



**DATA ON TVET AND SKILLS
DEVELOPMENT:
CURRENT STATE AND OPTIONS
FOR FUTURE DEVELOPMENT**

CONCEPT NOTE

6 FEBRUARY 2024

14:00 – 15:00 CET

ROOM XII – UNESCO
HEADQUARTERS

2024 CONFERENCE ON
**EDUCATION DATA
AND STATISTICS**

BACKGROUND

Technical and vocational education and training (TVET) is an essential component of **lifelong learning and skills development** and a key factor for sustainable economic and social development. It provides individuals with the necessary skills and competencies to participate in the workforce and contribute to the digital and green transformation of national economies.

Sustainable Development Goal 4 (SDG 4), which aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” by 2030, recognizes the importance of TVET with three targets that refer to technical and vocational education: target 4.3 on equal access to affordable and quality TVET; target 4.4 on youth and adults with skills for employment, decent jobs and entrepreneurship; and target 4.5 on elimination of gender and other disparities at all levels of education and vocational training.

TVET is also linked to the achievement of **other Sustainable Development Goals**, including those focused on poverty reduction (SDG 1); gender equality (SDG 5); affordable and clean energy (SDG 7); decent work and economic growth (SDG 8); industry, innovation and infrastructure (SDG 9); reduced inequalities (SDG 10); sustainable cities and communities (SDG 11); responsible consumption and production (SDG 12); climate action (SDG 13); peace, justice and strong institutions (SDG 16); and global partnerships (SDG 17).

The collection, analysis and use of statistics on TVET is critical for planning of skills development. TVET statistics provide essential information on the inputs, processes, outputs, and outcomes of TVET systems and programmes, as well as the characteristics and needs of TVET learners and graduates. TVET statistics can support evidence-based policy and practice by informing the design, implementation, monitoring, and evaluation of TVET policies and interventions, as well as the identification of good practices and innovations. TVET data help to better understand the performance of different economic sectors, student achievement and learning outcomes, transition from school to work, and gaps between skill supply and demand, among others.

Further development of TVET systems and their alignment with just, inclusive and sustainable development rely on **timely data from a range of sources**, including administrative records, household and labour force surveys, learning assessments, and big data.

The monitoring framework for SDG 4 includes one indicator that mentions TVET: the **participation rate in technical-vocational programmes** (15- to 24-year-olds) by sex (SDG indicator 4.3.3). According to the Global Education Monitoring Report 2023, across 146 countries with data, participation in TVET programmes ranges from 0% to 36%. The lowest participation rates (less than 10%) are found primarily in the Caribbean,

the Pacific and sub-Saharan Africa. The highest participation rates (more than 25%) are found almost exclusively in Europe.¹

Information on participation in TVET programmes provides only a partial picture of national TVET systems and their contribution to social and economic development. The **importance of comprehensive, up-to-date, relevant, and reliable data and statistics on TVET and skills development** is increasingly recognized among TVET stakeholders worldwide. The second consultation on the implementation of the 2015 UNESCO Recommendation concerning TVET indicates that 83% of responding Member States reported investments in TVET Management Information Systems in the last four years to enable monitoring of a diverse range of data, including real-time labour and employment data.² The diversity of national TVET statistics creates opportunities to identify the features of TVET systems associated with better educational, labour market, and social outcomes.

In spite of the importance of TVET statistics, their **availability, quality, and use remain uneven across countries and regions**. Current challenges include:

- Lack of common definitions, standards, and indicators.
- Inadequate coverage, comparability, and timeliness of TVET data sources.
- Limited capacity and resources for TVET data management and quality assurance.

As part of the UNESCO Conference on Education Data and Statistics, **this session will delve into the importance of data on TVET and skills development**. The TVET indicator in the SDG 4 monitoring framework and options for improving data coverage will be reviewed. Panellists will also look beyond SDG 4 to examine current data availability and **new developments in data on TVET** financing, access and participation, quality, and the relevance of TVET. The session will highlight how data can inform the **alignment of skills development with industry needs**, through assessment of the professional skills of TVET learners, tracking of skill development (skilling, reskilling and upskilling), employer feedback, and labour market trends to ensure that TVET programmes are responsive and relevant. Newly emerging, innovative sources of data will also be explored, leveraging, for example, **artificial intelligence and other new technologies** and their potential application to alternative data sources.

¹ United Nations Educational, Scientific and Cultural Organization (UNESCO). 2023. *Technology in Education: A Tool on Whose Terms? - Global Education Monitoring Report 2023*. Paris: UNESCO. <http://unesdoc.unesco.org/images/0025/002593/259338e.pdf>.

² United Nations Educational, Scientific and Cultural Organization (UNESCO). Forthcoming. *Recommendation concerning Technical and Vocational Education and Training (2015): Results of the Second Consultation of Member States Conducted in 2022 on the Implementation of the Recommendation*. Paris: UNESCO.

TARGET AUDIENCE

- TVET policymakers and planners from ministries of education, labour, and other relevant sectors.
- TVET practitioners, educators, managers and leaders of TVET institutions.
- TVET researchers and analysts from academic institutions and research organizations.
- TVET data producers and users from national statistical offices, international organizations, and other agencies.

OBJECTIVES

- Review national and international data sources on TVET, for monitoring of SDG 4 and guidance of evidence-based national policies on skills development beyond SDG 4.
- Share good practices and lessons learned on the collection, analysis, dissemination, and use of data for development of national TVET systems.
- Explore the potential of new and alternative data sources for TVET statistics, including big data and artificial intelligence.
- Discuss the roles and responsibilities of different TVET stakeholders in enhancing the quality and use of TVET statistics.

EXPECTED OUTCOMES

- Increased awareness of the importance of TVET statistics for evidence-based policy and practice in national economic and social development.
- Common understanding of good practices and innovations in the field of TVET data collection, analysis, dissemination, and use.
- Improved collaboration and networking of TVET stakeholders, including data producers and users.

ORGANIZERS

- UNESCO Section of Youth, Literacy and Skills Development
- UNESCO-UNEVOC International Centre for TVET
- Focal points:
 - Friedrich Huebler, Head of UNESCO-UNEVOC, f.huebler@unesco.org

- Hervé Huot-Marchand, Chief of Section of Youth, Literacy and Skills Development, h.huot-marchand@unesco.org

SESSION FORMAT

- Individual presentations by experts (about 8-10 minutes each), followed by a panel discussion and Q&A.
- Simultaneous interpretation between English and French will be provided.

AGENDA

14:00-14:05	Introduction
14:05-15:05	<p>Current state of data on TVET and skills development and options for future development</p> <p>Moderator: Friedrich Huebler, Head of UNESCO-UNEVOC</p> <p>Panellists:</p> <ul style="list-style-type: none"> • Mantas Sekmokas, Expert, The European Centre for the Development of Vocational Training (Cedefop): The status and frontiers of TVET monitoring • Philipp Grollmann, Professor for Education in the Context of Work and Occupations, TU Dortmund University: In-company training and apprenticeships as the subject of international comparative statistics • Mauro Pelucchi, Head of Global Data Science, Lightcast: Unlocking insights: Leveraging web job postings data for skills intelligence in TVET • Eduarda Castel Branco, Senior Specialist in HCD/Coordinator of the African Continental Qualifications Framework project, European Training Foundation (ETF): What's new about data and analytics on skills demand • Michael Ward, Senior Policy Analyst, Directorate for Education and Skills, OECD: PISA-VET – the first international large-scale assessment of vocational education and training
15:05-15:25	Panel discussion and Q&A
15:25-15:30	Closing remarks

PRESENTATION SUMMARIES

The status and frontiers of TVET monitoring

Mantas Sekmokas, Expert, The European Centre for the Development of Vocational Training (Cedefop)

The intervention will present the evolution of TVET monitoring instruments in the European Union, as well as will provide a tentative comparison with the situation globally. It will also aim to provide a concise overview of the remaining gaps and avenues for future developments, including the evolution of international statistical infrastructure (classifications, data collection and dissemination instruments), as well as their potential impact for TVET monitoring.

In-company training and apprenticeships as the subject of international comparative statistics

Philipp Grollmann, Professor for Education in the Context of Work and Occupations, TU Dortmund University

The presentation is based on experiences in the application of statistical indicators for in-company training in an international comparison. Challenges are identified that are based on the use of existing national and international data (National data, UIS, ILO) and various concepts of company-based training. Despite the challenges, an argument is made for the further development of corresponding indicators at international level, as company-based training is an integral part of vocational education and training.

Unlocking insights: Leveraging web job postings data for skills intelligence in TVET

Mauro Pelucchi, Head of Global Data Science, Lightcast

In the context of new sources and technologies for education statistics, this presentation aims to delve into innovative strategies, challenges, and solutions for harnessing Web Job Postings data to glean insights into skills for TVET data and skills intelligence. The session will scrutinize the identification of new portals, sources, and job boards, providing a comprehensive overview of the intricate processes involved in downloading, processing, and cleansing data. Addressing challenges such as deduplication of web job postings and noise removal, the presentation will detail effective strategies to extract meaningful insights from this valuable data source. Of particular focus is the pivotal role of Artificial Intelligence in decoding natural language and linking big data to international standards. This transformative process enables analytics, extraction of emerging trends, harmonization of TVET programs with industry demands, and ensures the enduring relevance of skills development initiatives.

What's new about data and analytics on skills demand

Eduarda Castel-Branco, Senior Specialist in HCD/Coordinator of the African Continental Qualifications Framework project, European Training Foundation (ETF)

We are in a datified society, marked by large volumes of varied data produced and stored at high velocity. Instruments and techniques to harvest value in real time from large bases of data on labour market dynamics have evolved, and provide a new source of fresh data to explore skills demand with a new perspective.

ETF system of Big Data for LMIS supports and enables a large diversity of queries responding, in quasi real time, to policy issues such as the greenness of jobs announced by companies and organisations, the new skills and competencies of distinctive nature in transforming jobs, the incidence of remote work in a region of Ukraine, the digital skills rate in a range of occupations in Kenya, the hybrid nature of technical and transversal skills in changing occupations in Egypt, and the difficulty to hire in certain occupations and skills.

The close relationships of the used AI-aided data classification with international taxonomies (occupations, skills, education, economic activities) structure and harmonise the insights and analytics with other data sources, including with conventional statistical data. Big Data for LMIS does not replace conventional survey data, but complements and enriches the angles of exploration, and points to areas and issues for deeper and wider study. "Let the data speak"!

PISA-VET – the first international large-scale assessment of vocational education and training

Michael Ward, Senior Policy Analyst, Directorate for Education and Skills, OECD

Dr Ward's presentation will explore the potential of new and alternative data sources for TVET statistics, in particular the development by the OECD of the first VET international large-scale assessment called the Programme for International Student Assessment (PISA) – Vocational Education and Training (VET). The PISA-VET assessment project supports countries in strengthening their skills systems by developing, piloting and implementing an internationally standardised assessment of outcomes of initial VET programmes, the analysis of the results of which will enhance comparative policy insights on how to improve the relevance, quality, equity and effectiveness of initial VET programmes. The results of this exciting new initiative will contribute to guidance on supporting evidence-based national policies on skills development beyond SDG 4.