



# DATA-DRIVEN APPROACHES TO LIFELONG LEARNING

ENGAGEMENT DAY

6 FEBRUARY 2024,  
UNESCO-HQ

2024 CONFERENCE ON  
**EDUCATION DATA  
AND STATISTICS**

## BACKGROUND

In today's rapidly evolving world, the examination of how we collect, process, and utilize data and statistics in the field of education has become more critical than ever. The growing attention to lifelong learning as organizing principle of education and the onset of digital transformation, global socio-economic and demographic shifts, and the urgent challenges posed by climate changes demand a more systemic, dynamic, inclusive, and forward-thinking approach to data in education.

However, this is affected by four major challenges. **First**, the fragmentation of data systems and processes in the education sector poses a significant challenge in harnessing its full potential for informed decision-making and policy development within a **lifelong learning perspective**. Data collected at different levels of education and about various learning spaces and settings (schools, workplace, community, digital space, etc.) often remain dispersed, hindering the ability of governments to form a cohesive and comprehensive understanding of the educational landscape and individuals' learning pathways and placing them within a life-long and life-wide perspective. The lifelong learning perspective presents a significant challenge in data gathering, especially in areas such as non-formal education, where data collection and statistical production are notably sparse, that requires the inclusion of alternative forms of data beyond traditional statistics, potentially harnessing qualitative data.

**Second**, the disconnect between data and decision-making in education impedes the effectiveness of educational policies and initiatives. Where data may exist, often a streamlined and coherent mechanism is lacking to ensure that this data reaches the right decision-makers at the appropriate time. As a result, educational strategies and policies may be based on outdated, incomplete, or irrelevant data, leading to weak outcomes. Additionally, the lack of capacity among educators, administrators, and policymakers to understand and utilize data effectively is affecting education **systems capacities** in driving educational improvements and enhancing a continuum of learning from early ages to adulthood including higher education and vocational training.

**Third**, modern **technologies** have vastly expanded our capabilities for real-time data collection and analysis, enabling more nuanced and granular insights into educational trends and needs. However, these advancements also bring forth new challenges in ensuring data accuracy, interoperability, privacy, and ethical use.

By re-examining our methodologies and processes in data collection and utilization, we can ensure that educational policies and practices are not only responsive to current demands but are also resilient and adaptable to future changes.

## SCOPE AND ORGANIZATION

UNESCO is organising an International Conference on Education Data and Statistics from 7 to 9 February 2024 at UNESCO-HQ. The UNESCO Conference is envisioned as a regular dialogue and peer learning platform for the international community of practice among education statisticians. The Conference has the following objectives: (1) Establish the process for an international community of practice among education statisticians and the relationship of the Conference with the TCG, (2) Communicate, discuss, and reach consensus on key issues regarding concepts, definitions, methodologies, and operational aspects of SDG 4 indicator measurement in the form of recommendations and guidelines for adoption as international standards to improve comparability, (3) Debate the impact of technological developments on education statistics and ways in which the community of education statisticians can benefit from opportunities and address challenges.

An Engagement Day is organized on 6<sup>th</sup> February 2024 at UNESCO-HQ to delve in more detail into specific issues for which the Conference cannot dedicate sufficient time. The Engagement Day, centred on the theme of "Data-Driven Approaches to Lifelong Learning", will be structured into several sessions, each focusing on a different stage of the learning pathways and their continuum, as well as the systemic challenges. These sessions will explore the unique challenges and opportunities in data collection, analysis, and utilization within various educational levels and particular policy domains, emphasizing the role of data in facilitating learning pathways, enhancing learning outcomes and contributing to educational equity and inclusion.

The following sessions will run in parallel and will convene in a joint introductory session to introduce and open the day and closing to share and integrate outcomes with the objective to report to the Conference:

### **Joint introductory session**

The opening session will set the scene for the discussions and define the issues that parallel sessions will cover. It will emphasize the importance of adopting a lifelong learning perspective that embodies an inclusive and integrated approach and that recognizes the evolving learning needs at different life stages, from early childhood to adult and elder education, different levels of education and qualifications, and the varieties of learning settings including schools, home, workplace, community and cyberspace.

### **Thematic parallel sessions**

- 1. Data-driven insights and transformative solutions in early childhood education:** This session will delve into the critical early years of education, focusing on how data can be leveraged to show international trends and improve early childhood education. Four indicators in the SDG 4 framework need improvements: two on early childhood education participation and two on early childhood development. They are affected by differences in survey tools, age groups for which questions are asked, conceptual frameworks of early childhood development and nurturing environments, but also cultural differences. Discussion points will include identifying and utilizing data sources that are specific to early learning environments in different early childhood education settings such as observational data, parental feedback, developmental and readiness assessments. The session will explore effective strategies for collecting and analysing data to inform trends in early intervention programs. There will also be a discussion on the importance of socio-emotional early learning and well-being in setting the foundation for lifelong learning, a potential monitoring focus for a post-2030 agenda. For more information on this session, please refer to the detailed [Concept Note](#) or contact Ms. Rokhaya Diawara ([r.diawara@unesco.org](mailto:r.diawara@unesco.org)).

- 2. Higher education data production:** To support the efforts towards improving the educational data ecosystem for a better SDG4 monitoring process, this session will address the collection and use of relevant, internationally comparable and quality data to support effective policymaking and practices in higher education. Following discussions carried in the frame of the World Higher Education Conference (2022) and work carried out as follow up in recent months, the discussion will go deeply into the need to improve the international data and indicators on higher education. Specifically, the panel will approach challenges and opportunities regarding data production and use, with particular attention to official sources governmental entities and other reliable sources when available. For more information on this session, please refer to the detailed [Concept Note](#) or contact Ms. Paz Portales ([p.portales@unesco.org](mailto:p.portales@unesco.org)).
- 3. Technical and vocational education and training (TVET) and skills development:** 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. For more information on this session, please refer to the detailed [Concept Note](#) or contact Friedrich Huebler ([f.huebler@unesco.org](mailto:f.huebler@unesco.org)) and Hervé Huot-Marchand ([h.huot-marchand@unesco.org](mailto:h.huot-marchand@unesco.org)).
- 4. Adult learning and education:** This session will discuss the unique challenges in data collection on adult education participation and learning outcomes. Relevant indicators in the SDG 4 framework in need of improvement include those on adult education participation and training, ICT skills, and adult literacy. The session will explore the strengths and weaknesses of current methods for capturing adult education programs, including variety of

education institutions, workplace, community learning and online learning platforms. It will also review developments and continuing challenges in the measurement of adult literacy and adult ICT skills / digital literacy. With an eye into the future, discussions will also cover the role of data in identifying skills gaps, informing reskilling and upskilling programs, and enhancing the accessibility and relevance of adult learning and education, all of which are potential monitoring areas of focus for a post-2030 agenda. For more information on this session, please refer to the detailed [Concept Note](#) or contact Nicolas Jonas ([n.jonas@unesco.org](mailto:n.jonas@unesco.org)).

- 5. Education in emergencies:** This session will review the steps various countries are taking to assess the education opportunities and outcomes of learners in emergency contexts, whether related to conflict or natural disasters. It will discuss a series of principles and standards that need to be followed in national protocols to promote the comparability of education statistics, for instance in terms of population assumptions, coverage of affected populations in official statistics, displacement status, duration of crises, and types of education opportunities available. Related to that, it will also discuss what type of adjustments may be needed to correct headline figures of indicators, such as out-of-school and completion rates, at least for the emergencies that affect the largest number of learners in the world. For more information on this session, please refer to this [Concept Note](#) or contact Christian Stoff ([cstoff@unicef.org](mailto:cstoff@unicef.org)).
- 6. High-quality data on gender equality in and through education:** This session will explore global and national challenges, innovative approaches and initiatives aiming to advance high-quality data on gender equality in and through education. It will present lessons learned from national benchmarking exercises on SDG 4 equity-related indicators and discuss the potential of household surveys as a source of information on gender equality in and through education and importantly to go beyond household surveys to make use of all data sources which could support and inform each other. It will also raise awareness on current initiatives underway to collect and analyse data, monitor accountability, and support informed decisions based on high-quality data on gender equality in and through education. For more information on this session, please refer to the detailed [Concept Note](#) or contact Matthias Eck ([m.eck@unesco.org](mailto:m.eck@unesco.org)).

### Data and decision-making parallel sessions

- 7. Sound data for good governance: strong national data systems as prerequisites to monitoring SDG4:** This session will focus on global challenges and trends in evidence-based education governance and management, discussing transformations of national Education Management Information Systems (EMIS) and the growing importance of horizontal integration of sub-sector EMIS into a sector-wide data architecture as well as its vertical integration with other government-level data systems, including through the use of technology. It will examine tools to assess the maturity of EMIS and illustrate how Member States establish synergies and alignment between diverse EMIS components to boost information coverage and granularity, leading to improved decision making while ensuring system-wide efficiency and effectiveness. For more information on this session, please refer to the [Concept Note](#) or contact Pierre Chapelet ([p.chapelet@unesco.org](mailto:p.chapelet@unesco.org)).
  
- 8. Effective data-driven decision-making:** The session delves into an examination of the mechanisms currently in place for enhancing data analysis, and decision-making, covering flexible learning pathways within a lifelong learning perspective from multiple education levels, alternative Programmes, learning settings and modalities, drawing from various data systems. This includes an in-depth analysis of approaches like Observatories and statistics committees, and other collaborative models to report education data in a consolidate way and in relation with other data at the national level. The focus will be on assessing the efficacy of these practices and mechanisms in fostering a more integrated and effective data-driven decision-making approach. Additionally, the session will explore prospective strategies and future directions aimed at further enhancing and refining these cross-sectoral actions, thereby ensuring that decision-making in education is more informed, holistic, and impactful. For more information on this session, please contact Suguru Mizunoya ([s.mizunoya@unesco.org](mailto:s.mizunoya@unesco.org)).

## OUTCOMES

Rapporteurs from different sessions of the Engagement Day will report to the Conference the key messages and takeaways of the discussion if these are directly relevant to respective Conference sessions.

Time/Duration		Topic	Room
<b>6 February 2024: Conference engagement day</b>			
10:00 – 10:30	30	Introductory plenary	XI
10:30 – 11:00	30	Coffee break	
11:00 – 12:30	1h30	Data-driven insights and transformative solutions in early childhood education	XI
		Higher education data production	XII
12:30 – 14:00	1h30	Lunch break	
14:00 – 15:30	1h30	Education in emergencies	VI
		Sound data for good governance: strong national data systems as prerequisites to monitoring SDG4	XI
		Technical and vocational education and training (TVET) and skills development	XII
15:30 – 16:00	30	Coffee break	
16:00 – 17:30	1h30	High-quality data on gender equality in and through education	VI
		Effective data-driven decision-making	XI
		Adult education and learning	XII