International Seminar on Re-imagining the future Education Management Information Systems

"Beyond head counts: Leveraging data systems to support inclusive and effective learning for all."

UNESCO
United Nations
Educational, Scientific and
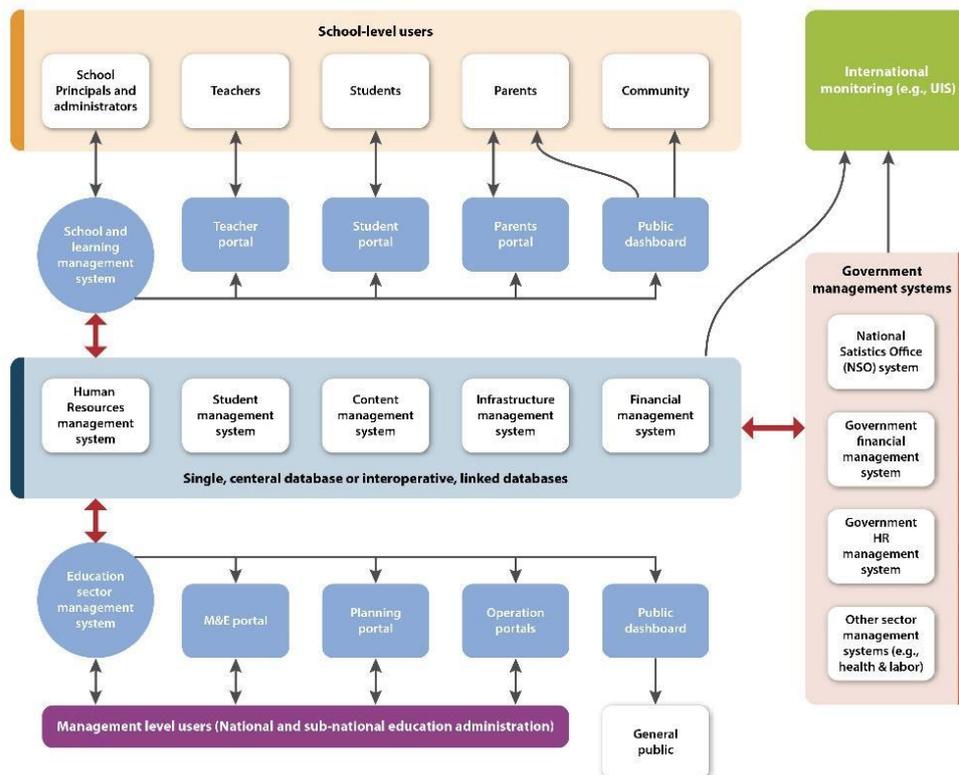Cultural Organization

26-28 May 2021 (3 sessions, 13:30-15:30 CET)

Rationale

Education Management Information Systems (EMISs) around the world are at different stages of maturity in design, deployment, and use of data. In many countries, EMISs play a purely monitoring and statistical role through the collection and reporting of headcounts of students and teachers. In some countries, they are becoming a comprehensive, integrated and dynamic education *management* solution. This helps to provide timely insights for daily management and monitoring of ministry's operations at different levels of education administration. The transactional nature of such information systems helps to support and inform student learning and resource management. In between basic and comprehensive EMISs, there are diverse data and information systems.

The COVID-19 pandemic has shed light on the limitations and obsolescence of many information systems that solely focus on the collection, analysis, reporting and dissemination of education statistics based on school censuses. The pandemic has exposed the slowness of traditional EMISs to respond to changing needs deriving from unequal student connectivity, diverse learning settings, and multiple and disconnected data systems. This is particularly true for some countries where distance and hybrid education platforms were deployed to ensure the continuity of learning during school closures. In such countries, traditional EMISs have been shown to be ill-equipped to support teaching, learning and monitoring.

At the same time, the pandemic has highlighted the untapped potential of more elaborate information systems. Some countries have harnessed it to support and monitor teaching and learning during school closure. They include connecting EMIS with learning management systems (LMSs), creating real-time dashboards, and connecting with other sectors' information systems (e.g., health, labour market and social security). The future of EMIS - as an integrated *system* with powerful analytics that supports real-time, data-driven decision making at all levels of education from day-to-day operations to strategic planning functions - may look like the diagram below (Diagram 1).

Diagram 1. Possible vision of an integrated sector-wide EMIS

While the need for such integrated data systems for education management and planning has long been discussed, actions to meet this need have been slow. With continued technological advances, the steady expansion of use of technologies (e.g., mobile technologies), and the increased use of technology in teaching and learning due to the pandemic, it is high time to take stock of what can be learned from the unprecedented educational disruption and to "re-imagine" the future of EMISs. In this context, UNESCO is organizing an international seminar on EMISs with the below objectives and expected outputs.

Objectives and expected outputs

The concept of "Re-imagining the future Education Management Information Systems" draws on the lessons learnt from the COVID-19 crisis and explores the changes to and the opportunities for EMISs to "build back better". Keeping in line with the essence of the Sustainable Development Goal for education (SDG4), which places quality learning outcomes for all at the centre of the international education development agenda, this international seminar will look back and forward.

- Looking back, it will **promote the sharing of challenges, achievements, and innovative solutions in leveraging EMISs in the event of crisis to ensure the continuity of learning**, the

deployment of hybrid-learning, and the reopening of schools through the effective monitoring of education (e. g. real-time data collection processing and dissemination, and the tracking of the vulnerabilities of learners, educators and infrastructures).

- Looking forward, it will **stimulate a debate on the** **future of EMISs by exploring ways to optimize existing systems** integrating new technologies and innovations such as open source solutions, real-time data analytics, artificial intelligence and mapping.
- At the end of the international seminar: (1) **key standards, principles and values of the future EMISs** will be compiled and proposed; (2) **an international community of practice** will be established; and (3) **the next steps to develop the recommendations for future EMISs** will be agreed upon.

Focus areas

The international seminar will focus on the following topics:

1. What have we learned from the COVID-19 crisis about the strengths and gaps of current administrative data systems for ensuring inclusion and equity in education, collecting gender-sensitive data, supporting teaching and learning, and improving learning outcomes?
2. What capacities, approaches and technologies are required for EMISs to be useful tools for effective decision making to support sector planning, teaching and learning, management, and monitoring?
3. How will frontier technologies shape the future of EMISs? What can we learn from advanced management information systems in other sectors and in industry?
4. What are the key standards, principles and values that should guide the development of future EMISs? How can real-time, quality, ethical and inclusive EMISs that integrate learning management systems be designed and deployed at scale for ensuring evidence-based and timely decision-making at all levels?
5. How can an international community of practice be developed - which can drive international cooperation, knowledge sharing and the building of common best practices for EMISs - in order to inform effective education management at all times, even in the event of an emergency or crisis?

Main target audience

- Senior technical officers from ministries in charge of education and training, dealing with planning, management, education statistics.
- Development partners and Global Education Coalition member organizations.

Timelines and follow-up

- The international seminar will be held in May 2021, with prior preparatory arrangements.
- As a result of the seminar, an international community of practice will be established to engage in collaborative research and recommendations for future EMISs.

Format

The seminar consists of three webinars organized on three days, as outlined below:

- Webinar 1 (26 May 2021): Sharing the experiences of countries and development partners (2 hours)

- Webinar 2 (27 May 2021): Capacities, approaches and technologies for system strengthening and effective decision making (2 hours)

- Webinar 3 (28 May 2021): Recommendations and way forward (2 hours)

Logistics

The webinar will be held in English and French via Zoom Platform. All participants should be registered prior to the webinar via the following link: https://unesco-org.zoom.us/meeting/register/tJEqfuyorT0rEtPyxjRp267lQYkKySc8GbPm

Provisional agenda

Day 1	
26 May 2021	
What did we learn from the COVID-19 pandemic about the strengths and weaknesses of the current data systems/EMISs to ensure system resilience, inclusion and equity in education, support teaching and learning, and improve learning outcomes?	
13:30-13:40	**Opening remarks**
13:40-13:55	**Presentation:** **The evolving definition of EMIS, findings from the UNESCO working paper and current status of EMIS**
13:55- 14:40	**Session 1.1: Experience sharing, and lessons learned from the COVID-19 crisis: Country perspective** This session will bring together 3 countries, providing an overview of their COVID-19 response in EMIS and data to mitigate the challenges.
14:40- 15:25	**Session 1.2: Experience sharing, and lessons learned from the COVID-19 crisis: Global and regional perspective** This session will focus on the lessons learned from development partners' global and regional programmes and initiatives in support of countries on EMIS and data during the COVID-19 pandemic.
15:25- 15:30	Wrap-up/Recap of day 1
Day 2	
27 May 2021	
What capacities, approaches and technologies are required for EMIS to support system strengthening and effective decision-making?	
13:30-13:35	**Introduction/ Recap of Webinar 1**
13:35-14:30	**Session 2: Capacities and approaches for the future EMIS** This session will explore technical, human, and financial capacities required for an effective EMIS.

14:30-15:25	**Session 3: Frontier technologies to leverage for the future EMIS** As technology does not cease to evolve and expectations grow, there is a need for not only securing maintenance but also upgrading the system and improving connectivity. There are also issues related to privacy, ethics and inclusion in using such technologies. This session will share the criteria that can help countries foster a future looking EMIS through sustainable technology choices, AI and data analytics.
15:25- 15:30	Wrap-up/Recap of day 2
Day 3 **28 May 2021** **How to promote and support the development of the next generation of EMIS?**	
13:30-13:35	**Introduction/ Recap of Webinar 2**
13:44-14:45	In this session, the key standards, principles, and values of future EMIS will be discussed from two perspectives in breakout sessions: (1) technologies and architectures; and (2) enabling environments. The breakout sessions will identify the areas of further discussion, knowledge gaps, and stakeholders to be engaged. The discussions will lead to the drawing of a roadmap to establish an international community of practice which can drive international cooperation, knowledge sharing and the building of common best practices for future EMISs. **Session 4: Technologies and architectures for future EMIS (Parallel session 1)** **Session 5: Enabling environment for future EMIS (Parallel session 2)**
14:25-15:05	**Reporting back and plenary discussion: establishment of an international community of practice**
15:05-15:25	**Session 6: Next steps** Agreement on the next steps to develop the recommendations for the future of EMIS
15:25-15:30	**Concluding remarks**