



Exploration Analysis on the Global Frameworks of Quality and Quality Indicators in VET: Comparison, Inferences and Implications

Ass. eng. Iliyan Vasilev

PHD student, Faculty of Pedagogy, Sofia university- Bulgaria.

ORCID: 0009-0008-0863-1516

ABSTRACT: This article synthesizes findings from various documents for Quality in Education in the field of VET and focusses on the “*Quality indicators in vocational education and training: International perspectives*” and related European Union (EU) documents to explore frameworks for quality assurance in Vocational Education and Training (EQAVET). It scrutinizes the evolution of VET quality assessment, examining the shift towards systematic monitoring and the “fabrication” as well as integration of diverse quality indicators within different context. It compares the approaches in the EU and the United States, and also identifies the importance of stakeholder involvement, harmonization, and responsiveness to labour market needs, and etc. Discusses are the challenges and opportunities in aligning national VET systems with international standards, particularly within the context of EU integration. The analysis emphasizes the need for a holistic approach to quality measurement that considers both quantitative and qualitative factors. The article tries to explain the core concepts of the EU’ strategies of the “quality indicators” to enhance VET effectiveness and relevance in a rapidly changing landscape.

KEYWORDS: Quality in VET, Quality Indicators, Quality Frameworks, ECVET.

INTRODUCTION

The article presents a thorough exploration of the **quality indicators** employed in Vocational Education and Training (VET) across diverse international contexts. Historically, the quality of VET has been an active and persistent concern among key stakeholders—educators, policymakers, and learners alike. Over the past two decades, there has been a discernible shift toward adopting more systematic, evidence-based methodologies for monitoring educational processes and outcomes, reflecting a broader trend toward accountability and performance-driven governance in education.

Within its analytical framework, the report scrutinizes how quality is conceptualized, measured, and operationalized in different countries. Variations in national approaches are of significant level, and the report identifies a notable divergence around core quality indicators globally, a trend that suggests an emerging questioning of the future of VET. This overlap helps to map out an informal set of global standards, even as their implementation remains uneven.

It pinpoints key drivers of quality in VET systems: clear and coherent pathways from education to employment, practical workplace training opportunities, accessible and effective career guidance systems, and meaningful involvement of governmental actors in shaping policy. These components extend the understanding of VET quality beyond mere curricular content with metrics and measures into the realm of systemic design and institutional responsibility.

European Union (EU) on EQAVET characteristics

1. *Integrated and Federated Approach:*

- The EU adopts a **federated structure** where individual member states maintain their own educational systems, but there is a collective effort to establish common quality goals. This includes mechanisms for **mutual recognition of qualifications**, which aims to facilitate workforce mobility across its member states.
- The overarching goals within the EU include **harmonization** and **transparency of qualifications**, supported by policies that encourage cooperation among nations to align their VET frameworks and quality standards.

2. *Quality Assurance Frameworks:*

- VET systems in the EU typically involve the establishment of **national quality assurance frameworks** that are aligned with broader EU strategies. Regulatory authorities impose quality controls, conduct inspections, and monitor compliance through auditing.



- The European Centre for the Development of Vocational Training (CEDEFOP) has played a significant role in investigating local networks and producing meta-analyses that guide member states in their quality assurance efforts.

3. *Emphasis on Stakeholder Involvement:*

- The EU stresses the importance of involving various stakeholders, including employers, educational institutions, and policymakers, in the VET process, ensuring that quality indicators reflect the needs of the labour market and society.
- VET in the EU often incorporates pathways that allow students to transition from education to employment seamlessly, with strong connections between VET institutions and industry partners.

United States (USA) frameworks

1. *Decentralized Approach:*

- The VET system in the USA is characterized by a **decentralized approach**, with significant variations in management and funding across states and localities. There is no singular national framework governing VET, leading to a patchwork of standards and practices.
- Vocational education is often intertwined with the high school system, creating a complex relationship between secondary and post-secondary education.

2. *Focus on Labor Market Outcomes:*

- In the USA, labour market outcomes are central to the evaluation of VET quality. There is a strong emphasis on employment rates and job placement statistics as key indicators of success in vocational programs.
- The USA does not have the same systematic approach to quality management as the EU; instead, quality assessments are often driven by local needs and industry standards rather than overarching national policies.

3. *Variation in Standards:*

- Quality indicators used in VET across the USA vary widely, reflecting the diverse educational contexts and economic conditions in different states. Some regions may focus heavily on standardized examinations to determine the quality of VET, while others may adopt more flexible approaches.
- The lack of a comprehensive national qualifications framework means that VET programs may not be uniformly recognized across states, potentially complicating the mobility of qualifications.

Short Comparative Summary

- **Common Goals vs. Decentralization:** The EU's approach reflects a collective pursuit of common education and employment goals, aiming for **harmonization and comparability** across member states. In contrast, the USA operates on a decentralized model that values local autonomy and flexibility, resulting in significant variation in VET quality measures.
- **Regulatory Framework vs. Local Control:** The EU's emphasis on national quality assurance frameworks leads to a structured system with clearly defined roles and expectations, whereas the USA relies on individual states and localities to establish their VET standards, allowing for innovation but leading to inconsistencies.
- **Labor Market Orientation:** While both systems value labour market outcomes, the USA places a more pronounced emphasis on these metrics as primary indicators of VET quality, whereas the EU incorporates a broader set of stakeholder considerations, integrating social, economic, and educational factors into its evaluation frameworks.

While both the EU and the USA aim to improve their VET systems using *quality indicators*, their approaches are shaped by different educational philosophies and organizational as well as institutional structures, leading to distinct differences in practice and outcomes. Both systems can learn from each other, with the EU's focus on standardization and stakeholder involvement being particularly beneficial for local initiatives in the USA, while the flexibility of the US system may inspire innovations within the more regulated EU frameworks.

The European Union has initiated a critical reappraisal of national education and training systems in response to shifting socio-economic imperatives and the demands of a globalized economy. Central to this reappraisal is the aim of enhancing the quality of vocational education and training (VET) across member states. This effort is guided by the *Treaty of Maastricht*, which emphasizes cooperation among member states and the development of quality education.



Various programs, such as the *Leonardo Da Vinci* program, build on earlier initiatives like *Force and Petra*, focusing on the promotion of quality and innovation in VET. These programs underscore the EU’s commitment to establishing mutual recognition of qualifications in VET to enhance workforce mobility and ensure the transparency of qualifications.

The performance of VET systems within EU member states is measured through a *comprehensive* framework of quality indicators established by CEDEFOP, lacking profound and scientific argumentation as well as undistinguishing and discriminating the socio-economic context, participation in vocational training, and equality of opportunity. Although there is a *general consensus* on the indicators to “weight” the VET’s quality, scrutiny is needed when making comparisons due to structural differences across countries.

Eastern European countries aspiring to join the EU face unique historically-driven challenges as they restructure their VET systems to align with EU standards, many times destroying established and proven systemic fundamentals and replacing them with “modern - to - be” and “innovative”, but “rebranded” as new, old trends. These challenges are compounded by the necessity of ensuring adequate educational resources and political- driven commitment. The EU also emphasizes the importance of stakeholder involvement in developing training standards and quality assurance mechanisms, in many documents vaguely hinted and unproven as methodology.

The dialogue and collaboration urged as remedy by the EU not only aim to enhance the effectiveness of VET but also promote a shared understanding of quality across diverse educational landscapes. Addressing the priorities of all stakeholders—governments, industries, communities, and learners—the EU believes to create a robust and effective VET framework that meets the needs of its labour market and contributes to overall economic growth.

Quality indicators are in the core framework of Accreditation of VET frameworks (*Cedefop, 2021: 160*), given in **Table 1**.

Table 1. Accreditation criteria applied in different country

Focus of the applied accreditation criteria	DK	DE	FR IVET	FR CVET	HU	IT	RO	UK/EN
Context								
- approved demand	X	X						X
- links with territory	X		X			X		X
- quality management system	X	X	-	X	X	X	X	X
Input								
- facilities	X	X			X	X	X	X
- equipment	X	X			X	X	X	X
- financial management						X	X	X
Process								
- curriculum		X	X	X	X	X	X	X
- training staff	X	X	X	X	X	X	X	
Output								
- drop-out	X							
- examination/graduation	X	X		X				X
Outcome								
- employment effects	X	X	X			X		
- cost-effectiveness		X				X		
Internationalisation	X							

Source: Cedefop (2021: 160)

Quality Characteristics and Quality Objectives in the Context of Vocational Education and Training (VET).

➤ **Quality Characteristics**

Quality characteristics refer to the fundamental attributes or properties that define the effectiveness and success of a vocational education system. These often include:

1. *Relevance*: The alignment of training programs with labor market needs and industry requirements.
2. *Accessibility*: The ability for diverse learner groups to access vocational education opportunities without barriers.



3. *Effectiveness*: The degree to which education and training leads to the desired learning outcomes and competencies.
4. *Efficiency*: The optimization of resources (time, money, personnel) used in delivering educational services.
5. *Sustainability*: The ability to maintain quality over time, including the adaptability of programs to changing economic and social contexts.
6. *Inclusivity*: Ensuring that educational programs cater to marginalized and disadvantaged groups, promoting equitable opportunities.
7. *Stakeholder Engagement*: Involvement of various stakeholders (industry, community, learners) in decision-making processes and feedback mechanisms.

➤ **Quality Objectives**

Quality objectives are specific goals that vocational education systems aim to achieve in order to ensure high standards and continuous improvement. These may include:

1. *Improving Employment Outcomes*: Increasing the rate of graduates who secure employment in relevant fields post-completion of their programs.
2. *Enhancing Learner Satisfaction*: Achieving high levels of satisfaction among learners pertaining to their educational experience.
3. *Increasing Completion Rates*: Raising the percentage of learners who complete their training programs as planned.
4. *Strengthening Industry Partnerships*: Developing robust collaborations with industry stakeholders to ensure curriculum relevance and job placement opportunities.
5. *Continuous Professional Development*: Providing ongoing training for educators and trainers to enhance the quality of instruction.
6. *Promoting Lifelong Learning*: Encouraging learners to engage in continuous education and skills development throughout their careers.
7. *Implementing Feedback Mechanisms*: Establishing systems to gather and analyze feedback from all stakeholders to inform policy and practice improvements.

These characteristics and objectives work together to create a comprehensive framework for assessing and enhancing the quality of vocational education and training systems, ensuring they meet the needs of both learners and the labour market effectively.

➤ **The Frequency of Occurrence of Quality Indicators:**

1. *Frequency of Usage*: Quality indicators in vocational education and training (VET) are categorized based on their frequency of occurrence:
2. *High Frequency Indicators*: These are commonly used across various VET systems and typically include basic indicators such as attainment, participation, progression, retention, success, and completion rates.
3. *Medium Frequency Indicators*: These indicators are less universally applied but still present in many frameworks. Examples include employment outcomes, accessibility, and the quality of training, which can be challenging to quantify.
4. *Low Frequency Indicators*: These are rarely used and may address specific aspects relevant to particular contexts or systems, e.g., collaboration with stakeholders and innovation activities.
5. *Contextual Relevance*: The selection and operationalization of quality indicators are influenced by national contexts and specific educational environments. This variability reflects the diverse aims and challenges of VET systems across different countries.

➤ **Importance of Various Quality Indicators:**

1. *Accountability*: Quality indicators provide a framework for accountability, allowing institutions to report their performance and effectiveness transparently.
2. *Continuous Improvement*: Indicators drive reflection and dialogue among stakeholders, promoting ongoing enhancements to teaching and training quality.
3. *International Comparability*: The use of common quality indicators facilitates comparisons across countries, contributing to shared learning and best practices in VET.
4. *Stakeholder Prioritization*: Quality indicators should reflect the priorities of all stakeholders, including government, industry, and learners, ensuring that training meets diverse needs and expectations.



5. *Holistic Measurement*: A range of quality indicators allows for a comprehensive evaluation of VET systems, encompassing aspects like training processes, learner experiences, and labor market outcomes.

Cedefop supports the implementation of the *European qualifications framework* for lifelong learning, as well as developments in the area of validation of non-formal and informal learning; it also supports the work on quality assurance on VET in line with the *European quality assurance framework for VET (EQAVET)*, and the *Council Recommendation on VET*. Building on the challenges faced in the implementation of the *European credit system for VET (ECVET)*, Cedefop attaches special importance to work supporting transfer of learning across institutional, sectoral and national borders. The European Union has developed several key documents to guide and support Vocational Education and Training (VET) across member states. The main documents include:

1. European Qualifications Framework (EQF)

- The **EQF** is a reference framework that helps compare qualifications across different European countries.
- It promotes transparency, mobility, and lifelong learning.
- It consists of **eight levels** describing knowledge, skills, and competencies.

2. Council Recommendation on Vocational Education and Training (VET) for Sustainable Competitiveness, Social Fairness, and Resilience (2020) (Council of the European Union, 2020)

- Sets out a vision for **modern, inclusive, and flexible VET systems**.
- Emphasizes **digitalization, green skills, and quality assurance**.
- Replaces the 2009 VET Recommendation.

3. European Quality Assurance in Vocational Education and Training (EQAVET)

- A **quality assurance framework** for VET providers.
- Helps ensure **continuous improvement** in VET systems.
- Supports mutual trust among EU countries.

4. Council Recommendation on the European Credit System for Vocational Education and Training (ECVET) (Council of the European Union, 2009)

- Supports **transfer, recognition, and accumulation of learning outcomes**.
- Facilitates **mobility across different learning contexts**.
- Though ECVET was not fully implemented as initially planned, elements of its learning outcomes approach continue to be relevant.

5. Council Recommendation on the Validation of Non-Formal and Informal Learning (2012) (Council of the European Union, 2012)

- Encourages countries to recognize **skills and competencies acquired outside formal education**.
- Aims to integrate these into national qualification frameworks.

6. Osnabrück Declaration (2020), (European Commission, 2020a).

- Strengthens **European cooperation in VET**.
- Focuses on **resilience, digital transformation, sustainability, and inclusiveness**.
- Builds on the previous **Bruges Communiqué (2010) and Riga Conclusions (2015)**.

7. Copenhagen Process (2002), (European Commission, 2002).

- A political process that initiated **cooperation in VET at the European level**.
- Led to the development of several frameworks like EQF, EQAVET, and ECVET.

8. European Skills Agenda (2020), (European Commission, 2020b).

- Aims to enhance **skills development, reskilling, and upskilling**.
- Supports the **Pact for Skills** and promotes VET reform.

These documents shape **VET policies, mobility, and lifelong learning** in the EU. They work together to ensure **high-quality education, skill recognition, and workforce adaptability** across Europe are summarized in *Table 2*.



Table 2. Complete summary of the key EU documents for Vocational Education and Training (VET).

Document	Year	Purpose	Key Features	Impact
<i>European Qualifications Framework (EQF)</i>	2008 (updated in 2017)	Provides a common reference framework to compare qualifications across Europe.	<ul style="list-style-type: none"> - 8 levels of qualifications based on learning outcomes (knowledge, skills, and competences). - Aligns National Qualifications Frameworks (NQFs) with EQF. - Supports lifelong learning and mobility. 	<ul style="list-style-type: none"> - Enhances qualification transparency and recognition across borders. - Strengthens learner and worker mobility in the EU.
<i>Council Recommendation on VET for Sustainable Competitiveness, Social Fairness, and Resilience</i>	2020	Sets a vision for modern and flexible VET systems.	<ul style="list-style-type: none"> - Focuses on digitalization, sustainability, and inclusiveness. - Aims for 60% of VET graduates to have work-based learning experience. - Promotes international cooperation and mobility. 	<ul style="list-style-type: none"> - Supports VET reforms and funding. - Encourages green and digital skill development.
<i>European Quality Assurance in Vocational Education and Training (EQAVET)</i>	2009 (updated in 2020)	Establishes a quality assurance system for VET.	<ul style="list-style-type: none"> - Uses a continuous improvement cycle (planning, implementation, evaluation, review). - Provides common indicators for quality monitoring. - Encourages peer review and national reports. 	<ul style="list-style-type: none"> - Ensures trust in VET qualifications. - Helps countries improve quality and consistency in their VET systems.
<i>Council Recommendation on the European Credit System for VET (ECVET)</i>	2009	Facilitates the transfer, recognition, and accumulation of learning outcomes.	<ul style="list-style-type: none"> - Uses learning outcomes to define qualifications. - Supports mobility by allowing the recognition of partial qualifications. - Encourages flexible learning pathways. 	<ul style="list-style-type: none"> - Though not fully implemented, ECVET principles influence lifelong learning policies. - Strengthens credit transfer in work-based learning.
<i>Council Recommendation on the Validation of Non-Formal and Informal Learning</i>	2012	Encourages recognition of skills gained outside formal education .	<ul style="list-style-type: none"> - Defines four stages of validation: identification, documentation, assessment, and certification. - Links informal learning to National Qualifications Frameworks (NQFs). - Supports career progression and lifelong learning. 	<ul style="list-style-type: none"> - Helps individuals gain formal recognition for work experience, volunteering, and self-learning. - Promotes adult education and upskilling.
<i>Osnabrück Declaration</i>	2020	Strengthens European cooperation in VET.	<ul style="list-style-type: none"> - Focuses on resilience, sustainability, digitalization, and inclusion. - Promotes hybrid learning and AI-driven education. - Calls for closer cooperation between education and industry. 	<ul style="list-style-type: none"> - Aligns with EU Green Deal and Digital Education Action Plan. - Builds on the Riga Conclusions (2015) and Bruges Communiqué (2010).
<i>Copenhagen Process</i>	2002	Launches European	<ul style="list-style-type: none"> - Established key frameworks like EQF, EQAVET, and ECVET. 	<ul style="list-style-type: none"> - Provided the foundation for modern European VET



<i>European Skills Agenda</i>		cooperation in VET.	- Strengthened mobility and recognition of VET qualifications. - Promoted lifelong learning and work-based training .	policies . - Led to the harmonization of VET systems across Europe.
	2020	Supports upskilling and reskilling in Europe.	- Aims to train 120 million adults by 2025. - Supports the Pact for Skills to connect businesses and workers. - Promotes green and digital skills .	- Strengthens lifelong learning initiatives . - Helps workers adapt to economic and technological changes .

Several supplementary regulations and related documents play a significant role in shaping Vocational Education and Training (VET) policies within the European Union. The notable ones are:

1. **European Skills Agenda (2020) [1]**

Purpose: Aims to strengthen sustainable competitiveness, ensure social fairness, and build resilience by enhancing skills development across the EU.

Key Features:

- Promotes a collective action approach through the Pact for Skills.
- Sets ambitious objectives, such as ensuring that 70% of adults have basic digital skills by 2025.
- Encourages investment in lifelong learning and upskilling initiatives.

2. **Digital Education Action Plan (2021-2027) [2]**

Purpose: Outlines the European Commission's vision for high-quality, inclusive, and accessible digital education in Europe.

Key Features:

- Supports the development of a high-performing digital education ecosystem.
- Enhances digital skills and competences for the digital transformation.
- Addresses the need for infrastructure, connectivity, and digital equipment.

3. **European Pillar of Social Rights (2017) [3]**

Purpose: Serves as a guide towards efficient employment and social outcomes, including principles directly related to education, training, and lifelong learning.

Key Features:

- Emphasizes the right to quality and inclusive education, training, and lifelong learning.
- Supports equal opportunities and access to the labor market.
- Promotes fair working conditions and social protection.

4. **Council Recommendation on Upskilling Pathways: New Opportunities for Adults (2016) [4]**

Purpose: Aims to help adults acquire a minimum level of literacy, numeracy, and digital skills and progress towards higher qualifications.

Key Features:

- Offers tailored learning opportunities to individual needs.
- Provides flexible learning pathways and validation of prior learning.
- Encourages guidance and support measures for learners.

5. **European Alliance for Apprenticeships (2013) [5]**

Purpose: A joint initiative to improve the quality, supply, and image of apprenticeships across Europe.

Key Features:

- Brings together governments, businesses, and social partners to strengthen apprenticeship schemes.
- Facilitates the sharing of best practices and successful models.
- Supports mobility and recognition of apprenticeships across member states.



Key Findings, Analytical Inferences and Critical Concerns

The federated structure of the European Union's Vocational Education and Training (VET) system, while giving national autonomy, introduces heterogeneity in educational standards and qualifications frameworks. This heterogeneity, in turn, impedes seamless transferability of skills and knowledge across member states, potentially resulting in reduced labour mobility, increased unemployment rates due to skills mismatches, heightened administrative burden associated with accreditation and recognition procedures, and diminished overall system sustainability compared to more centrally coordinated models. The incomplete implementation of initiatives like ECVET further exacerbates noticeably these challenges, hindering intensively the establishment of a fully integrated and synchronized European VET landscape. The European VET system exhibits *severe fragmentation* due to variations in national policies, institutional structures, and qualifications frameworks. This *lack of synchronization* results in disparities in curriculum alignment, certification standards, and credit recognition, making cross-border transferability of qualifications and skills more complex. Consequently, this leads to increased administrative burdens, accreditation challenges, and reduced mobility for learners and workers, economical losses.

Although the learning outcomes approach of the European Credit System for Vocational Education and Training (ECVET) remains a conceptually promoted educational policy, the envisioned full credit transfer and accumulation system has not been fully realized across the union. This suggests a recalibration of the initial unsubstantiated and exaggerated ambition for a harmonized *European Credit* framework in VET, reflecting persistent structural and policy divergences in all the states. The implications include reduced labour market fluidity, higher unemployment risks due to mismatched qualifications, and challenges in ensuring long-term system sustainability, as well as regional economical mismatches.

The European Union follows a federated structure, where each member state retains control over its own education system. This results in significant variation across national systems, especially when compared to more centralized countries like the United States. While this decentralized model allows for national flexibility and cultural specificity, it also introduces substantial heterogeneity that complicates efforts to create a unified European approach to education and training. The diversity among national systems can hinder the seamless recognition and transfer of skills and credentials. This inconsistency poses a grand challenge to the EU's goals of achieving effective mobility and lifelong learning. As a result, the lack of synchronization across systems leads to negative labour market outcomes. For instance, individuals may struggle to have their qualifications recognized in other member states, potentially leading to reduced labour mobility. This misalignment between qualifications and labour market needs can contribute to higher unemployment rates due to skills mismatches—a particularly pressing concern in sectors with rapidly evolving skill demands.

Another consequence is the increased administrative burden associated with the *recognition and accreditation of qualifications*. Without fully aligned systems, authorities must invest additional time and resources to evaluate and validate credentials from other countries, adding complexity to processes that ideally should be streamlined. In the long term, these inefficiencies can undermine the sustainability of the overall system. A fragmented approach requires more resources to maintain, risks creating redundancies, and may ultimately limit the EU's capacity to respond swiftly and coherently to changing labour market demands.

The “patchy” and ultimately underwhelming implementation of initiatives like the ECVET lays bare the persistent structural incoherence and bureaucratic dissonance within the EU's approach to VET. *What was “envisioned” as a unifying framework has, in real practice, stumbled over a tangle of national egos, institutional inertia, and unjustified political half-measures.* The EU's ambition for seamless cooperation is frequently undermined by fragmented governance and a reluctance among member states to surrender even minimal control over educational policy. As a result, tools like ECVET *remain more symbolic than functional - policy ornaments rather than operational instruments*. This disjointed architecture not only limits the utility of such frameworks but also weakens the credibility of EU-wide strategies that, while rhetorically ambitious, often fail when faced with the messy realities of implementation and local interpretation particularly when guided by vague instructions and ambiguously defined terms by imprecise directives allowing for divergent in-state interpretations.

The heterogeneity in EU VET systems can affect the overall quality of education in several ways:

- **Varied Participation and Implementation:** There are significant differences in the percentage of students participating in VET across European countries, ranging from over **60%** in some countries to below **30%** in others. The proportion of students in *work-based learning* also varies widely, with some countries having over **80%** and others less than **10%**. This indicates that the importance and implementation of VET differ greatly among member states (Milmeister et al., 2022).



- **System Classification:** Due to the differences in VET systems, the European countries can be classified into six types based on participation in VET and the proportion of students undergoing work-based learning (*Milmeister et al., 2022*). These range from countries practicing the dual system, with a high percentage of students in VET and work-based learning (e.g., Germany, Switzerland, Denmark), to countries with fewer students in VET and mainly school-based vocational training (*Milmeister et al., 2022*).
- **Transition to Labor Market:** Young people with vocational education generally experience a smoother transition to the labor market (*Cedefop, 2018*). High-quality VET systems can help combat unemployment, improve labor market integration, and fight social exclusion (*Cedefop, 2017b*).
- **VET as a Second Choice:** In many member states, participation in VET lags behind general education, and VET is often seen as a second-best option (*Cedefop, 2017b*). Differences in education and training systems, labor markets, employment prospects for VET graduates, involvement of social partners, and sociocultural traditions influence participation in VET (*Cedefop, 2017b*).
- **Need for Adaptability:** The changing nature of VET requires diversification, with new institutions and stakeholders involved (*Cedefop, 2018; Cedefop, 2017a*). VET is expanding into higher education areas through reforms and the emergence of new institutions, driven by internal and external factors like demographic, technological, and economic changes (*Cedefop, 2018; Cedefop, 2017a*).
- **Challenges in Validation and Recognition:** Credit systems, quality assurance, and provider accreditation regimes, along with methods to validate non-formal and informal learning, aim to address issues in unregulated markets. However, their full potential is yet to be realized (*Cedefop, 2017a*).

In summary, the *heterogeneity in EU VET systems* leads to variations in implementation, participation, and perception of VET, affecting its ability to provide equitable opportunities and smooth transitions to the labour market. While VET can combat unemployment and improve labour market integration, its effectiveness is hindered by its diverse and often undervalued status compared to general education (*Cedefop, 2017b*). An illustrative and detailed summary is shown in **Table 3**.

Table 3. Summarizing the main Quality Indicators used in VET across different countries.

Quality Indicator	Description	Countries Using This Indicator
Employment Outcomes	Rate of graduates finding jobs in their fields	Australia, England, United States
Completion Rates	Percentage of students who successfully finish their training	Germany, Sweden, Australia
Placement Times	Average duration for graduates to secure employment	United Kingdom, New Zealand
Output of Training System	Efficiency and effectiveness measures of VET programs	Netherlands, Germany
Cost-Effectiveness	Financial efficiency of providing vocational training	Australia, United States
Stakeholder Satisfaction	Satisfaction levels of students, employers, stakeholders	United Kingdom, Ireland
Achievement of Vocational Competence	Assessing skills and competencies gained by students	Ireland, Germany
Individual Fit of Measures	Alignment of training with individual learner needs	Netherlands, United Kingdom
Safety Nets for At-Risk Students	Support systems for vulnerable students	European Union context

Another structured table that outlines the differences in approaches to quality in vocational training across various countries and regions, emphasizing the key aspects such as *frameworks, indicators, market orientation, cultural context, and stakeholder roles*, see **Table 4**.



Table 4. A structured cross- table with summed differences in approaches to quality in VET across various countries

<i>Country/Region</i>	<i>Framework/Standards</i>	<i>Quality Indicators</i>	<i>Market Orientation</i>	<i>Cultural Context</i>	<i>Role of Stakeholders</i>
<i>European Union</i>	Common frameworks that encourage standardization	Completion rates, employer feedback, learner outcomes	Emphasizes alignment with local labor markets	Mixed; values both social equity and economic efficiency	Collaborative; involves multiple stakeholders
<i>United States</i>	Decentralized state-based standards	Employment rates, satisfaction metrics, completion rates	Focus on labor market outcomes	Emphasis on individualism and accountability	State-dependent; often involves individual accountability
<i>Germany</i>	Dual system combining practical and theoretical training	Vocational competencies, apprenticeship completion	Integrated with strong employer involvement	Collective responsibility; valuing technical skills	Strong role of trade unions and employers
<i>United Kingdom</i>	Mixture of qualitative and quantitative indicators	Stakeholder satisfaction, job placement rates	Increasingly market-oriented	Balances individual and societal needs	Involves both employers and educational institutions
<i>Australia</i>	National frameworks with emphasis on vocational outcomes	Labor market outcomes, retention rates	Highly market-oriented; aligns training with industry	Social equity considerations; diversity in education	Collaborative approach with industry and government
<i>New Zealand</i>	Industry-led standards and partnerships	Completion and employment rates, learner satisfaction	Market-driven, responsive to local economic needs	Focus on inclusivity and Māori perspectives	Strong emphasis on community and industry partnership
<i>Scandinavian Countries</i>	Centralized government policies with local adaptations	Quality of training environments, student support mechanisms	Social welfare-oriented, not purely market-driven	Collective social responsibility; strong welfare state	High involvement of public sector in quality assurance
<i>France</i>	Centralized policies with limited local flexibility	National certification rates, satisfaction levels	Less adaptive to immediate market needs	Bureaucratic; strong emphasis on academic standards	Government-centric; limited stakeholder flexibility
<i>Japan</i>	Continuous improvement model focus on quality processes	Group performance, standardized competency measures	Balances market needs with educational values	Collective culture; education viewed as lifelong process	Strong community involvement in education systems
<i>South Africa</i>	Quality focus tied to social equity and redress	Learner outcomes, integration of disadvantaged groups	Socially equitable orientation	Emphasis on redressing past inequalities	Active role of community stakeholders and NGOs
<i>Netherlands</i>	Collaborative frameworks with industry input	Stakeholder satisfaction and program outcomes	Blends market needs with social goals	Open to diverse approaches; strong social values	High stakeholder collaboration, particularly with industry



The **Table 4.** summarizes the varied approaches taken by different countries and regions towards quality in vocational training, focusing on key factors that shape their educational systems and outcomes.

The Five Reasons of “Quality Nuancing”

Five hypotheses explaining why different regions and countries adopt varying approaches and indicators for quality in vocational education and training (VET) are:

1. Cultural Values and Social Norms

Different countries have unique cultural values and social norms that influence their education systems. For instance, collectivist societies may prioritize group outcomes and social equity, leading to indicators focused on community benefits and inclusion. In contrast, individualistic societies might emphasize personal achievement and accountability, resulting in indicators that measure individual performance and satisfaction.

2. Economic Context and Labor Market Needs

Regions with different economic structures and labor market conditions may adopt specific indicators that reflect their unique employment needs. For example, countries facing high unemployment might focus on indicators related to job placement and skill acquisition to improve employability, whereas regions with labor shortages may focus on vocational competencies and employer satisfaction to fill jobs effectively.

3. Political Structure and Education Governance

The governance model of a country (centralized vs. decentralized) affects the development and implementation of VET quality indicators. In centralized systems, uniform quality standards may be imposed nationwide, leading to a standardized set of indicators. Conversely, decentralized systems may allow states or regions to develop their own indicators based on local conditions, resulting in a diverse array of approaches.

4. Historical Context and Educational Traditions

The historical development of vocational training and education systems influences the current approaches. Countries with a long tradition of apprenticeship systems (like Germany) may emphasize practical training outcomes and employer involvement, while nations that established VET systems more recently may focus on aligning education with contemporary labor market demands, leading to different indicators being prioritized.

5. Stakeholder Influence and Engagement

The extent and nature of stakeholder engagement (e.g., government, industry, educational institutions, and communities) in the VET system can lead to variations in quality indicators. Regions where stakeholders have a strong voice in the development of these indicators may see a broader range of input and a focus on diverse priorities, whereas areas with less stakeholder influence may produce more government-directed or economically driven quality metrics.

These hypotheses suggest that the approaches and indicators used in vocational education and training are shaped by a complex interplay of cultural, economic, political, historical, and stakeholder factors, resulting in a broad spectrum of practices across different countries and regions.

CONCLUSION

The analysis of international VET quality frameworks reveals a multifaceted and often equivocal landscape shaped by diverse educational philosophies and socio-economic imperatives. The educational policies and especially those in the discourse of professional and VET in EU are extremely divergent, lacking proper and transferable unification, due to missing quality VET framework and ECVET systems, as well as common indicators' system of monitoring and control. A significant contribution of the article lies in its **classification of quality indicators**, distinguishing between quantitative metrics (e.g., completion rates, employment outcomes) and qualitative dimensions (e.g., learner satisfaction, instructional quality). Importantly, it highlights the central role of contextual variables—such as student background, socio-economic environment, and local labour market dynamics—as essential factors shaping educational quality. The author argues for a *multidimensional framework* that integrates product-, process-, and context-based evaluations, resisting reductionist approaches that measure success through numbers alone.

When examining national case studies, the article presents a comparative perspective that exposes both innovation and dysfunction. While certain EU countries and the UK exhibit structured approaches to quality monitoring, other contexts—Bulgaria, for instance—serve as cautionary negative example. In Bulgaria, the absence of any official documentation on VET quality, credit transfer



systems- ECVET, or even recognition of Gifted and Talented learners in VET, tracks signals a systemic disregard for international benchmarks. This is not merely a gap—it is an offensive educational policy vacuum that undermines both national credibility and learner outcomes.

The article also engages with the ongoing debate about how labour market outcomes should inform VET quality assessments. It contrasts the narrow, mechanistic application of performance indicators in some countries with the more nuanced and purpose-sensitive approach required in contexts like Australia. The Australian VET sector, it argues, must account for the multifaceted reasons students pursue vocational education—not all of which are reducible to employment statistics. The unrealized still ECVET – a policy “not fully implemented as initially planned”- make EU VET system less educationally synchronized and compact, and as implication it would lead to less possibility for transfer, higher unemployment and higher administrative and accreditation procedural work, less sustainability. While the learning outcomes approach of ECVET remains relevant, the full credit transfer and accumulation system didn't come to fruition. This suggests a scaling back or adjustment of the initial ambitions for a fully operational European credit system for VET.

The article calls for a radical rethink of how VET systems conceptualize and measure quality. It advocates for a dynamic, adaptive, and learner-centred model that responds not only to economic demands but also to broader social and personal development goals. Drawing on international best practices while acknowledging local specificities, the report makes a compelling case for replacing fragmented, outdated systems with a more coherent, evidence-informed, and context-sensitive approach. Without such a transformation, efforts to make VET more relevant, equitable, and future-proof risk remaining rhetorical at best and regressive at worst.

Notes:

1. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0274>
2. [Digital Education Action Plan](#)
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0624>
3. [European Pillar of Social Rights](#)
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52017DC0250>
4. [Upskilling Pathways Recommendation](#)
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016H1224%2801%29>
5. [European Alliance for Apprenticeships](#)
https://employment-social-affairs.ec.europa.eu/policies-and-activities/skills-and-qualifications/working-together/european-alliance-apprenticeships_en

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