve reports or projects on a specific theme. And finally, portfolio assessment is being developed. Usually, for vocational qualifications (especially Level 4) there is a final and national examination which consists I, a written technological test, based on a case study. It is a unique test for all candidates. Final national examination is progressively fading-out in favour of the CCF format. *CléA qualification :* The examination leading to the CléA certificate depends on the body accredited for awarding. As far as we know, it consists of a final examination using situated assessment or scenarios.
3. How IVET qualifications are being awarded. What are relations between formative and summative assessment.	Commentary: *Are qualifications being awarded upon the school completion or do the learners need to take an exam. Are grades acquired during the school year taken into account in awarding qualification.* MEN qualifications (vocational ones or not) : Students from public or accredited training bodies have to pass CCF exams and in certain cases a final exam. It means that there are several tests for passing the full qualification. Of course, in this case grades acquired though the different CCFs are considered for the awarding of the final qualification. Therefore, CCF is indeed a summative examination even if not necessarily conducted at the end of the course and carried out by the students' own teachers.

	Concerning students from private or not accredited training bodies, there is what we call a “final assessment” at the end of the training courses, necessary for acquiring a national recognised degree. It takes place in a specific examination centre and candidates are assessed by teachers they do not know. In this case, the grades obtained during the training years are not part of the final score but may be considered by the final jury. CléA qualification : only one exam is organised at the end of the courses.
4. Are IVET qualifications available for CVET and adult learners If yes, are the assessment procedures the same for adult learners as for the IVET learners	All MEN qualifications are available through initial education, continuing training or apprenticeship. Procedures vary depending on the status of the schools: are they public / private schools or accredited / non-accredited apprenticeship centres? Candidates coming from private schools or non-accredited apprenticeship centres, can only complete final exams. These exams take place in an examination centre (school) and candidates have to be assessed by teachers they do not know.
5. Who defines the content of the assessment	Commentary: *We would like to know if the content is designed at the central, regional, school level* It depends on the nature of the exam, is it national (final exam) or not? Most of the time, for the vocational baccalaureat, teachers define the content of the exams. For the CAP, in the case of practical exams, the types of situations are defined by a working group (including teachers and managed by MEN local inspectors). In any case, exams are scoped by qualification standards and national assessment grids and organised under the supervision of at least MEN local inspectors. Every level (national, local and school ones) are involved in defining the content of the exams but each one gets its proper role. Usually, written exams were designed within working groups, involving teachers and MEN inspectors but they are increasing rare.
6. The structure of the exam, grading mechanism and the passing rate.	Commentary: *We would like to know if the exam is divided into parts and if there are threshold to pass an exam.* How long does each part of the assessment takes place.

	Each qualification includes several types of exams : oral, written (most of the time for general competences) situational assessments and reports (generally for vocational competences). The duration of the examinations can vary depending on the levels and specialisms. In the case of vocational qualifications, vocational tests prevail over the other ones. A candidate has to meet at least a score of, at least 10/20 on vocational tests to get the qualification.
7. Who is conducting the assessment, a teacher, an external evaluator. Please provide a short description of how the examination looks like based on the some example, see the description	Candidates coming from private schools or non-accredited apprenticeship centres are not assessed by their own teachers but by a different one not known by the student. It takes place at the end of the training course. Students coming from accredited schools are increasingly assessed by CCF which is carried-out by their own teachers. For instance, practical vocational tests leading to an electrician qualification (3-years length "*bac pro")* take place over the 3 years (normally the second or third trimester of the year), and « when the candidate seems to be ready ». A candidate has to reach an average of 10/20 in every vocational test (situational assessment + report upon the PFMP workplace period + oral test) to get the qualification. The other tests (for general and technological competences) have different coefficients, the grades obtained in this case can be compensated. A local jury composed of teachers and inspectors can eventually upgrade a candidate, if he obtained an average of 10/20 in the vocational tests. In this specific case the jury may decide to retest the candidate but only assessing general competences because vocational ones are supposed to be acquired.
8. Are the tasks within the summative assessment leading to certification the same for all learners?	*Commentary: if there is no summative assessment leading to a certification please indicate* Tasks are usually the same but the conditions may vary (depending on the equipment and the examination centres). Nevertheless, the exams are regulated by qualification standards, assessment grids and supervised by inspectors. To sum up, they are national regulations but local adjustments.

9.1 Is the practical training at the premises of employers obligatory part of the vocational study programme. 9.2 How long does the practical training last? 9.3 Are employers assessing learners' skills during the period of practical training, is this assessment influencing final grade of learners?	Absolutely. PFMP (working place training) is compulsory It lasts 22 weeks over 3 years for the Bac pro/ 16 weeks over 2 years for the CAP. This duration is strongly regulated for initial training. It can be increased for continuing trainers and apprentices. In this latest case, trainers can be trained part time at employers' premises Employers assess skills during the practical training and give a final grade which is taken into account in the final semestral grade. Employers are supposed to take part in the vocational exams but they rarely do. Then, they are involved in assessing working place periods although teachers have often the last word.

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General information about assessment in VET – **Latvia**	
1. What qualifications are being awarded to learners in IVET and CVET programmes discussed in the country report. Do these qualifications confirm strictly professional competences or also general competences?	In Latvia have been created and approved a listing of 14 sectors, for which a Sectoral Qualifications System (SQF) had to be developed: construction; manufacturing of electronic and optical products, information, and communication technologies; energy; timber production (forestry, timber processing); chemical industry and related industries – chemistry, pharmacy, biotechnology and environment; metalworking industry, automotive industry and mechanical engineering; agriculture; food industry; printing and publishing industry, manufacturing of paper and paper products and computer design; beauty treatment sector; tourism; manufacture of textiles, wearing apparel and leather products; transport and logistics; entrepreneurship, finances, accounting, and administration (wholesale, retail, and economics). The SQF included 1) sector-specific qualification level descriptors (knowledge, skills, and competences) and references to the EQF/NQF levels; and 2) sector-specific basic professions, specialization in basic professions, as well as professions related to basic professions in each qualification level Professional qualification exam (content) is developed for all professional qualifications in accordance with the professional standard or professional qualification

	requirements, industry / labor market requirements and regulatory enactments. The qualification exam has two parts - the theoretical part and the practical part. The theoretical part of the qualification exam can be taken after receiving the final assessment - a mark on the 10-point evaluation scale or "passed" - in all subjects/training courses /modules and practical training, and the practical part - after receiving the final assessment in qualification practice. It should also be mentioned that all Latvian learners/students simultaneously (united in one day) take the mandatory centralized examinations (in general education subjects), which are compulsory for everyone - secondary school students, students of vocational education institutions, etc. - 12th grade high school students. or in the 3rd, 4th year in a vocational education institution. The result of the centralized examination is expressed as a percentage and is recorded in the general secondary education certificate (separate/ independent document), in which the results of the examination of each subject (Latvian language, English language and mathematics) are recorded. The subjects in which the state final examinations are taken and their assessment (points or level) are also recorded in the diploma supplement in the transcript of records, which is an integral part of the diploma (for VET students).
2. How does the assessment look like across different types of schools/qualifications which were described in the report?	The VISC is responsible for organizing centralized examinations at the end of general and vocational education. To obtain a professional qualification (NQF (*National qualifications frameworks*) level 3-4), students take state qualification examination at the end of vocational education program. Professional qualification exam, incl. the centralized professional qualification examination is taken by each person / learner / examinee in order to obtain a 2nd, 3rd or 4th level professional qualification in accredited vocational basic education, vocational education, vocational secondary education and continuing vocational education programs or to assess its professional competence acquired outside the formal education system.

	To obtain a certificate of general secondary education, a student must pass three compulsory centralized examinations, namely, in the chosen foreign language, Latvian language and mathematics 2 NQL - Vocational basic education programs (1-3 years) - Certificate of vocational basic education and professional qualification. 3 NQL - Vocational education programs (3 years and One-year (17 – 29-year-olds)) - Certificate of vocational education and professional qualification without rights to enter higher education. 4 NQL - Vocational secondary education programs - (4 years) Diploma of vocational secondary education and professional qualification, and a Certificate of general secondary education with rights to enter higher education or (One-and-half to three year after general secondary education) Certificate of vocational education without rights to enter higher education. To obtain a diploma, a student must pass three compulsory centralized examinations in general education subjects - in the chosen foreign language, in Latvian and in mathematics. 2-4 NQF - Continuing vocational education programs enable adults with education/work experience to obtain a state recognized professional qualification in 480 to 1280 hours, depending on the field of study. These programs lead to a Certificate of professional qualification. Professional qualification exam consists of 2 parts - theoretical and practical and the commission is also one and independent (professionals/specialists from the industry), at least 3 people assess the learners' knowledge, skills, and competences. Yes, they are external assessors
3. How IVET qualifications are being awarded. What are relations between formative and summative assessment.	Summative assessment is carried out by teachers throughout the school year for each student in each subject / course / module to assess and document the student's learning outcomes against the planned outcomes at the end of the learning phase, such as topic, school year or phase, etc. Of course, summary evaluation dominates, but formal evaluation is also used to determine the level of knowledge / skills and to make adjustments in the learning process. The theoretical part of the qualification exam can be taken after receiving the final assessment - a mark on

	the 10-point evaluation scale or "passed" - in all subjects and practical training, and the practical part - after receiving the final assessment in qualification practice.
4. Are IVET qualifications available for CVET and adult learners If yes, are the assessment procedures the same for adult learners as for the IVET learners	Yes, in Latvia, vocational education and adult education have access to VET qualifications and assessment procedures for adult learners are the same as for VET students.
5. Who defines the content of the assessment	Professional qualification exams tasks and their performance evaluation criteria, test answer sheets, correct answers and task solutions are developed by: - for centralized examinations - VISC - for other examinations (for example; Arts sector) - examination body (Latvian National Centre for Culture – responsible for cultural and creative industries education).
6. The structure of the exam, grading mechanism and the passing rate.	Professional qualification exam (content) is developed for all professional qualifications in accordance with the professional standard or professional qualification requirements, industry / labor market requirements and regulatory enactments. Each qualification exam has two parts - theoretical (test questions) and practical. In the theoretical part, the examinee's knowledge is tested with a written test, which consists of multiple-choice tasks and tasks of increased difficulty, as well as the amount of the theoretical part test, completion time and the maximum number of points. In the practical part, the examinee's professional competencies are tested with practical tasks that meet the requirements of the professional standard or professional qualification requirements. Examination documents/papers/forms are evaluated by the examination commission. In the theoretical part of the exam, the answer of the correct answer task is evaluated with 1 point. The answer to the task of increased difficulty in the theoretical part of the exam is

	evaluated with 0 to 3 points. The answers to the tasks of the theoretical part of the examination and the works of the practical part are evaluated accordingly evaluation criteria. The total number of points obtained in the theoretical and practical part of the examination determines the evaluation in points according to a certain scale. The exam (any) is passed if the assessment is not less than 5 points (satisfactory). Locksmith Level of professional qualification – 3 Execution time of the theoretical part (min) -90 Number of tasks in the theoretical part (total) - 60 Number of advanced tasks (from the total) - 5 Maximum number of points in the theoretical part – 70 The content of the examination work of the theoretical part of the examination corresponds to the examination of the theoretical part of the examination working matrix. The maximum number of points in the practical part - 200. The total duration of the practical work of the examination is 5 hours (300 minutes). The exam is passed if the assessment is not less than 5 points (satisfactory) - 168–189 (in both parts) Cook Level of professional qualification – 4 Execution time of the theoretical part (min) -100 Number of tasks in the theoretical part (total) - 80 Number of advanced tasks (from the total) - 10 Maximum number of points in the theoretical part – 100 The test of the theoretical part of the exam consists of answer selection tasks and tasks of increased difficulty. The test part of the theoretical part consists of 80 tasks, of which 10 are tasks of increased difficulty. The tasks give 4 answers, only 1 of which is correct. Practical part test time 280 minutes (including 10 minutes for presentation). The maximum number of points in the practical part - 200 points. The exam is passed if the assessment is not less than 5 points (satisfactory) - 210-225 (in both parts).
7. Who is conducting the assessment, a teacher, an external evaluator.	The VISC or the Latvian National Centre for Culture shall establish an examination schedule. The head of the examination institution not later than one month before the day of the examination establishes an examination commission, which includes an expert

Please provide a short description of how the examination looks like based on the some example, see the description	delegated by the council of experts in the field, who meets certain requirements - specialists working in the field, appropriate education, etc. The commission shall consist of a chairman and at least two members. A person included in the commission may not be an employee or a teacher of the examination institution, a teacher of the examinee, etc. The assessment of the examination shall be determined in accordance with the assessment procedure specified in the examination program.
8. Are the tasks within the summative assessment leading to certification the same for all learners?	If the exam takes place on a specific date and at the same time all students which are being examined in the same profession exactly solve the one version of both the theoretical and for practical part. There is a possibility that one qualification has a large number of students and the examination must be 2 days, each day has a different version of both the theoretical and for practical part, that is, there are several (at least 2) options for qualifications exam.
9.1 Is the practical training at the premises of employers obligatory part of the vocational study programme. 9.2 How long does the practical training last? 9.3 Are employers assessing learners' skills during the period of practical training, is this assessment influencing final grade of learners?	All VET educational institutions have compulsory practical training, which must be provided by the employer in the company. The practical training provided on behalf of the employer must be at least six months (4 years in the study program). Employers provide an appropriate workplace, appoint an internship supervisor, as well as evaluate the skills during the practical training (in the Internship Diary), perform a regular assessment of the internship student's skills, characterization, etc.

General information about assessment in VET – **Norway**	
1. What qualifications are being awarded to learners in IVET and CVET programmes discussed in the country report.	Norway has a largely standardized VET system, and the assessment across different trades follow the same system (described above). A few trades have school-based education, thus the examination varies accordingly. The training candidate scheme is for those who wants work-based training, but who does not have the cognitive/motivational prerequisites to complete the trade certificate. The training candidate completes an

Do these qualifications confirm strictly professional competences or also general competences?	exam on a lower level, called the competence test. This qualification can later be expanded to trade certificate competence
2. How does the assessment look like across different types of schools/qualifications which were described in the report?	Norway has a largely standardized VET system, and the assessment across different trades follow the same system (described above). A few trades have school-based education, thus the examination varies accordingly. The training candidate scheme is for those who wants work-based training, but who does not have the cognitive/motivational prerequisites to complete the trade certificate. The training candidate completes an exam on a lower level, called the competence test. This qualification can later be expanded to trade certificate competence.
3. How IVET qualifications are being awarded. What are relations between formative and summative assessment.	Formative assessment is performed by teachers and instructors in the companies throughout the four-year vocational track. After the first and second school-based year, the students sit a mandatory interdisciplinary exam locally determined in the trade-specific subjects – and they may sit a centrally determined exam as well (randomly picked). About 20 per cent of the students at first and second year of upper secondary must over a two year period be picked for an external, central exam (standardized for the whole country). However, for the final trade exam, school grades are not taken into consideration in awarding qualification.
4. Are IVET qualifications available for CVET and adult learners If yes, are the assessment procedures the same for adult learners as for the IVET learners	Yes. All qualifications available for IVET learners are available for adult learners. Adult learners can qualify by assessment of prior relevant work experience or take the trade certificate on the job (new scheme). Employees who have long experience, can sit the exam as external candidate. Then one sits a written five-hour theory test, which one needs to pass before one can sit the actual trade exam – normally executed at one's workplace.
5. Who defines the content of the assessment	The content of the formative assessment is designed by each teacher/employer based on the learning outcomes defined in the VET curricula. The content and the evaluation of the final trade exam is designed by regional examination boards (11 counties). Members of the board are appointed by the county council. They are to evaluate based on the national curricula for in-company training.

6. The structure of the exam, grading mechanism and the passing rate.	The trade exam evaluation grading scale is three-fold: The grading scale is: Passed very well, Passed and Not passed. In addition, grades are given for conduct, in particular *tidiness* and *behavior*. This scale runs: Good, Fairly good and Not good.
7. Who is conducting the assessment, a teacher, an external evaluator. Please provide a short description of how the examination looks like based on the some example, see the description	Formative and summative assessment is conducted by teachers. Teachers are using 1-6 scale (1 – the poorest, 6- outstanding performance). Formative assessment takes place during the whole school year. School year is divided into semesters and at the end of each semester a learner receives a semesteral grade. In order to pass to the next year a learner must achieve from each subject at least 2 grade. (Same as Poland). Members of the regional examination boards evaluate the trade exam. The exam is held on the workplace where the apprentice has completed the training period. The exam is approx. held when there is two months left of the training period. The whole examination period lasts approx. three to five days depending on the trade. The candidate is given the exam wording in advance, so that he/she has plenty of time to plan the execution. During the exam, the candidate plans, executes, documents and evaluates one's work. On the last day, the candidate normally gives an oral presentation to the board members, who then can ask questions to clarify. The grade is then given on the last day.
8. Are the tasks within the summative assessment leading to certification the same for all learners?	The tasks may vary some, given that the boards are regional, however, they should all be based on the same national curricula.
9.1 Is the practical training at the premises of employers obligatory part of the vocational study programme. 9.2 How long does the practical training last? 9.3 Are employers assessing learners' skills during the period of practical training, is this	Practical training is the norm, yet not mandatory. A few trades have the whole education school-based. The students are not entitled to an apprenticeship place in a company. If one does not succeed in getting a place, one has the right to undertake a school-based year (year 3), in order to complete one's vocational upper secondary education. This third school-based year, is however, not very popular neither among students, schools (difficult to organize) or among employers. Normally, the students have shorter practice periods in companies during the two first school-based years, and then full-time in companies over the two last years.

assessment influencing final grade of learners?	Employers usually 'outsource' the assessment to private training companies, working closely with the apprentice and the company. This assessment is not influencing the final grade.

General information about assessment in VET – **Poland**	
1. What qualifications are being awarded to learners in IVET and CVET programmes discussed in the country report. Do these qualifications confirm strictly professional competences or also general competences?	Learners in IVET and CVET having passed an external exam organised by the central examination board acquire vocational certificate. Exam is organised only from professional competences. General competences are not being assessed. So the vocational certificate confirm only professionally oriented competences. Learners of upper secondary technical schools (*technikum*) apart from vocational exam can take maturity exam which is also organised by the central examination board. Maturity exam relates to general subjects only. This exam is the same for upper secondary general school and upper secondary vocational schools learners. Taking maturity exam is not obligatory for learners. Only having passed maturity exam a learner can apply for higher education (university) education.
2. How does the assessment look like across different types of schools/qualifications which were described in the report?	Poland has three main types of VET schools: 3 year basic vocational school, 4 year upper-secondary technical school (*technikum),* 2 year post-secondary non tertiary VET schools (*szkola policealna)*. Learners in all types of schools are subject to the same assessment procedures and requirements. Learners of all these types of schools are subjected to formative and summative assessment while learning at schools. This assesement is conducted by the teacher. However, in order to receive a VET certificate a learner must pass the external exam designed and organised by the central examination board. Learners during 3 year basic vocational school need to take one exam (exam consists of written part and practical part). Learners of the 4 year upper secondary (*technikum)* vocational school need to take two exams (each exam is consisting of written part and practical part). Upon passing each exam they receive one certificate. So if the learner passes two exams she receives two VET

	certificates. Each certificate is referenced to the national qualifications frameworks levels. Learner of the 2 year post-secondary non tertiary VET schools (*szkola policealna)* need to take one or two exam depending on the profession in which they study. <u>Construction of the exam</u> (division into two parts, types of tasks, questions, etc.) is the same for all types of qualifications.
3. How IVET qualifications are being awarded. What are relations between formative and summative assessment.	Commentary: *Are qualifications being awarded upon the school completion or do the learners need to take an exam. Are grades acquired during the school year taken into account in awarding qualification.* Formative and summative assessment is conducted by the school teachers in general subjects and professional subjects. External summative assessment of the professional competences is conducted by the Central Examination Board. In order to receive IVET qualification a learner must pass a professional external exam organised by the Central Examination Board (CEB). This means that learners' learning results (grades achieved during the schools year) are not taken into account in acquiring VET certificate/diploma. This also means that external summative assessment within the IVET in Poland is high-stake assessment.
4. Are IVET qualifications available for CVET and adult learners If yes, are the assessment procedures the same for adult learners as for the IVET learners	Yes. All qualifications available for IVET learners are available for CVET and adult learners who want to take recognition or prior leaning procedure. The assessment/examination procedure is the same. CVET/Adult learners have exactly the same exams as IVET learners.
5. Who defines the content of the assessment	Commentary: *We would like to know if the content is designed at the central, regional, school level*

	The content of the formative assessment is designed by each VET teacher/employer based on the learning outcomes defined in the VET core curricula. The content of the summative external exam is designed by the Central Examination Board (CEB) based on the VET core curricula which are designed by the Ministry of Education. In designing the VET core curricula employers are involved but it is the ministry which has the leading role in the content of the VET core curricula. Slovakia: Formative assessment is developed by teachers from the curriculum. Summative assessment is developed on central level (NÚCEM, ministry, etc.). Employers (as other groups) are involved indirectly (e.g. in comments proceedings)
6. The structure of the exam, grading mechanism and the passing rate.	Commentary: *We would like to know if the exam is divided into parts and if there are threshold to pass an exam.* How long does each part of the assessment takes place. An exam which is designed and organised by the Central Examination Board is divided into two parts: written and practical part. Written part consists of a test, 40 questions to be solved within an hour (60 minutes). Practical part means that a learner must solve a problem typical for a given qualification. Practical part takes place 180-240 minutes depending on the profession. To pass an exam learner must achieve 50% of points from the written part and 75% from the practical part. As said earlier, most learners in the upper secondary schools vocational school (*technikum*) must pass two exam during the 4 study (usually in the third and fourth grade).
7. Who is conducting the assessment, a teacher, an external evaluator. Please provide a short description of how the examination looks like based on the some	Formative assessment and summative assessment is conducted by teachers at school (or employers during the practical training). Teachers are using 1-6 scale (1 – the poorest, 6- outstanding performance). Formative assessment takes place during the whole school year. School year is divided into semesters and at the end of each semester a learner receives a semesteral grade. In order to pass to the next year a learner must achieve from each subject at least 2 grade.

example, see the description	In terms of the external summative assessment which is organised by the central examination board: The written part of the exam is organised during one day in the whole country. All learners from all professions take this exam on the same date by filling 40 questions questionnaire/test (it multiple choice). The answers are sent to Central Examination Board which is grading the answers and calculating the results. The practical part takes lasts 180 – 240 minutes. Below description is based on the exam in the car mechanic profession: A learner arrives at the examination centre (school or the employer's premises) on scheduled date of the exam. When the exam begins, a learners opens a description of the case study she needs to solve. The content of the case study is designed by the central examination board. The case study might be saying: there is a car with some electrical failure. Identify what is the source of failure within the electrical system, and fix the failure and start the engine. The exam is being supervised by a three person committee including external examiner. The external examiner is a person who was trained and accredited by the Central Examination Board (it is usually teacher form other school). The external examiner is watching the learner and grades the learner according to the criteria which were designed by CEB. The scoring card is sent to Central Examination Board which is grading the answers and calculating the results. If the learners achieved 50% of the correct answers from the written part and 75% from the practical part she is awarded a qualification. The reason for uniform procedures is to allow for comparability between the results of all learners who are taking the tests in different places (within one profession).
8. Are the tasks within the summative assessment leading to certification the same for all learners?	*Commentary: if there is no summative assessment leading to a certification please indicate* All learners which are being examined in the same profession exactly solve the same professional tasks and take the same written test.
9.1 Is the practical training at the premises of employers obligatory part	For all types of schools there is an obligatory practical training to be conducted at the employers site.

of the vocational study programme. 9.2 How long does the practical training last? 9.3 Are employers assessing learners' skills during the period of practical training, is this assessment influencing final grade of learners?	Practical training conducted at the employers site must at last two months (during the 4 year study programme. Employers are assessing skills during the practical training and are giving a final grade which is taken into account in the final semestral grade.

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General information about assessment in VET – **Slovakia**	
1. What qualifications are being awarded to learners in IVET and CVET programmes discussed in the country report. Do these qualifications confirm strictly professional competences or also general competences?	Vocational certificate after 3 years of study – internal examination; professional competences only; framework of examination is developed by ministry of education. It consists of written part, oral part and practical part (case/problem study in simulated real-life conditions). All parts are being evaluated by school. General examination after 4 years of study – maturita – the general part is same for general schools (grammar schools – gymnasiums) and vocational schools – i.e. external written part (test developed and evaluated by NÚCEM) and internal written part (essay; themes developed by NÚCEM, evaluated by school). Internal oral part (framework developed by ministry of education based on educational programme for given subject, evaluated by school's assessment committee) is specific for vocational schools as it examines professional competences (unlike grammar schools in which this part assesses general subjects competences). Vocational schools has an extra part – practical - that assesses professional competences in simulated real-life conditions (case/problem study) or consists of thesis/project/experiment defense or is assessment of artistic performance/eork of art. Students of vocational schools chose beforehand (as they apply for admission to a school) if they want to complete only professional 3 year programme or general + professional 4 year programme. However, after completing professional examination after 3 years of study, they can apply to continue in general

	programme for 2 more years so they would be eligible to complete general examination as well. Passing a general examination is requirement for admission to university education.
2. How does the assessment look like across different types of schools/qualifications which were described in the report?	Examination is the same in case of vocational certificate across the schools and for maturita across the schools. Only meaningful differences can be found in practical examination- the stem from the differences in study programmes, as more practical programmes (e.g. automechanic) will have the examination more probably in form of hands-on case/problem study and more theoretical programmes (e.g. tourism, travel and accommodation management) will have the practical part organised as thesis/project defense.
3. How IVET qualifications are being awarded. What are relations between formative and summative assessment.	Commentary: *Are qualifications being awarded upon the school completion or do the learners need to take an exam. Are grades acquired during the school year taken into account in awarding qualification.* IVET learners has to pass exactly the same examination as mentioned in question 1. Formative assessment is done by teachers throughout the school year – at the end of each semester the grades awarded determine the final grade in the given semester. These final grade are not officially (there is no guideline established) taken into account in vocational certificate nor maturita examination, however teachers in the examination committee are usually aware of student's grades throughout her education. It is usual however, that end of semester grades of relevant subjects are taken into account in process of admission of student to the university.
4. Are IVET qualifications available for CVET and adult learners If yes, are the assessment procedures the same for	**Slovakia**: Yes, there is option of externally organised study for both qualifications ending with either vocational certificate or maturita examination. Duration is set not to exceed standard duration plus one year. Final examination procedures are exactly the same. As for the formative assessment, given that students are present in the school usually only once a week, it's

adult learners as for the IVET learners	frequency is probably lower than in students that are present in the school every day.
5. Who defines the content of the assessment	Commentary: *We would like to know if the content is designed at the central, regional, school level* Formative assessment is developed by teachers from the curriculum. Summative assessment is developed on central level (NÚCEM, ministry, etc.). Employers (as other groups) are involved indirectly (e.g. in comments proceedings)
6. The structure of the exam, grading mechanism and the passing rate.	Commentary: *We would like to know if the exam is divided into parts and if there are threshold to pass an exam.* How long does each part of the assessment takes place. Exams are organised by central board. There is a mandatory written exam (test) in Slovak language an non-mandatory test in Math (both developed by NUCEM). Internal written part – essay, themes chosen centrally (NUCEM), evaluated by school) Internal oral part – proffessional and practical; themes (items) chosen centrally, student appointed one randomly
7. Who is conducting the assessment, a teacher, an external evaluator. Please provide a short description of how the examination looks like based on the some example, see the description	Slovakia: Formative assessment: teachers grade students on scale 1-5 (1- outstanding; 5- poor). At the end of the semester they decide the final grade based on grades awarded during the semester. Lowest passing grade is 4. External part – NUCEN evaluate the tests. Internal part – exam committee; 3 teachers of a given school and 1 external evaluator (usually teacher from another school)
8. Are the tasks within the summative assessment	*Commentary: if there is no summative assessment leading to a certification please indicate*

leading to certification the same for all learners?	**Slovakia:** In written tests there are A/B versions with balanced difficulty. In oral examination, there is limited pool of items/tasks from which students are randomly assigned one for examination. Therefore not all students solves the same tasks, although the overlap is substantial and the pool of topics is known beforehand.
9.1 Is the practical training at the premises of employers obligatory part of the vocational study programme. 9.2 How long does the practical training last? 9.3 Are employers assessing learners' skills during the period of practical training, is this assessment influencing final grade of learners?	At least two weeks per semester are mandatory. Aassessment of employers is going towards final semestral grade.

Annex 3. Repository of Learning Outcomes describing TKC

Under the following link repository of learning outcomes is accessible. We do hope that repository will be turned out to be useful to all of researchers and practitioners aiming to work on descriptions of learning outcomes related to TKCs.

Fragment of the repository of learning outcomes describing TKCs

1	Cour	Learning outcome description	Methods and strategies of learning	Motivation and autonomy of learning	Maintaining well-being	Social and interpersonal relations	PERSONAL, SOCIAL COMPETENCES AND LEARNING COMPETENCE	Understanding of society	Participation in public affairs	Value and iden
621	PL	Plans and undertakes marketing activities to run a beauty salon: 1) draws up a marketing plan 2) uses various forms of advertising 3) defines ways to optimize the costs and revenues of a beauty salon					0			
622	PL	Finds and presents information on cultural differences in the expression of emotions in traditional and modern societies.					0			
623	PL	Explains the regularities of social and cultural life and social processes, including ethnic ones, in the modern world;					0			
624	PL	Acquires and uses information on socio-cultural and political life, critically analyzes it, draws conclusions and formulates opinions independently;					0			
		Analyzes the features of individualism and collectivism in the								

Annex 4. Descriptive categories for transversal key competences with commentary and examples

DESCRIPTIVE CATEGORIES	COMMENTARY / EXAMPLES	TRANSVERSAL KEY COMPETENCES
Methods and strategies of learning	The category 'Methods and strategies of learning' is linked with domains of knowledge and skills, it refers to specific 'tools' (i.e. strategies and methods) for enhancing one's learning. It could be observed as for example: - the ability to set learning objectives and plan learning, - the ability organize and manage learning activities, - the ability choose learning paths, sources, guidance.	PERSONAL, SOCIAL COMPETENCES AND LEARNING COMPETENCE
Motivation and autonomy of learning	Motivation and autonomy of learning is closely linked to the domain of attitudes and values. It could be observed as for example: - pursuing and persisting in learning (autonomy and self-discipline); - presenting a positive attitude towards learning and willingness to learn; - awareness (identification) of one's learning process and needs; - reflecting on one's learning activities and outcomes, self-assessment;	
Maintaining well-being	Maintaining well-being can be observed as for example: - understanding of the components of a healthy mind, body and lifestyle, with awareness of the environment and oneself; - coping with stress and uncertainty; - distinguishing between personal and professional spheres; - presenting assertiveness and integrity (with respect to others).	
Social and interpersonal relations	Social and interpersonal relations could be observed as for example: - Understanding codes of conduct and manners accepted in different societies and environments; - awareness of basic concepts relating to individuals, groups, work organization, gender equality and non-discrimination, society and culture, national and European identities;	

DESCRIPTIVE CATEGORIES	COMMENTARY / EXAMPLES	TRANSVERSAL KEY COMPETENCES
	- communicating in different environments, express and understand different viewpoints; - valuing diversity and showing tolerance; - respecting others and being prepared both to overcome prejudices and to compromise;	
Understanding of society	Understanding society is linked to knowledge domain. It could be observed as for example: - understanding of basic concepts relating to individuals, groups, work organisations, society, economy and culture, including European common values; - knowledge of contemporary events and understanding of the main developments in national, European and world history (including European integration, awareness of diversity and cultural identities in Europe and the world); - awareness of the aims, values and policies of social and political movements, as well as of sustainable systems, in particular climate and demographic change at the global level and their underlying causes.	CIVIC COMPETENCES
Participation in public affairs	Participation in public affairs is linked to skills domain. It could be observed as for example: - the ability to engage effectively with others in the public domain - to display solidarity and interest in solving problems affecting the local and wider community. - critical and creative reflection and constructive participation in community or neighbourhood activities, as well as decision-making at all levels, from local to national and European level, in particular through voting - critical understanding of and ability to interact with both traditional and new forms of media.	
Values and identity	Values and identity for civic competences is closely linked to the domain of attitudes and values. It could be observed as for example: - respect for human rights and democracy;	

DESCRIPTIVE CATEGORIES	COMMENTARY / EXAMPLES	TRANSVERSAL KEY COMPETENCES
	- responsible and constructive attitude to society and civic participation. - willingness to participate in civic activities and democratic decision-making at all levels, as well as supporting social and cultural diversity, gender equality and social cohesion, - readiness to respect the privacy of others - responsibility for the environment.	
Taking action and making decisions	Taking action and making decisions could be observed as for example: - understanding the contexts and identifying opportunities for turning ideas into actions, including ethical aspect; - the ability to act upon opportunities and ideas and to transform them into values for others; - mobilising resources and preparing budgets; - the ability to take risks; - the ability to make financial decisions relating to cost and value.	ENTREPRENEURSHIP COMPETENCE
Realization of initiatives	Realization of initiatives could be observed as for example: - understanding and using different approaches to planning and management of projects; - working individually and collaboratively; - mobilizing resources (people and things); - the ability to plan, organise, manage, lead and delegate, analyse, communicate, de-brief, evaluate and record; - sustain own involvement and activities of others; - presenting the attitude of innovativeness, pro-activity, courage, agency and forward-looking.	
Understanding and appreciation of culture	Understanding and appreciation of culture is linked to knowledge domain. It could be observed as for example: - understanding of local, national, European and global cultures and expressions, including their languages, heritage and traditions, and cultural products, and an understanding of how these expressions can influence each other as well as the ideas of the individual.	CULTURAL AWARENESS AND EXPRESSION COMPETENCE

DESCRIPTIVE CATEGORIES	COMMENTARY / EXAMPLES	TRANSVERSAL KEY COMPETENCES
	- understanding the different ways of communicating ideas between creator, participant and audience within written, printed and digital texts, theatre, film, dance, games, art and design, music, rituals, and architecture, as well as hybrid forms. - understanding of one's own developing identity within a world of cultural diversity and how arts and other cultural forms can be a way to both view and shape the world.	
Cultural expression	Cultural expression is closely linked to the domains of skills, attitudes and values. It could be observed as for example: - the ability to express and interpret figurative and abstract ideas, experiences and emotions with empathy, and the ability to do so in a range of arts and other cultural forms. - the ability to identify and realise opportunities for personal, social or commercial value through the arts and other cultural forms and the ability to engage in creative processes, both as an individual and collectively. - creativity, and the willingness to cultivate aesthetic capacity through artistic self-expression and participation in cultural life; - open attitude towards, and respect for, diversity of cultural expression together with an ethical and responsible approach to intellectual and cultural ownership.	
Critical thinking	Critical thinking can be observed as for example: - the ability to analyse, evaluate and make judgments about materials of any kind (e.g. texts, arguments, interpretations, issues, events, experiences, etc.) in a systematic and logical manner; - the ability to identify good and bad reasoning in a variety of fields with differing assumptions, contents and methods; - the ability to identify the intended and actual inferential relationships among statements, questions, concepts, descriptions or other forms of representation;	DESCRIPTIVE CATEGORIES RELATED TO MORE THAN ONE TRANSVERSAL KEY COMPETENCE

DESCRIPTIVE CATEGORIES	COMMENTARY / EXAMPLES	TRANSVERSAL KEY COMPETENCES
Problem solving	Problem solving is (goal directed) thinking and action in situations for which no routine solution procedure is available. The incongruence of goals and admissible operators constitutes a problem. The understanding of the problem situation and its step-by-step transformation, based on planning and reasoning, constitute the process of problem solving. Problem solving can be observed as for example: - identification of the problem; - identification and evaluation of possible causes for a problem; - formulating meaningful and relevant questions to understand problems and potential causes; - breaking down complex problems into smaller parts; - evaluating potential solutions, which can include analysis of costs, benefits, risks, and chances for success; - using logical, systematic approaches to analyse and solve problems.	
Media literacy	Media literacy can be observed as for example: - exchange of news and current affairs and evaluating the quality (accuracy, relevance, currency, reliability, and completeness) of information, - distinguishing facts from opinion, - assessing the timing of media content (new/obsolete). - understanding of underlining ideologies and values, and of how social, economic, political, professional, and technological forces can shape media content - both what is produced and how it reaches us; - media production – the creating of written, drawn, audio- or video-recorded and other content; - sharing and/or creating media content an ethical and responsible manner and with respect for the intellectual property of others.	
Creativity and innovation	Creativity and innovation can be observed as for example: - creating something new, and reflecting upon and modifying what is being created;	

DESCRIPTIVE CATEGORIES	COMMENTARY / EXAMPLES	TRANSVERSAL KEY COMPETENCES
	- striving towards a goal in a new way; - reflecting upon the impact that the new artefact or approach;	