

Development and Assessment of Transversal Key Competences in Vocational Education and Training. Practices and Experiences of Six European Countries

Horacy Dębowski^a, Wojciech Stęchły^b,

Alena Tomengová^c, Jakub Valovič^d,

Kaja Reegård^e

Abstract

Transversal key competences (TKCs) occupy a prominent place in European skills policy, yet how vocational education and training systems describe, develop and assess them remains under-researched. The article compares six systems in which vocational qualifications are awarded on the basis of state-regulated examinations: Austria, France, Latvia, Norway, Poland and Slovakia. It draws on national programme and assessment documents, a corpus of 725 learning-outcome statements, 136 interviews, and written responses from the partner teams of the Erasmus+ project TRACK-VET (2017–2020). TKCs appear in the strategic documents and framework acts of all six countries, though unevenly in curricula. Stakeholders rank learning to learn highest, but its core outcomes are among the least represented in the programme documents examined. Schools offer opportunities to develop TKCs, from projects to competitions and

^a SGH Warsaw School of Economics, e-mail: hdebow@sgh.waw.pl, <https://orcid.org/0000-0002-8457-9376>

^b SGH Warsaw School of Economics, e-mail: wstech@sgh.waw.pl, <https://orcid.org/0000-0003-1359-6272>

^c e-mail: a.tomengova@gmail.com

^d National Institute for Certified Educational Measurements (NUCEM), e-mail: jakub.valovic@nucem.sk

^e Fafo Foundation, e-mail: kaja.reegard@fafo.no, <https://orcid.org/0000-0002-0553-5819>

mobility, but these depend on the commitment of individual teachers and schools and on voluntary participation, which may limit access for some learners. Assessment arrangements differ in whether certification covers the general education component of vocational programmes, in who designs and judges the examinations, and in the methods employed. TKCs are rarely assessed explicitly for certification, and stakeholders, employers included, expressed reservations about scoring them. We interpret this gap as means–ends decoupling rather than solely as implementation failure. Outside certification, the development of TKCs rests on the practice of individual schools and on channels supplied by employers and social partners, above all workplace learning. The costs of this exclusion are therefore likely to be greatest where employer involvement in skill formation is weakest.

Keywords: transversal key competences, vocational education and training, assessment, learning outcomes, Austria, France, Latvia, Norway, Poland, Slovakia

JEL classification: I21, I28, J24, Z13

Introduction

Digitalisation, automation and changes in work organisation are reshaping the tasks performed in many occupations. Computers and machines substitute most readily for routine, codifiable tasks, which have long anchored a large part of medium-skilled occupational profiles in manufacturing and in clerical and service work (Autor, Levy & Murnane, 2003; Brynjolfsson & McAfee, 2014; Frey & Osborne, 2017; Hardy et al., 2018). Conversely, demand grows for analytical and interactive work, such as problem solving and complex communication (Deming, 2017). In parallel, the flattening of organisational hierarchies and the diffusion of project-based, interdisciplinary forms of work organisation (Felstead & Ashton, 2000) increase the premium on competences that are not tied to a single narrowly defined set of tasks.

Graduates of vocational education and training (VET), who enter these medium-skilled occupations, are among the groups most exposed to these shifts, but VET attracts less scholarly and political attention than general and higher education (Billett, 2014; Cedefop, 2014). This asymmetry is the point of departure for the present article. If competences that transcend particular occupational content are becoming a condition of employability and of adaptation over the life course, then whether and how VET systems develop them bears on the reproduction of social and economic advantage as much as on pedagogy (Rosvall & Nylund, 2022; van de Weerd, 2023).

European policy has emphasised these competences in successive Council recommendations, strategies and declarations. The *Key Competences for Lifelong Learning – A European Reference Framework*, recommended to Member States in 2006 and revised in 2018, has influenced curriculum reform across Europe (Halász & Michel, 2011; Pepper, 2011). The strategic framework for European cooperation in education and training (ET 2020) named the acquisition of transversal key competences among its objectives and called for them to be taken into greater account in curricula, assessment and qualifications (Council of the European Union, 2009), and the Europe 2020 strategy included key competences in its education flagship initiative (European Commission, 2010). The Riga Conclusions (2015) called for key competences in VET curricula to be strengthened and for more effective opportunities to acquire them through initial and continuing VET. Since the completion of the research reported here, that call has been restated in the Council Recommendation on VET for sustainable competitiveness, social fairness and resilience (2020) and in the Osnabrück Declaration (2020), and given renewed political salience by the European Year of Skills (2023).

However, implementation of these recommendations has been uneven, and countries differ in the terminology and concepts they use (Fox et al., 2017). Lassnigg (2012) locates the central difficulty in translating abstract policy principles into curricula, teaching practice and, above all, assessment.

Two gaps in the existing research motivated the TRACK-VET project. The first concerns which competences have been studied. Research on the Reference Framework (Recommendations 2006/962/EC and 2018/C 189/01) has concentrated largely on the first four of the eight key competences, namely literacy, multilingual, mathematical/STEM and digital, which map onto recognisable school subjects and are easy to trace in curricula and tests. Cedefop's own comparative work on key competences in initial VET, for instance, deliberately selected digital, multilingual and literacy competence (Cedefop, 2020).

The remaining four are less readily identifiable in curricula. Learning to learn, social and civic competences, initiative-taking and entrepreneurship, and cultural awareness and expression are rarely a standalone subject, and rarely the target of a policy whose effects can be easily traced. More often they are implied in the outcomes of a subject or qualification, or fused with other competences (Fox et al., 2017). Eurydice (2012) found that their transversal character makes them difficult to capture in national tests, and Halász and Michel (2011) argued that they require the most far-reaching innovation in teaching, assessment and school organisation. Assessment methods for such competences have nonetheless been developed, notably the task-based assessment of collaborative problem solving in the ATC21S project (Griffin

& Care, 2015). The TRACK-VET project took these four competences, referred to hereafter as transversal key competences (TKCs), as its object of study.

The second gap concerns the sector. While the definition and measurement of learning outcomes in VET have long been debated, systematic evidence on how TKCs are described, developed, assessed and validated in formal VET remains limited. This gap is particularly relevant to systems in which qualifications are awarded on the basis of state-regulated examinations, whose content can strongly influence teaching and learning. The guiding question of the project was accordingly how VET systems can provide opportunities to develop transversal key competences.

For the purposes of this study we adopt the European Union definition of competence as a combination of knowledge, skills and attitudes appropriate to the context, and treat as transversal key competences the final four competences of the Reference Framework, the group that the Riga Conclusions (2015) designate as such. Table 1 sets out the 2006 and 2018 formulations.

Table 1. Key competences for lifelong learning: the 2006 and 2018 formulations

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

Note: the four competences in bold are the transversal key competences examined in this article.

Source: Recommendations 2006/962/EC and 2018/C 189/01

The term *transversal* denotes competences that transcend a specific field, as opposed to being content-specific. It is, however, one term among many. *Cross-curricular*, *cross-cutting*, *generic*, *basic*, *employability* and *soft skills* are used with overlapping and partly incompatible meanings. Nägele and Stalder (2017) cover the same ground with *transferable skills*, that is, abilities developed in real-life situations or in education and training and subsequently applied elsewhere, a formulation that leaves transfer to be established empirically. Understandings of competence itself also differ between national and sectoral traditions (Brockmann et al., 2008; Le Deist & Winterton, 2005; Weigel et al., 2007).

Competence is not simply an attribute of the individual, held independently of its context. As Tilly (1988, p. 453) put it, skill is “a social product, a negotiated identity” which “lies not in characteristics of individual workers but in relations between workers and employers”. The point applies all the more to a “social competence” or a “civic competence”. Such a competence is not a latent trait awaiting measurement. It is attributed to a person by those who see how that person behaves in a specific setting.

A learning outcome in a curriculum or qualification standard, however, is written for every school and every examiner, and so without reference to any setting. Those who design curricula and qualification standards can then either keep the statements general and leave their interpretation to practitioners, or replace the competence with what can be defined independently of a setting and observed under controlled conditions (Stęchły, 2024), which in practice comes down to describing knowledge about the competence or the performance of set occupational tasks.

TKCs interrelate and are usually embedded in conceptions of professional competence, so the opposition between “professional skills” and “transversal competences” is a false dichotomy. Transversality is an analytical property. We attribute it to an aspect of human capability, teamwork for instance, when we see the same aspect at work across different situations, in the workshop as much as in the classroom.

Even so, we argue that curricula should not leave the category out. Where curricular time is limited and assessment concentrates on occupation-specific skills, a competence that is not named separately may be developed only as part of the tasks of the trade, without being carried across situations. Naming a transversal competence in the curriculum and describing it as a learning outcome is therefore indispensable. Without such a description, systematic development is unlikely and assessment has nothing to target. This is why we set out to establish which TKCs enter curriculum documents and assessment practice, and in what form.

This article therefore addresses three research questions:

1. Where are TKCs located in educational documentation, and how are they formulated?
2. Through what methods, and by whom, are they assessed, during the learning process and for the purpose of certification?
3. How do the actors involved in developing and assessing TKCs account for the gap between their declared importance and their operational treatment?

The article is structured as follows. Section 1 sets out the conceptual framework, which combines organisational decoupling, the sociology of commensuration and the comparative political economy of skill formation. Section 2 describes the data and methods. Section 3 reports where TKCs are located in curricula and how they are represented in the corpus of learning outcomes. Section 4 focuses on assessment,

describing the architecture of certification, practices at school level, the place of TKCs in assessment for certification, and the stakeholders' account of the gap. The final section discusses the findings and their implications for policy.

1. Conceptual framework: decoupling, commensuration and skill formation regimes

The six systems examined prescribe transversal key competences, and most respondents support their development, but certification rarely assesses them explicitly. That gap calls for more than a diagnosis of implementation failure. The framing adopted here treats the distance between formal commitment and practice as a stable and partly rational property of organisations. Two bodies of work supply that framing, organisational decoupling and the sociology of commensuration. A third, the comparative political economy of skill formation, helps to explain the complementarities between schools and employers and the consequences of the arrangements that countries adopt for developing and assessing TKCs.

1.1 Decoupling between formal commitment and assessment practice

Meyer and Rowan (1977) argued that formal structures are often adopted for institutional legitimacy rather than technical efficiency, with organisations decoupling structure from practice to protect their operating core. Weick (1976) viewed educational organisations as loosely coupled systems where classrooms, examinations and administrative goals operate with relative autonomy. Applied strictly to European competence policy, this framing would suggest that key competences are at risk of being adopted ceremonially, with little practical effect.

Bromley and Powell (2012) distinguish policy–practice decoupling, in which rules are adopted but left unimplemented or routinely violated, from means–ends decoupling, in which policies are implemented but their link to the intended outcome is opaque. The second form, they argue, is increasingly prevalent and, because the policies are visibly implemented, easily overlooked. It is also difficult to correct, since the practices are in place and enjoy legitimacy. What is missing is evidence that they produce the intended outcome, and where evaluation exposes the gap, the usual response is a further round of reform.

This is the dynamic observed in the six systems, where activity around transversal competences is substantial. They are written into curricula and taught through projects and internships, and teachers appraise them in the course of their work. Little of this activity, however, reaches formal certification, apart from a few partial exceptions.

1.2 Commensuration and the limits of standardised judgement

Commensuration helps explain why this disconnection occurs specifically at certification. Espeland and Stevens (1998) define commensuration as transforming diverse qualities into a common metric. The process is not neutral. It decontextualises, discards information the metric cannot carry, and reorganises attention towards what the metric captures. Certification is an unusually demanding form of commensuration, because examinations must yield judgements that are comparable across candidates, defensible on appeal, and reproducible by assessors who may never have met the learner before.

Transversal competence inherently resists commensuration. Because transversality implies that a capability is realised differently across contexts, standardised instruments that strip context for comparability undermine the feature they seek to measure. Reegård and Rogstad (2019, p. 49) report a dilemma put to them by their Norwegian interviewees. For a transversal competence to count in practice it must be measurable, but once it is laid down in curricula in measurable form it loses its importance as a transversal competence. The dilemma generalises into a fundamental measurement problem of the social sciences and restates the ontological point made above with Tilly (1988). What an examination would have to register is an attribution produced in a setting, and a standardised instrument is likely to remove the setting.

Certifying transversal competence at scale has a predictable consequence. To ensure unambiguous and comparable marking, testing institutions tend to shift towards the knowledge domain, where definitions are stable and performance can be elicited in a standardised setting. Knowledge about entrepreneurship is easier to test in a standardised examination format than entrepreneurial conduct (Dębowski et al., 2021).

Commensuration also shaped the study design. The descriptor domain into which a learning outcome falls is itself a measure of the degree to which its formulation has been decontextualised. Statements were therefore read not only for their content but for the verbs through which they are expressed, using the threefold distinction between “knowledge”, “skills” and “responsibility and autonomy” defined in the Council Recommendation on the European Qualifications Framework for lifelong learning (2017/C 189/03). Classifying each statement by EQF domain shows how far

the drift towards knowledge has gone, though only in part, because the EQF skills category merges cognitive with practical skills. Stęchły (2024) reports that analysis in more detail.

1.3 Skill formation regimes and the recognition channels outside certification

Decoupling and commensuration help interpret the limited place of transversal competence in certification. Their consequences, however, depend on the skill formation system in which they occur, and to capture that variation the article draws on the comparative political economy of skill formation.

Skill formation systems differ in how the costs and the governance of vocational training are distributed between firms, the state and collective actors. Hall and Soskice (2001) and Estévez-Abe et al. (2001) tie firms' willingness to invest in specific skills to the institutional guarantees that protect that investment. Thelen (2004) traces how such arrangements were built and rebuilt historically. Busemeyer and Trampusch (2012) organise the resulting variation along two dimensions: the degree of firm involvement in initial training and the degree of public commitment to it. Crossing the two dimensions yields four types: liberal, statist, segmentalist and collective. Pilz (2016) combines this classification with two further dimensions drawn from the sociology of education, the stratification and the standardisation of the education system, and with the practice orientation of teaching and learning, so that systems can be compared at the macro, meso and micro levels.

The six countries examined here belong to different types. In Busemeyer and Trampusch's (2012) terms, Austria approximates the collective model and France the statist one. Norway is a Nordic variant combining strong public commitment with substantial and regulated firm involvement.

Latvia, Poland and Slovakia are less easily placed, since the post-socialist grouping is a historical rather than a typological category. Their skill formation arrangements were rebuilt after 1989 with comparatively weak employer coordination (Benke & Rachwał, 2022; Buligina & Sloka, 2022; Dębowski & Stęchły, 2015, 2022; Šímová et al., 2024; Vantuch & Jelínková, 2022). For this group the literatures on dependent market economies (Nölke & Vliegthart, 2009), capitalist diversity at Europe's periphery (Bohle & Greskovits, 2012) and patchwork capitalism (Rapacki, 2019; Gardawski & Rapacki, 2021) share one observation: intermediate associational structures (employer organisations and chambers) are less developed, and the coordination they would

supply is correspondingly weaker (Czarzasty & Mrozowicki, 2018; Gardawski, 2009; Meardi, 2014).

Emigration has weakened employer engagement further. In the countries of the region with high rates of emigration, the prospect of losing newly trained workers abroad reduced employers' readiness to invest in skill formation (Tütlys et al., 2022), and in Poland this fear was found to be one of the main obstacles to employers' investment in the training of VET learners (Reegård & Dębowski, 2020). Labour shortages, demographic decline and continuing outflows have since led to a rethinking of skills policies and to renewed political attention to VET, described by Markowitsch and Dębowski (2022) as a renaissance of VET after more than a decade of de-vocationalisation (see also Dębowski, 2023b).

This matters for transversal competences because, if certification does not register them, they can still be developed and judged outside the examination. The channels are extended workplace learning, employer assessment of trainees, competitions or projects organised by chambers or professional associations, and the internal culture of individual schools. All but the last depend to a large extent on infrastructure supplied by firms and social partners. We therefore expect the consequences of decoupling to be more pronounced where employer involvement in skill formation is weak.

These channels complement one another, and the school keeps a part that none of the others can take over. The types of skill formation differ in the weight of firm-based training, but in each of the six systems the vocational programme retains a school-based component in which the general subjects are taught, and those subjects might be the main location of cultural awareness and of part of civic competence.

Workplace learning supplies what a classroom cannot, real tasks, colleagues and customers, and observers who see how a learner acts when something is at stake. Much of what is learned there is learned informally, through the social relations of work, and has a tacit dimension that is difficult to communicate and to acknowledge (Evans & Kersh, 2014). Even the relations of power that learners encounter there can become material for citizenship learning, provided that the school takes their experiences up afterwards (Rönnlund & Rosvall, 2021).

The school also supplies the occasions on which conduct in the workshop, on placement and in the classroom is named as the same competence and compared across those settings, the comparison through which, as argued above, transversality is attributed. For civic education in particular, schools appear to offer a safer setting than workplaces, where the hierarchies that might be questioned are those the learner works under (Rosvall & Nylund, 2022). The development of transversal competences therefore rests on cooperation between the two, and where employer involvement is weak the school carries the larger part of the task, with little support from certifica-

tion. Such cooperation cannot be taken for granted even where firm-based training is strongest. In the German dual system, most companies seldom coordinate their work with the vocational schools that teach their apprentices, and fewer still cooperate with them (Gessler, 2017). Where it does work, as documented by James Relly and Laczik (2022), it rests on close communication and trust between VET provider and employer.

The consequences of decoupling can also be expected to differ between learners. Where a competence is developed through voluntary participation rather than through a certified requirement, access to learning opportunities may reflect prior advantage, if, as is likely, learners from better-resourced families and more selective schools are the ones more likely to opt in. Decoupling may thus contribute to inequalities in competence development, which the present study did not set out to verify, since it collected no data on learners' participation or on the outcomes of learning activities.

2. Data and methods

2.1 Case selection and design

The TRACK-VET project was implemented between 2017 and 2020 by a consortium of seven partners: SGH Warsaw School of Economics (Poland, coordinator), the Austrian Institute for Research on Vocational Training (öibf), the Fafo Institute for Labour and Social Research (Norway), the French Centre for Research on Qualifications (Céreq), the National Institute for Certified Educational Measurements (NÚCEM) and Matej Bel University in Banská Bystrica (Slovakia), and the National Centre for Education (VISC, Latvia). All authors of this article were members of the consortium and took part in the study design, data collection and analysis.

The empirical base is the set of national reports produced by the partners (Galli et al., 2019; Lachmayr & Proinger, 2019; Reegård & Rogstad, 2019; Stęchły et al., 2019; Tomengová et al., 2019; Zeiberte et al., 2019), together with the cross-country analysis undertaken for the synthesis report (Dębowski et al., 2021). The project concentrated on formal initial VET programmes leading to a qualification. Even this delimitation was not straightforward, since the programmes that count as formal IVET differ between the six systems in level, duration and the share of workplace training, and the partners had to agree on which programmes to include in each country.

The design combined three strands: document analysis, corpus analysis of learning-outcome statements, and qualitative interviews. A common methodology report (Dębowski et al., 2018) was prepared to ensure comparability, containing the working definitions, the descriptive categories, interview guides, the intended composition of the interview sample and the delimitation of the programmes studied. At five project meetings the partners calibrated their interpretations. Unless otherwise indicated, the article describes national arrangements as they stood in 2019, when the country reports were completed.

The comparative analysis was iterative. We read the country evidence in the light of the theoretical framework and adjusted the framework where the evidence required it. We read the six country reports thematically, identified recurring similarities and differences, and progressively reduced complexity by accentuating what distinguished the cases (Halkier, 2011).

2.2 Operationalising the four TKCs

The 2006 Recommendation formulations are too coarse to be used as coding categories. The project therefore developed a set of fifteen *descriptive categories*, derived from the 2006 and 2018 Recommendations, the accompanying Commission staff working document and the comparative analysis prepared for the key competences review (Sylvest & Kwaw, 2017). Eleven categories were assigned to a single TKC. Four were treated as cross-cutting because they plausibly belong to more than one (Table 2). Stęchły (2024) gives the full list and its derivation.

This operationalisation had two functions. Analytically, it provided a coding frame fine-grained enough to reveal variation within each competence. Practically, it gave the interviews a shared vocabulary. Although many respondents were unfamiliar with the term “transversal key competences”, almost all recognised the concepts once the descriptive categories were introduced.

Table 2. Descriptive categories used to operationalise the transversal key competences

Transversal key competence	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
Citizenship competences	Understanding of society; Participation in public affairs; Values and identity
Entrepreneurship competence	Taking action and making decisions; Realisation of initiatives

Transversal key competence	Descriptive categories
Cultural awareness and expression competence	Understanding and appreciation of culture; Cultural expression
Related to more than one TKC	Critical thinking; Problem solving; Media literacy; Creativity and innovation

Note: the TKC nomenclature used here follows the Council Recommendation of 22 May 2018 on key competences for lifelong learning (Council of the European Union, 2018).

Source: Stęchły & Dębowski (2020); see also Stęchły (2024).

2.3 The corpus of learning outcomes

The project partners assembled, from nationwide programme documents and from programmes of particular national interest, a corpus of statements describing intended learning outcomes related to TKCs. They originally collected 740 statements. After near-identical duplicates were merged and a few entries with no verb or no clear relation to a transversal competence were removed (for example “fill out warehousing documentation” or the bare heading “Labour law”), the corpus comprises 725 statements (Stęchły, 2024). Each was annotated with up to three descriptive categories on a best-fit logic, with non-literal matches admitted where the surrounding document context supported them. Of the 725 statements, 684 carry at least one annotation, and together they carry 902 annotations.

The corpus has limitations that need to be stated explicitly. It is neither balanced nor a representative sample, and it supports no statistical claims about any country. The aggregate figures in Table 4 therefore carry unknown biases from national selection and from differences in the size of the national parts of the corpus. Frequencies indicate relative emphasis within the corpus, not the weight of each competence in national curricula. Statements were supplied largely in partners’ own English translations, which, in keeping with the exploratory character of the study, were accepted as provided.

Programme documents specify intended outcomes rather than directly documenting school practice. Principals and teachers may interpret them differently, particularly where competence descriptions are abstract. The corpus therefore provides no direct evidence of what learners acquire. Finally, for consistency the annotations were assigned by one person, although the coding was calibrated with other project members on a selected sample.

2.4 Interviews

To capture opinions and accounts of practice, partners conducted 136 interviews. Sampling was purposive. Respondents were recruited for their expert roles in the development, assessment or validation of competences and included policymakers and officials of examination agencies, curriculum developers, school leaders, teachers, and representatives of employer organisations and trade unions. A common interview guide framed the topics while leaving interviewers free to pursue nation-specific lines of inquiry. Table 3 reports totals by country. The sample was not distributed evenly across respondent categories, but in each country all categories of respondents were represented.

Table 3. Interviews conducted, by country

Austria	France	Latvia	Norway	Poland	Slovakia	Total
14	26	42	15	21	18	136

Source: Dębowski et al. (2021).

The interviews covered five areas: how familiar respondents were with the concepts and terms; whether TKCs should be developed within VET and how they should be balanced against occupation-specific competence; whether TKCs should be assessed, in school practice and for the purposes of certification; what roles teachers, school leaders and employers should play; and what actions respondents would recommend. The interview guides are set out in Dębowski et al. (2018). The national teams analysed their interviews and reported them in the country reports, on which the comparative analysis draws.

In October 2020, while the synthesis report was being drafted, the partner teams were additionally asked written questions on the development and assessment of TKCs. The responses are expert comments, not evidence from the field, and are labelled accordingly where they are used.

3. TKCs in curricula: location and representation

This section describes where TKCs are located in curricula and how they are represented. The formulation of the learning outcomes and the curriculum models through which national systems embed them are analysed separately by Stęchły (2024).

In all six countries, TKCs appear in strategic documents and framework education acts. The formulations at that level are declarations of intent, generic and positive in tone, combining a utilitarian framing with a humanistic one. The Austrian School Organisation Act's commitment to developing youth "according to moral, religious and social values as well as the values of the true, the good and the beautiful", alongside independent judgement and participation in economic and cultural life, is representative (School Organisation Act, 1962, § 2, as cited in Dębowski et al., 2021). The principal aims of the Norwegian core curriculum combine the same elements: vocational training is to develop "competence, understanding and responsibility in relation to craft, profession and society" and to "contribute to increased awareness and understanding of basic Christian and humanist values, our national cultural heritage, democratic ideals and scientific thought and method" (Core Curriculum, § 1, as cited in Dębowski et al., 2021).

One tier below, TKCs are specified in standards and programme documents, in assessment and performance requirements and in guidelines addressed to teachers. Within these, they sit most commonly in subject requirements of the general core curriculum, in separate units or modules, and as cross-curricular requirements in the vocational core curriculum. More than one arrangement typically coexists within a country.

The structure of these documents constrains where transversal competences can be placed and how they can be assessed. Vocational programmes are organised into general and vocational strands with separately described requirements, so transversal competences must be either duplicated across both or contextualised within each. At the same time, the learning-outcomes logic has not displaced subject-based organisation. Subjects, and not overarching general or key learning outcomes, remain the organising concepts of teaching and assessment visible in the documents.

Learning outcomes related to all four TKCs were found in every country, but their distribution across the fifteen descriptive categories is markedly uneven (Table 4). The six national parts of the corpus differ substantially in size. Poland contributed 314 of the 902 annotations and Austria 221, so that two systems account for 59 per cent of the pooled total, while Norway and Slovakia contributed 66 and 65 respectively. The pooled distribution could therefore be disproportionately influenced by the Polish and Austrian contributions.

To assess the risk, we recomputed the distribution with each country weighted equally. The ordering was almost unchanged (for detailed tables see Stęchły, 2024). The rank correlation (Spearman) between the pooled and the equally weighted distributions is 0.97; the four largest categories occupy the same positions under both; and no category shifts by more than 1.9 percentage points. Removing any single country

and recomputing the distribution leaves the ranking of categories correlated with the pooled ranking at 0.87 or above. The pattern reported in Table 4 therefore holds across all six countries and is not an artefact of the two largest national parts of the corpus.

In aggregate, the personal, social and learning competence is the best represented of the four, carrying 261 of the 902 annotations. The distribution within it is uneven, however. Social and interpersonal relations (156) and maintaining well-being (49) account for most of the annotations, while the self-regulatory core of learning to learn, namely methods and strategies of learning (25) and motivation and autonomy of learning (31), sits near the bottom. Within this competence, the corpus therefore gives greater emphasis to social relations and well-being than to the management of learning. Self-reflection, resilience and career management, which the 2018 recommendation singled out, are largely absent. At the other end of the distribution, cultural awareness and expression is the least represented competence (38 annotations), and within citizenship competence participation in public affairs (20) trails understanding of society (119).

Descriptions also drift towards the cognitive domain, towards knowledge about a competence in place of its exercise. On the Bloom–Krathwohl domains (cognitive, affective and psychomotor), three quarters of the annotated statements are led by the cognitive domain, and barely a fifth have responsibility and autonomy as their primary class under the EQF descriptors (Stęchły, 2024). Where policy language must become verifiable, it migrates towards what can be defined and observed under controlled conditions. This is consistent with Tilly’s point about skill as a negotiated identity, although the corpus does not, on its own, establish why the statements were formulated in this way.

Table 4. Representation of descriptive categories in the corpus (number of annotated statements)

Descriptive category	n
Social and interpersonal relations	156
Realisation of initiatives	146
Understanding of society	119
Critical thinking	81
Media literacy	63
Problem solving	59
Taking action and making decisions	56
Maintaining well-being	49
Values and identity	43
Motivation and autonomy of learning	31
Understanding and appreciation of culture	30

Descriptive category	n
Methods and strategies of learning	25
Participation in public affairs	20
Creativity and innovation	16
Cultural expression	8

Note: N = 684 annotated statements, 902 annotations (statements could carry up to three annotations).

Source: TRACK-VET Repository of Learning Outcomes describing Transversal Key Competences (June 2020), as re-selected for Stęchły (2024).

4. The assessment of TKCs

4.1 Why assessment is the decisive variable

Assessment is at the centre of this analysis because it can influence both the content taught and the activities through which learners develop competences. According to the European Commission's guidance on assessing key competences, assessment matters because focusing on certain learning outcomes signals that these are the priority for teaching and learning, which is a claim about incentives, and because information on progress allows teaching to be adapted to learners' needs, which is a claim about pedagogy (European Commission, 2012, p. 8). The mechanism is the one that assessment research describes as washback, or backwash. High-stakes assessment reaches back into curriculum and classroom practice, narrowing what is taught to what is tested and reshaping how it is taught (Alderson & Wall, 1993; Au, 2007; Cheng et al., 2004).

The study proceeded from the assumption that “teaching for examinations” and “learning for tests” operate as *informal institutions*, that is, socially shared, largely unwritten rules created, communicated and enforced outside officially sanctioned channels (Helmke & Levitsky, 2004), and that these exert an influence on achieved outcomes at least comparable to that of formal curricular regulation. Where the intended learning outcomes, the teaching and learning activities and the assessment tasks support one another, the result is what Biggs and Tang (2007) term constructive alignment. For TKCs the project more often observed the opposite.

Assessment theory supplies the standards against which practice can be judged. Assessment is a process of gathering evidence, making judgements and drawing inferences about achievement (Curtis, 2010), a tool for observing behaviour and producing data supporting reasonable inferences about what learners know (Pellegrino

et al., 2001). The field has moved away from decontextualised, single-measure and narrowly focused assessment towards authentic tasks, multiple measurements, many assessed dimensions and the integration of assessment with learning (Segers et al., 2003). Formative assessment serves learning and belongs to teaching practice, whereas summative assessment reports achievement at the end of a period of learning and is frequently high-stakes (Harlen, 2012; Harlen & James, 1997; Messick, 1994).

Miller's (1990) pyramid gives this analysis its basic vocabulary. It distinguishes *knows*, *knows how*, *shows how* and *does*. Knowledge is a prerequisite of competence, competence is the capacity to apply knowledge in concrete situations, and performance is the use of that capacity in action. The implication is that competence must be inferred from observed performance, and that no single instrument will suffice.

Wiggins's (1998) notion of authentic assessment supplies a second standard, in addition to Miller's requirement that competence be inferred from performance. In his formulation, it mirrors the way content, skills and behaviours are deployed in the real world, requires informed choices among many possible outcomes, demands actions an expert would recognise as inherent to the field, and incorporates feedback and reassessment. Every assessment lies somewhere on a continuum of authenticity. The reliability of more authentic methods rests heavily on assessors, on their standardisation practices and on their communication across sites. For VET, the evaluative frame used here is the extended set of criteria proposed by van der Vleuten and Schuwirth (2005), which adds educational effect, feasibility and acceptability to reliability and validity.

There is one further consideration specific to TKCs. As Kyllonen (2016) argues, non-cognitive assessment, the category into which most TKCs fall, has been slow to gain acceptance for high-stakes purposes because stakeholder communities distrust the validity of inferences drawn from such measures. A genuinely valid test of non-cognitive skills would be, in his phrase, the holy grail of the field. The respondents interviewed for the project voiced the same distrust: in every country they were unsure about, and often opposed to, assessing TKCs for the award of qualifications.

4.2 The architecture of assessment for certification

Assessment for certification is organised differently in each of the six countries, and the differences determine how much room examinations leave for transversal competences.

The most basic differences concern timing and scope. In five of the six countries, assessment leading to a VET qualification takes the form of a final examination. In this respect VET examinations resemble credentialing or licensure testing (Impara, 1995;

Swygert & Williamson, 2016). France is the exception. Policy there has shifted away from the one-off final examination, and in a growing number of occupations assessment is organised continuously during the training period. As to scope, certification may cover occupation-specific competences alone or also general education outcomes. Norway, Poland and Slovakia do not assess the learning outcomes of the general core curriculum in final VET examinations, whereas Austria, Latvia and France do (Table 5).

Table 5. Architecture of assessment leading to a VET qualification: scope and timing

Scope of competences assessed for certification	Continuous	Final
General and vocational	France*	Austria, Latvia
Vocational only	–	Poland, Slovakia, Norway

* In France, final examinations persist in some occupations, but assessment is increasingly organised during the training period.

Source: TRACK-VET country reports.

The scope of certification matters for TKCs. Many learning outcomes related to transversal competences, above all those concerning cultural awareness, are embedded in general core curricula and delivered through mother tongue, history, geography, civic education, ethics or religion. Where VET certification ignores the general strand, it structurally excludes the part of the curriculum in which these outcomes principally reside.

Countries also differ in who defines *the content of the examination* and *who exercises judgement* (Table 6). In Latvia, Norway and Poland, examinations are designed by an external agency and conducted by externally accredited assessors (on the Polish external examination system see Dębowski, 2023a). In Austria, France and Slovakia, assessment leading to a qualification is designed and conducted at school level by teachers, within national rules and guidelines. In Austria a degree of standardisation is nonetheless achieved through centrally set written papers in certain subjects, specified topic areas for oral examinations, requirements that tasks demand transfer and problem solving rather than reproduction, and the composition of examination boards combining a teacher-examiner with an expert assessor.

Table 6. Who defines and who judges

Who defines examination content	Judgement by teacher	Judgement by external agent
School teachers (within national guidelines)	Austria, France, Slovakia	–
External agency or body	–	Latvia, Norway, Poland

Source: TRACK-VET country reports.

Note: France combines both configurations. Under *contrôle en cours de formation* candidates are assessed by their own teachers, while one-off assessments, including the national written examinations, may be marked anonymously (Galli et al., 2019).

The two configurations place different demands on quality assurance. External design and judgement pursue comparability and impartiality, at the cost of restricting the range of what can be assessed to what can be reliably standardised. Teacher-based design and judgement, exercised by assessors who have observed the learners over time, permit richer, more contextualised evidence, at the cost of depending on assessor training and calibration across institutions to sustain reliability. Assessment that is relevant to complex occupational and social contexts requires assessors able to exercise judgement in any given set of circumstances (Cedefop, 2010). The external configuration therefore offers less scope for transversal competence, although the size of the difference depends on the tasks set and on how assessors are selected and prepared.

Across all six countries, the dominant method is performance assessment accompanied by a written and, in five countries, an oral component. Group projects form part of certification in Austrian BHS-HAK programmes; portfolios are used as a complementary method in France; and in Slovakia the demonstration of a project is also possible. Practical training on employers' premises is a compulsory part of the vocational programme everywhere, ranging from eight weeks in Poland through twenty-two weeks in the French *baccalauréat professionnel* to two years in Norway. In France, Poland and Slovakia, the grades employers give for this training enter the semester marks (Dębowski et al., 2021).

Table 7. Methods of assessment leading to certification

Country (programme)	Written	Performance	Oral	Group project	Portfolio
Austria (BHS-HAK)	●	●	●	●	
France (Bac Pro)	●	●	●		●
Latvia	●	●	●		
Slovakia	●	●	●		
Norway	●	●	●		
Poland	●	●			

Source: TRACK-VET country reports.

In none of the countries where certification takes the form of a final examination do grades obtained during the learning process formally count towards the qualification. The country reports identify two channels through which achievements from the learning process nonetheless enter the award. In Slovakia, a project elaborated during

the course of study or an award-winning entry in a ministry-registered competition may be defended as the practical part of the matura examination (Tomengová et al., 2019), and in Poland the winners of selected contests are exempted from the written part of the vocational examination.

Outside these channels, and from the standpoint of acquiring a VET qualification, achievements in coursework, company training, mobility projects and skills competitions generally receive no direct credit in the final examination result. These activities may still prepare learners for the examination, but since they are also the settings in which transversal competences are most plausibly developed, their limited formal recognition weakens schools' and learners' incentives to attend to those competences.

The same architecture largely governs the validation of non-formal and informal learning. In Austria, Latvia and Poland, adults seeking a VET qualification through recognition of prior learning (RPL) take the same examinations as initial VET learners. In Poland this means the same practical tasks and the same written test. In Slovakia no RPL procedures had been implemented in VET at the time of the study. Norway alone has developed dialogue-based assessment, portfolio assessment and vocational "testing" as distinct methods for adults. These methods are among those best suited to capturing transversal competence. The techniques thus exist within the same national system, but the examination-based route of initial VET does not employ them.

4.3 The school-practice layer

Schools in all six systems offer numerous occasions on which transversal key competences are developed and appraised. Assessment in school practice operates within a permissive regulatory frame. National legislation in all six countries envisages a broad repertoire of methods (portfolio, case study, group work, role play, dossier, experiment, project work, discussion, brainstorming, games, field trips) to be applied against agreed criteria across the outcomes specified in general and vocational curricula.

In Slovakia, schools develop evaluation criteria and assessment rules within their School Educational Programme, and Metodický pokyn č. 21/2011 (as cited in Tomengová et al., 2019) explicitly directs that assessment at school level take account of systematic work and of personal and social competences such as responsibility, effort, initiative, willingness and ability to cooperate, though as considerations within subject assessment, not as objects of assessment in their own right. In Latvia, regulatory principles require diverse forms of testing, transparency of criteria, and tasks allowing learners to demonstrate knowledge, skills, abilities and attitudes at all levels of acquisition. In Austria, the performance assessment ordinance (LBVO) specifies what, how and to what extent is examined, including the equivalence of "participation" with

other examination types. In Poland, teachers hold a statutory right to choose teaching, learning and assessment methods. In principle, therefore, the regulatory frame in every country leaves room for the assessment of TKCs in teachers' practice.

The country reports identify seven recurring activities through which TKCs are developed and, to varying degrees, assessed at the school level:

1. **Compulsory internships.** Work records, such as practice diaries and portfolios, visualise and document learning processes. The Austrian report links internships explicitly to work values such as punctuality, reliability and responsibility and to social and communicative competence developed in dealing with superiors, colleagues and customers. In Norway, pupils are required to take an active part in assessing their own effort and academic development as part of periodic assessment.
2. **Projects within school practice.** In Austria, the theme, the activity (such as producing a film or organising an event) and the objectives are chosen jointly by teachers and learners. Because the work is interdisciplinary and requires cooperation, communication and the resolution of conflict, interpersonal and social learning is inseparable from the acquisition of subject-specific competence. Latvian examples include group tasks in which learners plan a company they would establish, define the needs its goods or services would satisfy, draft the goal of its business activity and present the project with reasoned argument.
3. **Competitions and contests** at national and international level. Austria promotes both subject-specific and interdisciplinary competitions (*Jugend Innovativ*, *Students Debate*, the EuroSkills contest, citizenship education and foreign language competitions). Poland provides a rare case of institutional coupling. Winners and finalists of ministerially recognised contests are exempted from the written part of the vocational examination and credited with the maximum result. In 2019, thirty types of contest carried this privilege, covering more than a hundred occupations. The Polish *Freed from Theory* programme, in which teams of three to five upper secondary learners run real social impact projects assessed against criteria including management efficiency, communication and evidence of the social problem addressed, had reached learners from a quarter of Polish upper secondary schools by 2019.
4. **Field trips, company visits and museum visits.** The Latvian report identifies "an hour at the museum", drawing on the educational programmes maintained by museum tutors, as among the most common assessment settings, with group tasks completed during company visits assessed for knowledge acquisition, practical application and collaborative and social competence.
5. **Mobility projects**, funded principally through Erasmus+ and the European Social Fund. All six country reports record their positive contribution to the development of

transversal competences. In Poland alone, more than 1,200 VET schools applied for mobility funding between 2014 and 2019.

6. General education subjects. History, geography, mother tongue, political science, ethics and religion carry substantial content related to transversal competences. Their weight in examinations is, however, modest. In the history, geography and civic education test of the French *baccalauréat professionnel*, the civic component accounts for a fifth of the mark, and the competence principally assessed remains the ability to produce a written text.

7. Portfolios. The portfolio is used in several of the countries analysed, though in different roles. In Austria, portfolios document the compulsory internship. In France they are a complementary tool used alongside other methods. In Latvia, the professional portfolio, a collection of project materials, diplomas, certificates, presentations and references, is used to assess learning outcomes outside formal grading.

Despite these opportunities, the reports describe a common limitation. In school practice, summative assessment expressed in subject grades prevails. Learners receive subject grades that are aggregated into semester and end-of-year marks, on a five-point scale in Austria and Slovakia, a six-point scale in Norway and Poland, a ten-point scale in Latvia.

The Slovak report states explicitly that the formative component is weak and that continuous assessment consists predominantly of collecting marks for summative purposes. The Austrian report observes that summative assessment remains dominant in the determination of grades, in the eyes of teachers, pupils and parents alike, and that despite numerous seminars and school-based training events, systematic formative diagnosis is only beginning to take hold. In Austria, moreover, the educational standards (BIST) covering transversal competences lack normative character and therefore do not bind assessment practice.

The Polish report notes that teacher-centred instruction prevails and that, since schools prepare learners for the examination, the content of the examination is decisive for practice. In France, written testing is by far the most frequent method in the general courses of the *lycée professionnel*, which the French report reads as itself an indication of the secondary status of key competences in those courses.

Coverage also varies by competence and by occupation. Practices related to personal and social competences, teamwork in particular, and to entrepreneurship are the most common, and their weight depends on the occupational profile. The character of teamwork in massage therapy differs from that in bricklaying, and the social competences required in care occupations differ from those required of a car mechanic.

In France, entrepreneurial competence is part of management training and, for assessment purposes, rests on the “applied management” tests carrying substantial

coefficients in craft specialisms. The baker's *brevet professionnel* includes a written applied management test, and the hairdressing specialism a sub-test on salon management and administration assessing, among other things, the ability to analyse an organisational, managerial or administrative problem. Written tests are used less often for personal and social competences, whose assessment is more closely bound to the technical skills of the trade.

Further constraints recur in the reports. Where guidelines on how assessment should be conducted exist at all, they are highly general. Detailed instructions and criteria are frequently missing, leaving schools and individual teachers to work alone. Cooperation between teachers is uncommon even within a single institution, let alone between institutions or across occupations, and support from national agencies in the form of practical guidance or assessment training is limited. Teachers also lack up-to-date methodological materials for developing and assessing transversal competences. Latvian lecturers, for instance, report having to prepare such resources themselves, drawing on whatever lies within their own discretion and reach.

4.4 Grading behaviour: a proxy and its problems

In all countries except France, learners receive grades for behaviour or conduct. The arrangements differ in the scale used and in where the grade appears. Austria uses a four-point scale assessing the extent to which the pupil's personal behaviour and integration into the class community meet the requirements of school rules, taking into account the pupil's abilities, age and efforts, decided by the class conference. These grades do not appear on VET or school leaving certificates.

Norway uses a three-point scale and the grades appear on both the VET certificate and the school leaving certificate. Slovakia grades conduct from 1 to 4 on the end-of-year school certificate only, explicitly decoupled from academic achievement, and not on the final examination. Poland grades conduct on a six-step scale, from excellent to inadmissible, and the classification covers seven areas: adherence to student responsibilities, acting for the good of the school community, care for the school's honour and traditions, care for the mother tongue, care for safety and health, dignified conduct in and outside school, and showing respect to others. The mark appears on the school leaving certificate but not on the VET certificate or diploma.

Conduct grading is thus the nearest these systems come to a formal, universal assessment of social and personal dispositions. Its value as evidence of competence is limited, however, because it primarily records compliance with school rules. Consistent grading alone would not justify inferring that a learner can apply a social competence in another setting. It is also largely invisible in the credentials that matter

for labour market entry, and, as several respondents warned, it risks becoming a vehicle for social judgement. This last concern surfaced most sharply in France, where interviewees noted that many VET learners come from disadvantaged backgrounds and that excessive emphasis on assessing attitudes or behaviour risks compounding their discouragement rather than supporting their development.

4.5 Assessment for certification: an absence and its exceptions

Transversal key competences are almost entirely absent from the final examinations leading to a VET qualification. In Latvia, Slovakia, Poland and Norway, final examinations make no explicit reference to TKCs. In Slovakia and France, transversal competences may nonetheless be assessed within the tasks that are certified, but no transversal criterion is recorded as such. The Austrian BHS-HAK programmes, in which a group project forms part of the examination and is graded against a uniform assessment grid, were the one case in the sample in which judgements on dimensions of transversal competence, such as project management and the presentation and defence of results, are explicitly recorded, although the grid does not use the vocabulary of key competences.

Where TKC-related items do appear in written examinations, they test knowledge *about* a competence rather than the competence itself. The Latvian report gives an example from the external standardised examination for the Computer Technician qualification. Three consecutive questions, all classified under initiative-taking and entrepreneurship, ask on what issues an employer must consult employees, what the maximum duration of a trial period in an employment contract is, and what determines how salaries are set and reviewed. Each tests knowledge of labour law. The Polish report gives a parallel example from the firefighter examination. A multiple-choice question, mapped to the learning outcome “plans and organises the work of the team in order to perform the assigned tasks”, asks which member of a rescue crew should be assigned a specified equipment-preparation task. The candidate answers by choosing one of four ranks.

The knowledge tested by these items is occupationally relevant. They are not, however, assessments of entrepreneurship or of a learner’s capacity to organise the work of a team. In terms of Miller’s pyramid, such items remain at the level of *knows*, while the outcomes to which they are mapped describe what a learner *does*.

The absence of transversal competences from assessment for certification has three partial exceptions.

Austria: the diploma project. In BHS programmes, the school-leaving examination comprises, alongside written and oral components, a diploma project. This is

project work carried out in the final year, culminating in a pre-scientific diploma thesis of some twenty to twenty-five pages per team member, with abstracts in German and in English or another foreign language acquired at school, followed by presentation and discussion. Teams work on comprehensive projects relevant to their sector, ideally in cooperation with or commissioned by business partners. According to the Austrian report, complex assignments require research, the combination and application of knowledge, skills and competence, state-of-the-art methods, independent and team work, entrepreneurial spirit, critical thinking, creative approaches to problem solving, project management, drafting and presentation. Since the quality of project and thesis depends substantially on the learners' transversal competences, their evaluation is necessarily in part an evaluation of TKCs, and the presentation-and-discussion format surfaces further competences (argumentation, handling questions, self-presentation) in a setting where they can be observed.

The thesis, presentation and discussion are graded throughout Austria with a uniform assessment grid covering five fields of competence: subject-specific problem solving, project management, working technique and language, presentation of results, and their defence in discussion. Each field is broken down into dimensions with graduated levels, and the points are converted into the final grade (Lachmayr & Proinger, 2019).

This is the clearest instance in the sample of TKCs entering certification. They enter through an authentic task, not through criteria framed as key competences. Part of what the task demands, above all project management and oral presentation and argumentation, is scored explicitly. Teamwork, initiative and critical thinking, however, are judged only indirectly, through the quality of the work learners deliver.

France: dossiers, orals and situated assessment. As the final examination recedes, oral tests are used as an alternative or supplement to written ones. In the subjects common to all programmes, candidates are questioned on a dossier prepared individually or collectively on a set theme. In civic and moral education this comprises three or four documents of different types analysed in the light of an issue treated in class, presented and followed by a ten-minute interview in which candidates justify the choices made in their work. For specialised vocational courses, candidates are questioned on situations encountered during workplace training or on a case study. In situated assessment a simulated scenario, for example an unexpected management problem, must be resolved using both knowledge and skills that can be described as transversal.

Portfolios are used as a complementary tool, functioning as a record of achievements, work experience, self-evaluation and trainee evaluation. Their principal effect is to make learners reflect on their experience, which itself promotes learning to learn,

while the learner's responsibility for the portfolio creates a realistic context for setting priorities and managing one's own work (Galli et al., 2019).

Slovakia: projects and their presentation. Although transversal competences are not explicitly stated in the assessment criteria of the upper secondary final examination, the forms of the final examination permit their demonstration. The presentation of projects reveals independent learning, information handling, use of ICT and public presentation, and group project work develops and displays social and interpersonal competences and cooperation. The final grade incorporates the level of TKCs manifested in the theoretical and practical parts of the examination (Tomengová et al., 2019).

Table 8 summarises the resulting pattern across the six countries for each of the four TKCs, distinguishing assessment for qualification, continuous assessment at school level and other forms of assessment.

Table 8. Where transversal key competences are assessed

TKC	Assessment for qualification	Continuous assessment at school level	Other forms
Learning to learn	No practices found explicitly referring to the assessment of learning to learn	Career plans prepared under teacher supervision (all countries); continuous self-evaluation as a formal requirement (Norway); internship diaries and reports prompting reflection (all countries)	Activities and competitions (contests) organised by NGOs, chambers and professional associations supporting learners in evaluating their own progress
Social and civic competences	Tests as provided in the curriculum, usually relating to teamwork; group project as part of the final examination (Austria); knowledge questions elsewhere	Class and homework assignments (all countries); conduct grades (all except France), shown on the school leaving certificate in Norway and Poland, on the annual school certificate in Slovakia, and on the VET certificate in Norway only.	Learner portfolios recording participation in institutional and out-of-class activities; acknowledgements of participation in events; internship diaries and reports
Initiative-taking and entrepreneurship	Depends on qualification and school type; extensively assessed in busi-	Subject assessment in economics, management and law, and in pro-	National entrepreneurship competitions (e.g.

TKC	Assessment for qualification	Continuous assessment at school level	Other forms
	ness-profile programmes (Austria: business administration examined in a uniform manner nationally in BHS-HAK)	grammes for occupations in which self-employment is expected (e.g. beauticians, massage therapists)	<i>Freed from Theory</i> in Poland)
Cultural awareness and expression	Knowledge assessed within general education examinations where these form part of certification	Subject assessment in general education subjects	Projects organised by national or regional authorities or NGOs (e.g. KulturKontakt Austria)

Source: based on TRACK-VET country reports.

4.6 The stakeholders' account of the gap

The near-absence of transversal competences from examinations leading to a qualification calls for explanation. The interviews and the partner responses indicate that the reasons are practical and conceptual difficulties that reinforce one another, not necessarily a lack of commitment.

Respondents in Austria, Latvia, Norway, Poland and Slovakia were strongly in favour of developing all four TKCs within formal VET. Austrian experts held that transversal learning should be regarded as more important than subject-specific learning, on the grounds that TKCs do not become obsolete as professional knowledge does and are the precondition of professional learning. Slovak respondents described TKCs as applicable across all professions and as a prerequisite for entry into the labour market and society, one expert observing that “we don’t prepare students only for the labour market but we also prepare citizens for life”.

Some Latvian respondents found it difficult to rank the competences, which they considered equally important and overlapping. All Latvian respondents nonetheless named personal, social and learning competence the most significant, in several cases placing it above professional competences, on the grounds that occupations may change radically or cease to exist. Learning to learn was consistently identified across countries as the most relevant competence.

Two reservations qualified this endorsement. The first is a zero-sum concern that greater emphasis on TKCs might come at the expense of time for occupation-specific skills. Norwegian respondents framed this as a question not of whether TKCs

are important but of whether they are important enough to displace something else: “What will end up at the back of the queue?” Slovak experts, while recommending that TKCs be given more extensive treatment, insisted that the answer is integration and balance, not substitution.

The second reservation is French, and more fundamental. French respondents were sceptical, doubting both the value added by formalising these competences and the demand for them. Employers’ representatives take part in producing occupational standards, but respondents reported hearing few demands from them for key competences. What employers did ask for amounted to a small number of attitudes, such as punctuality. One teacher characterised the competence-based approach as a “Trojan Horse” designed to displace academic disciplines, with consequences for equality and access to knowledge.

On assessment specifically, respondents converged on a position with an internal tension. They agreed that assessment is an important element of competence development because it motivates actors and directs their attention. The Norwegian report warned that, if TKCs are not systematically assessed, they will in practice be treated as unimportant, and that neither teachers nor pupils will attend to competences that are not assessed. They also agreed that TKCs should be developed and assessed during school practice, principally formatively, using varied methods.

In *all* countries, however, respondents were unsure about, and frequently opposed to, including TKCs in assessment for the award of qualifications, most sharply for social competences and cultural awareness, less so for entrepreneurship and teamwork. Some Slovak experts regarded entrepreneurial competence as the only TKC that can be assessed and quantified. On grading mechanisms, most experts considered narrative or descriptive feedback more appropriate than point scales. The Austrian report notes that grading TKCs would effectively produce a “behavioural grade”, and that binding exercises without assessment are the current solution to that problem.

The partners’ written responses (TRACK-VET, 2020) addressed demand for explicit TKC results on certificates. Asked whether any stakeholder had demanded a precise outcome of TKC assessment, such as a score or a mark entered on the certificate, none of the partners could identify one. The Austrian team reported no known request and added two objections that had not surfaced in the interviews: that placing TKCs explicitly on certificates would first require clarifying whether doing so is legally permissible, and that a school report records a snapshot while transversal competences continue to develop with age, so that the added value and timeliness of such an entry must be questioned. The Norwegian team reported that employers were, if anything, sceptical of precise outcomes. The French team observed that during work

placements employers seem particularly attentive to learners' attitudes, behaviour and initiative, but it too reported no such demand.

The project's synthesis describes the result as an impasse (Dębowski et al., 2021). Because transversal competences are almost absent from final examinations, schools have little incentive to develop them, since attention concentrates on what the assessment system covers. At the same time, because solid methods for assessing these competences are lacking, stakeholders fear introducing tools that would not be valid. Not assessing at all and assessing badly both carry costs, and the experts interviewed regarded the impasse as difficult to resolve.

Underlying this practical impasse is a conceptual one, identified in the Norwegian report. For TKCs to be acknowledged as important in practice they must be measurable, but if they are laid down in curricula in ways that make them measurable, they lose their importance as TKCs. Operationalising them in this way reduces them, and the reduction runs against the idea of transversal competence itself.

Beyond this conceptual impasse, respondents identified four practical constraints.

- *Operationalisation*: in most countries, respondents held that TKCs are not sufficiently operationalised for development or assessment. Austrian respondents observed that the educational standards (BIST) are “beautifully written words” on paper that are not easy to fulfil, let alone verify.
- *Teacher capacity*: all country reports place teachers at the centre of TKC development, and several find them inadequately prepared for it. According to these reports, initial teacher education varies in quality and quantity, transmissive methods predominate, and some teachers experience TKC development as an additional demand on an already overloaded curriculum. Poland reported a recruitment problem, with private sector wages drawing competent professionals away and fewer students entering teacher education.
- *Methodological knowledge*: the project revealed a substantial knowledge gap regarding the methodology of assessing TKCs. The scarcity of materials for teachers and examination agencies was linked by respondents to gaps in methodological knowledge, and work on assessment tools in VET is rarely supported by psychometric expertise.
- *Foundation skills and background*: respondents in several countries identified deficits in basic literacy and numeracy among VET learners, particularly those in programmes leading to EQF level 3 qualifications, as a barrier both to TKC development and to transfer across contexts, since they delay the development of competences treated as subsequent and limit learners' ability to adapt what they have learned to new settings. Family background was raised repeatedly, and in Latvia the formation of TKCs was described as being to a great extent the work of the family.

Employers, in all six country reports, were seen as legitimate and desirable participants in both development and assessment. Because TKCs take different forms in different contexts and for different individuals, they may be best developed and judged in settings close to their use, where an assessor can see whether a competence is both usable in that context and adaptable to others. A Norwegian employer said that this type of knowledge is learned “in the school of life” and is therefore best acquired in firms. French inspectors, who regarded TKCs as attitudes or behaviours that are not readily objectifiable, nonetheless allowed that workplace training periods would be an appropriate situation for assessing them.

The confidence placed in workplace settings carries risks, however. Employers and in-company trainers typically command a narrow repertoire of assessment approaches, oriented to technical skills, and the judgement of attitudes and behaviour is exposed to bias, including gender and socio-economic bias. Where such judgements carry consequences for employment, learners also come under pressure to display the expected attitudes, a threat both to their autonomy and to the integrity of the assessment.

Discussion and conclusions

Transversal key competences are prominently inscribed in strategic documents and framework acts and, with the uneven distribution shown in Table 4, in curricula. From the procedures through which qualifications are awarded, however, they are almost entirely absent. Formal commitment and assessment practice have become decoupled.

The pattern is not the classic decoupling of formal structure from activity described by Meyer and Rowan (1977) and by Weick (1976), in which a legitimating commitment is adopted and never enacted. Here, by contrast, teachers are expected to develop transversal competences, and many do. Internships, projects and competitions are designed to foster them, and schools organise activities around them. What has come apart is the link between that activity and the outcome the system certifies. This is means–ends, not policy–practice, decoupling in Bromley and Powell’s (2012) sense, and it is the form most easily overlooked, because so much visible work is being done. The study documents this missing link at the level of procedures but does not test directly whether the activities produce competence.

Three conclusions follow. First, the decoupling does not necessarily reflect a lack of commitment on the part of policymakers, examination bodies or teachers. Such a lack

may exist for particular competences, cultural awareness and civic competence above all, where interest in their development and assessment is limited. For the most part, however, the interviews show strong and widely shared commitment to transversal competences among the same actors who do not assess them.

The interviews point to a different explanation. The assessment methods available to these systems cannot support inferences about transversal competence that stakeholders would accept as valid, and the actors are aware of this. Their reluctance to introduce a high-stakes assessment whose validity they could not defend is therefore a considered judgement, not an omission. A poorly designed assessment would do more harm than none, because feedback from assessment shapes learners' motivation, self-esteem and awareness of their own learning (Harlen & Deakin Crick, 2003).

Second, decoupling nonetheless has costs, and there are reasons to expect them to be borne unequally. In systems that award qualifications through external final examinations, and in which coursework, company training, mobility and competitions carry no weight in certification, the examination is the dominant signal of what counts. Where transversal competences are excluded from that signal, their development may depend largely on the commitment of individual teachers and schools and on the extracurricular infrastructure of projects and competitions. That infrastructure is unequally distributed. The Latvian report notes that voluntary professional portfolios are compiled mainly by more motivated learners. The same logic applies wherever a competence is developed through voluntary participation, since its distribution can then be expected to track prior advantage, although the present study does not establish how widely this occurs.

If transversal competences help workers adapt over a working life, unequal access to opportunities for developing them may limit VET's contribution to social cohesion where it is needed most. The learners concerned are those in programmes leading to EQF level 3 qualifications, where weak foundation skills, noted by respondents in several countries, interact with negative selection, underfunding and low prestige (Lis & Miazga, 2017). In Poland, attitudes towards continued learning are least positive among graduates of basic vocational programmes, and differences in actual participation in continuing education are larger still (Dębowski, 2023b).

The channels that compensate for the absence of TKCs from certification (extended workplace learning, employer judgement of learners, competitions and projects organised by chambers and professional associations) depend to a large extent on infrastructure supplied by firms and social partners, though schools supply part of it. Reliance on employers also carries risks. In-company assessors, particularly in small and medium-sized enterprises, typically command a narrow repertoire of assessment techniques, judgements of attitudes and behaviour are exposed to bias, and learners

whose employment prospects depend on such judgements face pressure to display the expected attitudes.

Compulsory practical training on employers' premises varies by an order of magnitude, from eight weeks in Poland to two years in Norway. The project also observed that employer involvement in VET governance is lower in the post-socialist cases, where social partners and coordination traditions are also comparatively weak (Gardawski, 2009; Tütlys et al., 2022). The economies sometimes characterised as dependent market economies (Nölke & Vliegenthart, 2009) or as patchwork capitalisms (Gardawski & Rapacki, 2021) may sustain skill formation systems with weaker employer coordination than the collective models described by Busemeyer and Trampusch (2012). If so, the compensatory channels for developing transversal competences are weakest where certification also excludes them.

The evidence also shows what the school contributes and what it cannot delegate. Employers were seen in all six countries as legitimate participants in developing and judging transversal competences, and compulsory internships, which the Austrian report links to work values and to social and communicative competence, are the occasion on which employers see learners at work. By contrast, cultural awareness and expression and part of civic competence are located in the general education subjects and are assessed, where they are assessed at all, in school. Table 8 records no employer-based channel for cultural awareness. The school is also the place where what a learner does on placement, in a project and in a lesson can be named as one competence and compared across those settings.

Cooperation between schools and employers is therefore a condition for developing transversal competences in every system examined, a conclusion that the Council of Europe's guidance on democratic competences in VET (Council of Europe, 2024) also reaches in proposing an integrated approach covering both learning venues, the school and the workplace. Such cooperation complements the school's own work without replacing it, and it matters most where it is weakest, since there the school carries the task largely alone. Certification that recognises neither contribution weakens the incentives for both.

Third, the dilemma identified in the Norwegian report, that transversal competences must be made measurable to count in practice and lose their importance as transversal competences once they are, is an instance of a general problem of measurement in the social sciences. Commensuration transforms qualities into quantities and, in doing so, decontextualises, reduces and reorganises attention (Espeland & Stevens, 1998). Making transversal competence assessable in a standardised, externally administered format requires a degree of decontextualisation that would undermine its transversality.

The knowledge-proxy items found in the Latvian and Polish examinations are therefore better read as the predictable outcome of the constraints of standardised testing than as a failure of test design. An examination agency asked to assess entrepreneurship at scale must produce items that are unambiguous to mark, comparable across candidates and defensible on appeal. Questions about labour law are easier to standardise than observations of entrepreneurial conduct. The items are a rational response to those constraints. The same conversion of competence into knowledge about it is visible upstream. In the programme documents of the six systems, three quarters of the statements describing transversal competences are classified primarily in the cognitive domain. Commensuration therefore begins at the stage of drafting learning outcomes and is completed at certification (Stęchły, 2024).

The exceptions documented above suggest that the question these systems face is less whether transversal competence can be tested than which evidence a qualification system is permitted to count, and who is licensed to judge it. Austria counts an extended, partly externally commissioned project, France a dossier, a workplace situation and a portfolio, and Slovakia the presentation of project work. Poland already counts a contest result achieved outside the examination hall and judged by non-teachers. These arrangements involve decisions about governance as well as measurement, and accepting broader evidence does not remove the need to establish its validity and reliability. The recommendations that follow combine the stakeholders' proposals with the lessons of these exceptions.

The starting point is to assess through the task. The Austrian diploma project illustrates the principle, since instead of assessing TKCs as such it sets a complex, extended, partly externally commissioned task that cannot be completed well without research, teamwork, initiative, critical thinking and presentation, and then assesses the quality of what is produced and defended, using a grid that records judgements on project management, presentation and argumentation without naming them as key competences.

The French use of dossiers, situated assessment and case-based orals rests on the same principle, as does the Slovak presentation of projects. This is authentic assessment in Wiggins's (1998) sense, and it resolves much of the commensuration dilemma by declining to separate the competence from its context. It also relocates the technical difficulty from item design to assessor judgement and to procedures that keep assessors consistent, which is where, on the evidence of this study, it belongs. Such solutions are costly and time-consuming, and they place additional demands on the reliability of examinations, but those costs may have to be borne.

Investment must then go into assessors, and not only into standards and curricula. The reliability of authentic assessment rests on assessors' knowledge and networking,

on regular standardisation of grading practice, on communication between assessors at multiple sites, and on continuous discussion of particular instruments.

The country reports identify limited specialist capacity for assessing TKCs in VET. There are few dedicated assessment specialists with relevant industry experience, and work on assessment tools is rarely informed by psychometric expertise. Building that capacity is the precondition of the remaining recommendations. It requires teacher learning communities, cross-school and cross-occupational sharing of tools and criteria, and the involvement of employers not only in judging learners but in reviewing the instruments that teachers and agencies develop.

The teachers' professional competences at issue include generating assessment information, interpreting varied sources of it, facilitating peer and self-assessment, assessing across the curriculum in collaboration with colleagues, and reporting to learners and parents. Sustained initial and continuing teacher training in assessment, together with worked materials and exemplars that teachers can adapt, belongs to the same investment. Assessors cannot be expected to judge competences that require observation and dialogue when their repertoire was built for testing technical knowledge.

Operationalisation must stay at the right level of abstraction. The descriptive categories developed for the TRACK-VET project proved a workable platform for cross-national discussion and for interviews, which suggests that intermediate-level operationalisation is achievable. Adding TKCs to examination specifications would need to be accompanied by practical guidance. Teachers and standards developers need a shared vocabulary that is specific enough to be usable and general enough not to collapse into behavioural checklists. Central agencies and research institutes are well placed to produce worked examples of both good and bad practice.

Change is best introduced in small steps, since piloting is preferable to postponement. Austrian experts cautioned that awareness-raising across all TKC areas simultaneously would amount to overstimulation and provoke defensive reactions among teachers. Devoting whole days or periods to TKC projects, with other subjects incorporated into them, makes school management, not the individual teacher, responsible for prioritisation, and is a more plausible route than a comprehensive reform of assessment regulations.

The architecture of certification has further implications. Where certification excludes general education outcomes, as in Norway, Poland and Slovakia, the reform question is not only how to assess TKCs but whether the boundary of certification is drawn in the right place, given that much TKC-related content sits in the general strand. That the boundary can move is shown by the contest exemption already described, which treats an achievement produced outside the examination hall, under

criteria set by a third party and judged by people who are not the candidate's teachers, as equivalent to an examination result.

Both the boundary question and the contest exemption point in the same direction. Neither requires a new instrument, only a decision about the boundary of admissible evidence. Once that principle is conceded, portfolios, project records and structured employer judgements from work placements raise, first of all, a question of governance: which bodies may generate evidence, under what quality assurance, and with what right of appeal. Qualification systems already know how to answer that question for occupation-specific competence. Posed in that form, the problem of transversal competence becomes tractable, and it no longer calls for the commensuration that would undermine the property being assessed.

The findings reported here are subject to the limitations set out in Section 2. The corpus of learning outcomes is not representative. The interviews, though numerous, were purposive and unevenly distributed across countries, and programme documents describe intentions, not practice. The study establishes what six systems declare and how their key actors account for what they do, not what learners acquire.

Several lines of further inquiry remain open. A longitudinal study could establish what this project could not, namely whether emphasis on TKCs has increased over the past two decades, whether such a shift is visible in practice as well as in narrative, and how external social and economic conditions have affected development. Further school-level research is needed to document how teachers develop and assess transversal competences in everyday practice. Finally, formal VET assessment systems might learn considerably from licensure and certification arrangements designed by professional bodies in other fields, where the problem of inferring complex professional competence from observed performance has arguably been worked on for far longer and with more resources.

Acknowledgements: This article draws on the project "Developing, assessing and validating transversal key competences in the formal initial and continuing VET" (TRACK-VET), co-funded by the European Union under the Erasmus+ Programme and coordinated by SGH Warsaw School of Economics. The authors thank the project partners: öibf (Austria), Fafo (Norway), Céreq (France), NÚCEM and Matej Bel University (Slovakia) and VISC (Latvia). The views expressed are those of the authors.

References

- Alderson, J. C., & Wall, D. (1993). Does washback exist? *Applied Linguistics*, 14(2), 115–129.
- Au, W. (2007). High-stakes testing and curricular control: A qualitative metasynthesis. *Educational Researcher*, 36(5), 258–267.
- Autor, D. H., Levy, F., & Murnane, R. J. (2003). The skill content of recent technological change: An empirical exploration. *The Quarterly Journal of Economics*, 118(4), 1279–1333.
- Benke, M., & Rachwał, T. (2022). The evolution of vocational education and training in Hungary and Poland 1989–2035. *Hungarian Educational Research Journal*, 12(3), 328–356.
- Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university* (3rd ed.). Open University Press.
- Billet, S. (2014). The standing of vocational education: Sources of its societal esteem and implications for its enactment. *Journal of Vocational Education & Training*, 66(1), 1–21.
- Bohle, D., & Greskovits, B. (2012). *Capitalist diversity on Europe's periphery*. Cornell University Press.
- Brockmann, M., Clarke, L., & Winch, C. (2008). Knowledge, skills, competence: European divergences in vocational education and training (VET) – the English, German and Dutch cases. *Oxford Review of Education*, 34(5), 547–567.
- Bromley, P., & Powell, W. W. (2012). From smoke and mirrors to walking the talk: Decoupling in the contemporary world. *Academy of Management Annals*, 6(1), 483–530.
- Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton & Company.
- Buligina, I., & Sloka, B. (2022). Latvia: Towards systemic approach to skill formation. In V. Tütlys, J. Markowitsch, S. Pavlin, & J. Winterton (Eds.), *Skill formation in Central and Eastern Europe: A search for patterns and directions of development*. Peter Lang.
- Bussemeyer, M. R., & Trampusch, C. (Eds.). (2012). *The political economy of collective skill formation*. Oxford University Press.
- Cedefop. (2010). *Learning outcomes approaches in VET curricula: A comparative analysis of nine European countries* (Cedefop research paper No 6). Publications Office of the European Union.
- Cedefop. (2014). *Attractiveness of initial vocational education and training: Identifying what matters* (Cedefop research paper No 39). Publications Office of the European Union.
- Cedefop. (2020). *Key competences in initial vocational education and training: Digital, multilingual and literacy* (Cedefop research paper No 78). Publications Office of the European Union.
- Cheng, L., Watanabe, Y., & Curtis, A. (Eds.). (2004). *Washback in language testing: Research contexts and methods*. Lawrence Erlbaum.
- Council of Europe. (2024). *Reference Framework of Competences for Democratic Culture: Guidance document for vocational education and training*. Council of Europe Publishing.
- Council of the European Union. (2009). Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ('ET 2020') (2009/C 119/02). *Official Journal of the European Union*.
- Council of the European Union. (2017). Council Recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning (2017/C 189/03). *Official Journal of the European Union*.
- Council of the European Union. (2018). Council Recommendation of 22 May 2018 on key competences for lifelong learning (2018/C 189/01). *Official Journal of the European Union*.
- Council of the European Union. (2020). Council Recommendation of 24 November 2020 on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience (2020/C 417/01). *Official Journal of the European Union*.
- Curtis, D. D. (2010). *Defining, assessing and measuring generic competences* [Doctoral thesis, Flinders University of South Australia].
- Czarczasty, J., & Mrozowski, A. (2018). Industrial relations in Poland: Historical background, institutional evolution and research trends. *Employee Relations*, 40(4), 674–691.
- Dębowski, H. (2023a). *Case study Poland: The future of vocational education and training in Europe. Volume 3. Facilitating vocational learning: The influence of assessments*. Cedefop. https://www.cedefop.europa.eu/files/poland_future_of_vet_vol.3.pdf
- Dębowski, H. (2023b). Young adults' perspectives on learning, technological change and qualifications: Implications for skills policy. *Warsaw Forum of Economic Sociology*, 14(28), 55–86.

- Dębowski, H., Reegård, K., & Stęchły, W. (2018). *TRACK-VET: Information about the project and methodology for preparing country reports*. SGH Warsaw School of Economics. <https://track-vet.sgh.waw.pl/>
- Dębowski, H., & Stęchły, W. (2015). Implementing ECVET principles: Reforming Poland's vocational education and training through learning outcomes based curricula and assessment. *Warsaw Forum of Economic Sociology*, 6(2/12), 57–88.
- Dębowski, H., & Stęchły, W. (2022). Poland: Striving for better governance and integration. In V. Tütlys, J. Markowitsch, S. Pavlin, & J. Winterton (Eds.), *Skill formation in Central and Eastern Europe: A search for patterns and directions of development*. Peter Lang.
- Dębowski, H., Stęchły, W., Tomengová, A., Valovič, J. & Reegård, K. (2021). *Development and assessment of transversal key competences in the VET sector – Model solutions and practices in six European countries*. SGH Warsaw School of Economics. <https://track-vet.sgh.waw.pl/>
- Deming, D. J. (2017). The growing importance of social skills in the labor market. *The Quarterly Journal of Economics*, 132(4), 1593–1640.
- Espeland, W. N., & Stevens, M. L. (1998). Commensuration as a social process. *Annual Review of Sociology*, 24, 313–343.
- Estévez-Abe, M., Iversen, T., & Soskice, D. (2001). Social protection and the formation of skills: A reinterpretation of the welfare state. In P. A. Hall & D. Soskice (Eds.), *Varieties of capitalism: The institutional foundations of comparative advantage* (pp. 145–183). Oxford University Press.
- European Commission. (2010). *Europe 2020: A strategy for smart, sustainable and inclusive growth*. Communication COM(2010) 2020.
- European Commission. (2012). *Assessment of key competences in initial education and training: Policy guidance*. Commission staff working document SWD(2012) 371 final.
- European Parliament and Council of the European Union. (2006). Recommendation of 18 December 2006 on key competences for lifelong learning (2006/962/EC). *Official Journal of the European Union*.
- European Parliament and Council of the European Union. (2023). Decision (EU) 2023/936 of 10 May 2023 on a European Year of Skills. *Official Journal of the European Union*.
- Eurydice. (2012). *Developing key competences at school in Europe: Challenges and opportunities for policy*. Publications Office of the European Union.
- Evans, K., & Kersh, N. (2014). Training and workplace learning. In K. Kraiger, J. Passmore, N. Rebelo dos Santos, & S. Malvezzi (Eds.), *The Wiley Blackwell handbook of the psychology of training, development, and performance improvement* (pp. 50–67). Wiley.
- Felstead, A., & Ashton, D. (2000). Tracing the link: Organisational structures and skill demands. *Human Resource Management Journal*, 10(3), 5–21.
- Fox, T., MacLeod, S., Chandler, M., & Kwaw, E. (2017). *Report on a literature review of reforms related to the 2006 European Framework of Key Competences for lifelong learning and the role of the Framework in these reforms*. Publications Office of the European Union.
- Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 114, 254–280.
- Galli, C., Paddeu, J., & Veneau, P. (2019). *TRACK-VET: Country report – France*. Céreq. <https://track-vet.sgh.waw.pl/>
- Gardawski, J. (Ed.). (2009). *Polacy pracujący a kryzys fordyzmu* [Working Poles and the crisis of Fordism]. Wydawnictwo Naukowe Scholar.
- Gardawski, J., & Rapacki, R. (2021). Patchwork capitalism in Central and Eastern Europe: A new conceptualization. *Warsaw Forum of Economic Sociology*, 12(24), 7–104.
- Gessler, M. (2017). The lack of collaboration between companies and schools in the German dual apprenticeship system: Historical background and recent data. *International Journal for Research in Vocational Education and Training*, 4(2), 164–195.
- Griffin, P., & Care, E. (Eds.). (2015). *Assessment and teaching of 21st century skills: Methods and approach*. Springer.
- Halász, G., & Michel, A. (2011). Key competences in Europe: Interpretation, policy formulation and implementation. *European Journal of Education*, 46(3), 289–306.
- Halkier, B. (2011). Methodological practicalities in analytical generalization. *Qualitative Inquiry*, 17(9), 787–797.
- Hall, P. A., & Soskice, D. (Eds.). (2001). *Varieties of capitalism: The institutional foundations of comparative advantage*. Oxford University Press.
- Hardy, W., Keister, R., & Lewandowski, P. (2018). Educational upgrading, structural change and the task composition of jobs in Europe. *Economics of Transition*, 26(2), 201–231.
- Harlen, W. (2012). On the relationship between assessment for formative and summative purposes. In J. Gardner (Ed.), *Assessment and learning* (2nd ed., pp. 87–102). Sage.
- Harlen, W., & Deakin Crick, R. (2003). Testing and motivation for learning. *Assessment in Education: Principles, Policy & Practice*, 10(2), 169–207.

- Harlen, W., & James, M. (1997). Assessment and learning: Differences and relationships between formative and summative assessment. *Assessment in Education*, 4(3), 365–379.
- Helmke, G., & Levitsky, S. (2004). Informal institutions and comparative politics: A research agenda. *Perspectives on Politics*, 2(4), 725–740.
- Impara, J. C. (Ed.). (1995). *Licensure testing: Purposes, procedures, and practices*. Buros Institute of Mental Measurements.
- James Relly, S., & Laczik, A. (2022). Apprenticeship, employer engagement and vocational formation: A process of collaboration. *Journal of Education and Work*, 35(1), 1–15.
- Kyllonen, P. C. (2016). Designing tests to measure personal attributes and noncognitive skills. In S. Lane, M. R. Raymond, & T. M. Haladyna (Eds.), *Handbook of test development* (2nd ed., pp. 190–211). Routledge.
- Lachmayr, N., & Proinger, J. (2019). *TRACK-VET: Country report – Austria*. öibf. <https://track-vet.sgh.waw.pl/>
- Lassnigg, L. (2012). ‘Lost in translation’: Learning outcomes and the governance of education. *Journal of Education and Work*, 25(3), 299–330.
- Le Deist, F. D., & Winterton, J. (2005). What is competence? *Human Resource Development International*, 8(1), 27–46.
- Lis, M., & Miazga, A. (2017). Labour market perspective on the quality of vocational education in Poland. *Edukacja*, 5(2017), 5–21.
- Markowitsch, J., & Dębowski, H. (2022). Education systems and qualifications frameworks. In V. Tütlys, J. Markowitsch, S. Pavlin, & J. Winterton (Eds.), *Skill formation in Central and Eastern Europe: A search for patterns and directions of development* (pp. 397–425). Peter Lang.
- Meardi, G. (2014). Peripheral convergence in the crisis? Southern and Eastern European labour markets and industrial relations. *Warsaw Forum of Economic Sociology*, 5(1/9), 7–27.
- Messick, S. (1994). The interplay of evidence and consequences in the validation of performance assessments. *Educational Researcher*, 23(2), 13–23.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.
- Miller, G. E. (1990). The assessment of clinical skills/competence/performance. *Academic Medicine*, 65(9), S63–S67.
- Nägele, C., & Stalder, B. E. (2017). Competence and the need for transferable skills. In M. Mulder (Ed.), *Competence-based vocational and professional education* (pp. 739–753). Springer.
- Nölke, A., & Vliegenthart, A. (2009). Enlarging the varieties of capitalism: The emergence of dependent market economies in East Central Europe. *World Politics*, 61(4), 670–702.
- Osnabrück Declaration on vocational education and training as an enabler of recovery and just transitions to digital and green economies. (2020). Declaration of the Ministers in charge of vocational education and training of the EU Member States, the EU Candidate Countries and the EEA countries, the European social partners and the European Commission, 30 November 2020.
- Pellegrino, J. W., Chudowsky, N., & Glaser, R. (Eds.). (2001). *Knowing what students know: The science and design of educational assessment*. National Academies Press.
- Pepper, D. (2011). Assessing key competences across the curriculum – and Europe. *European Journal of Education*, 46(3), 335–353.
- Pilz, M. (2016). Typologies in comparative vocational education: Existing models and a new approach. *Vocations and Learning*, 9(3), 295–314.
- Rapacki, R. (Ed.). (2019). *Diversity of patchwork capitalism in Central and Eastern Europe*. Routledge.
- Reegård, K., & Dębowski, H. (2020). Exit, voice or loyalty? VET stakeholders’ response to large scale skilled emigration from Poland. *International Journal for Research in Vocational Education and Training*, 7(3), 325–343.
- Reegård, K., & Rogstad, J. (2019). *TRACK-VET: Country report – Norway*. Fafo Institute for Labour and Social Research. <https://track-vet.sgh.waw.pl/>
- Riga Conclusions 2015 on a new set of medium-term deliverables in the field of VET for the period 2015–2020, as a result of the review of short-term deliverables defined in the 2010 Bruges Communiqué. (2015). Declaration of the Ministers in charge of vocational education and training of the EU Member States, the EU Candidate Countries and the EEA countries, the European social partners and the European Commission, Riga, 22 June 2015.
- Rönnlund, M., & Rosvall, P.-Å. (2021). Vocational students’ experiences of power relations during periods of workplace learning: A means for citizenship learning. *Journal of Education and Work*, 34(4), 558–571.
- Rosvall, P.-Å., & Nylund, M. (2022). Civic education in VET: Concepts for a professional language in VET teaching and VET teacher education. *Journal of Vocational Education & Training*, 76(3), 684–703.

- Segers, M., Dochy, F., & Cascallar, E. (2003). The era of assessment engineering: Changing perspectives on teaching and learning and the role of new modes of assessment. In M. Segers, F. Dochy, & E. Cascallar (Eds.), *Optimising new modes of assessment: In search of qualities and standards* (pp. 1–12). Springer.
- Šimová, Z., Tučková, M., Dębowski, H., Stęchły, W., Szlamka, E., & Gálová, L. (2024). A gloomy landscape for skills development: Adult education systems in the Visegrad countries in the eyes of stakeholders. *Warsaw Forum of Economic Sociology*, 15(29/30).
- Stęchły, W., Dębowski, H., & Matuszczak, K. (2019). *TRACK-VET: Country report – Poland*. SGH Warsaw School of Economics. <https://track-vet.sgh.waw.pl/>
- Stęchły, W. (2024). From disposition to knowledge: The cognitive drift in European VET learning outcomes. *Warsaw Forum of Economic Sociology*, 15(29/30).
- Stęchły, W., & Dębowski, H. (2020). *Descriptive categories for Transversal Key Competences*. SGH Warsaw School of Economics.
- Swygert, K. A., & Williamson, D. M. (2016). Using performance tasks in credentialing tests. In S. Lane, M. R. Raymond, & T. M. Haladyna (Eds.), *Handbook of test development* (2nd ed., pp. 294–312). Routledge.
- Sylvest, J., & Kwaw, E. (2017). *Support of the stakeholder consultation in the context of the key competences review. Report 1: Comparative analysis*. European Commission.
- Thelen, K. (2004). *How institutions evolve: The political economy of skills in Germany, Britain, the United States, and Japan*. Cambridge University Press.
- Tilly, C. (1988). Solidary logics: Conclusions. *Theory and Society*, 17(3), 451–458.
- Tomengová, A., Petrik, Š., Fridrichová, P., Hanesová, D., Hroncová, K., Kanovská, R., Valovič, J., & Hujšiová, V. (2019). *TRACK-VET: Country report – Slovakia*. NÚCEM & Matej Bel University. <https://track-vet.sgh.waw.pl/>
- TRACK-VET. (2020). Partner responses to supplementary questions on the development and assessment of transversal key competences, October 2020. Unpublished project material, TRACK-VET consortium.
- Tütlys, V., Markowitsch, J., Pavlin, S., & Winterton, J. (Eds.). (2022). *Skill formation in Central and Eastern Europe: A search for patterns and directions of development*. Peter Lang.
- van der Vleuten, C. P. M., & Schuwirth, L. W. T. (2005). Assessing professional competence: From methods to programmes. *Medical Education*, 39(3), 309–317.
- van de Weerd, P. (2023). Being ‘the lowest’: Models of identity and deficit discourse in vocational education. *Ethnography and Education*, 18(2), 144–158.
- Vantuch, J., & Jelinková, D. (2022). Slovakia: Skill formation at the crossroads. In V. Tütlys, J. Markowitsch, S. Pavlin, & J. Winterton (Eds.), *Skill formation in Central and Eastern Europe: A search for patterns and directions of development* (pp. 193–219). Peter Lang.
- Weick, K. E. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, 21(1), 1–19.
- Weigel, T., Mulder, M., & Collins, K. (2007). The concept of competence in the development of vocational education and training in selected EU member states. *Journal of Vocational Education & Training*, 59(1), 53–66.
- Wiggins, G. (1998). *Educative assessment: Designing assessments to inform and improve student performance*. Jossey-Bass.
- Zeiberte, L., Špaca, A., & Baranovska, I. (2019). *TRACK-VET: Country report – Latvia*. VISC. <https://track-vet.sgh.waw.pl/>

