Webinar systematization:
Educational Management and Information Systems - EMIS for social justice

Within the framework of the Knowledge Mobilization and Community of Practice Cycle "Use of Evidence in Education", the webinar corresponding to the third sub-cycle focused on using Educational Information and Management Systems (EMIS) was held on July 17.

Seven speakers attended the webinar, which was divided into two thematic blocks. The first block provided a global and regional view on the importance and use of EMIS through the presentations of Marcelo Perez Alfaro - Lead Education Specialist and Southern Cone Focal Point - Inter-American Development Bank, María José Sepúlveda - Director of Evaluation at SUMMA, and Germain M. Anthony - Technical Specialist Education at the Education Development Management Unit (EDMU) - OECS Commission. The second block focused on providing a national perspective on the subject and what certain countries do in this area. Examples of the development of the EMIS were presented by Schenelle Leonce - Planning Officer of the Ministry of Education of Saint Lucia, Kade DeCoteau - Information and Communication Officer of the Ministry of Education of Grenada and Javier Donaire - General Coordinator of the National Educational Information System Unit of Honduras (USINIEH), Ministry of Education of Honduras.

Knut Staring - Product Manager for DHIS2 for Education at the HISP Centre, University of Oslo presented his work at the center and highlighted the importance of generating local, regional and global networks for the development of EDIS.

Finally, Joy Nafungo - Education Specialist, KIX Program Officer, IDRC gave closing remarks highlighting her main conclusions from the session, which are shown below:

1. Ensure the monitoring of quality indicators with the international standard to monitor progress.
2. It is necessary to adopt technology both in the classroom and in the process, always considering that we are not starting from scratch.
3. Institutionalize information systems, especially within the education budget.
4. Recognize that transformation is complex and non-linear and see setbacks as learning and these, in turn, as progress; not only success is progress. The important thing here is to remain committed to the initiative.

She also highlighted that the conversation concerned social justice, given that equity is at the core of SDG 4. She mentioned that today, governments are committed to providing inclusive and equitable quality education at all levels. This affirms that all people, regardless of gender, age, race, ethnicity, and persons with disabilities, migrants, indigenous peoples, children, and children with disabilities, should have access to education.

and young people, especially those in vulnerable situations, should have access to lifelong learning opportunities.

The following is a brief description of the different presentations that took place during the webinar.

***Perspectives and Challenges of EMIS in Latin America* | Marcelo Perez Alfaro, Lead Education Specialist and Southern Cone Focal Point - Inter-American Development Bank.**

The presentation covered educational management systems from a vision of educational and digital transformation that is resulting in an "education 4.0" focused on students and not on technology as one might think. This transformation is subdivided into two key elements: **1) Pedagogical factor** (classroom-based) and **2) Management factor** (efficient processes and integrated and updated digital information), but which must have **interoperability,** i.e. systems that dialogue with each other, as a transversal element between the two.

To evaluate the pedagogical factor, the IDB has created and promoted the use of the Edutec Guide, which makes it possible to evaluate 3 elements: i) teachers, ii) schools and iii) education systems, in order to obtain more personalized feedback at the school level. It is a tool for transformation and for accompanying the evolution of the system.

In the case of the management factor, emphasis was placed on **unique identifiers** as a key factor in the EMIS, both for students, HR, buildings and schools. This allows the tracking and protection of trajectories in the face of student mobility. In addition, five central management processes were also surveyed: **1) physical infrastructure and equipment, 2) educational institutions, 3) human and financial resources, 4) students and learning, and 5) tools for strategic management, in addition to the two necessary structural conditions: 1) technological infrastructure and 2) institutional governance.**

A study carried out in LAC on the basis of this classification was presented, which showed that none of the countries studied reached the maximum level of maturity *established*. Based on this information, several challenges were presented regarding the basic processes of the EMIS, which are addressed through the following **recommendations** to make the macro-processes efficient:

- **Student enrollment and formation of groups/courses**
- **Assignment of teachers to schools/classes**
- **School infrastructure management**
- **Scholarships, transportation and meals**
- **Dropout early warning system**

Finally, the importance of carrying out diagnostics was emphasized. In order to have the maturity level (level: latent, incipient, emerging, established) of a country, it is possible to create a strengthening plan, which is carried out through technical support and funding for implementation.

Other key messages from the presentation:

- **Do not work with averages but look at the data of each student.**

- **Technologies should not be considered as an end but as a means to new teaching practices.**
- **Be clear that there can be legacy systems. More than building a single system is to have a platform that interoperates.**
- **Always take into account the institutional framework you are implementing.**

To see the full presentation click on this **link** (minute 13 to minute 41)

***The Role of EMIS in Promoting Social Justice: System for the Protection of Educational Trajectories (SiPTE) - Chile* | María José Sepúlveda, Director of Evaluation, SUMMA.**

The project "Sistema de Protección de Trayectorias Educativas (SiPTE)" was presented, in which SUMMA is working together with the Ministry of Education of Chile. The presentation began by presenting the three stages of the evolution of the EMIS in Chile, the last of these being the SiPTE.

What is the SiPTE? It is a system that seeks to improve the permanence and progression of the educational trajectories of the NNJA. This system is made up of three components: Governance and Roles + Platform and alerts + Training and territorial support plan and EE, and works both at the macro (national), meso (regional/provincial) and micro (schools, JJII/NNJA) levels.

The two basic processes of the SiPTE were explained: 1) Institutional global processes, focused on the education sector and 2) Individual processes, focused on the education sector and intersector (case management of NNJA, most critical children regarding educational trajectories).

On the other hand, the platform used for this trajectory system was presented, which tries to make visible different levels of aggregation and provides alerts and key indicators for decision making by key actors. However, given that making information available is not enough, it was necessary to create an accompaniment model to strengthen territorial teams, schools and students (management of individual/critical cases).

Finally, as shown below, some recommendations and lessons learned during the development of this project were presented.

Recommendations for design, implementation and evaluation:

1. **There is no starting point, there is a trajectory and evolution of the system. Key learnings to incorporate on the job.**
2. **Working with Theory of Change as a working tool. To achieve efficiency and relevance of the system**
3. **Systematization of learning and evaluation for improvement: What works and how does it work?**

Learning:

a. **Contextualization and local relevance are key for the use of information to make pertinent decisions with updated and focused information.**

b. **Integration of different data sources in order to guide action**
c. **Generation of relevant evidence**
d. **Interoperability, data protection and data security**
e. **Monitoring and evaluation for improvement. What do we want to measure and what for? as key questions for this process.**

To see the complete presentation click on this **link** (minute 42 at 1:05)

***Implementation of EMIS in the OECS Region: Agreements, Priorities and Challenges* | Germain M. Anthony, Technical Specialist Education at the Education Development Management Unit (EDMU) - OECS Commission.**

Challenges for implementation in the region were presented, such as implementation costs, infrastructure (Internet, access to devices and electricity) which, although it has advanced in recent years, still has much room for improvement, availability and capabilities of human resources, policies, lack of consensus in member countries and the change of priorities from one mandate to another.

For the above, it was mentioned that the key is **regional integration** in the areas of health, education and others, and especially the importance of collective work for the harmonization of the objectives/strategies of the education sector due to the small size of the Caribbean countries. In addition, given the limited resources available to these countries, the cost of the member states being united is reduced, which is linked to the sustainability of the EMIS in the region.

Based on the above, the ministries saw the need for a EMIS, and a technical group was created to analyze the possibilities of implementation, a group with representation from different member states that is currently developing the terms of reference and specifications for this EMIS.

Moreover, the priorities for this new EMIS were presented: i) Monitoring of the education strategy and objectives, ii) progress of the indicators. SDGs and national digests, ii) the importance of automating data at the national level.

An ideal for EMIS was presented, including that it should be **reliable, secure, contextualized, interoperable, available without internet connection,** among others, as well as the **lessons learned** from the visit to Guyana, such as **starting with a vision, having a legal and political framework, having a trained team, alignment with the Education Sector Plan, teacher training,** among others. Finally, the engagement model and the regional EMIS development plan were presented.

Other key messages:

- **A EMIS should support the implementation of the education system, provide indicators to monitor, measure and report on the status of the system and all this in a timely manner to see the progress of initiatives and work with other ministries and social, inclusion and social protection areas.**

- **Teachers must take ownership of the system and know that providing this data is part of their teaching job.**
- **"Consider the EMIS as a planning tool and not an IT tool."**
- **It is key to have the necessary infrastructure and ongoing training for the use and continuous development of EMIS.**
- **It is necessary to have the experiences of other countries to learn from them, especially when it is a similar country that is implementing. The exchange of ideas and experiences is of utmost importance.**

To see the complete presentation click on this **link** (time 1:07 to time 1:24)

***Implementation of EMIS: Experiences of St. Lucia and Grenada* : OECS Country Representatives**

- **Presentation Schenelle Leonce - Planning Officer Ministry of Education of St. Lucia**

The presentation focused on the need for the development of an EMIS in St. Lucia. Today in the country there is no EMIS policy, however after developing the new Education Sector Plan they noted the importance of the development and sustainability of this system, considering key elements such as infrastructure, security and functionalities, as a way to monitor this plan. Strong emphasis was placed on the need to **have a political environment** that supports and articulates, all roles and responsibilities at all levels, the development of an EMIS.

Mention was made of the efforts to have the necessary human resources to implement a EMIS. For this purpose, teachers were used to coordinate the implementation of this system, even reducing their workload to support this operationalization. However, given the lack of a strong political environment based on the EMIS that clearly explained the roles and responsibilities, there was resistance to assume these responsibilities.

Finally, and in line with the above, it was emphasized that a EMIS is more than software, more than a platform, infrastructure and data, it is really about an **organizational transformation**, a transformation in the mentality and change of paradigm in the authorities.

To see the complete presentation click on this **link** (time 1:46 to time 1:55)

- **Presentation Kade DeCoteau - Information and Communication Officer Ministry of Education of Grenada**

The presentation mentioned the enormous efforts that Grenada is making in the installation of an EMIS. Although this is not the first time that an EMIS has been attempted in the country, this time the first stage of implementation is being carried out with Open EMIS, with the goal of deploying EMIS this year.

The importance of policies for the implementation of an EMIS was highlighted, beyond just the technological field in an **organizational transformation** that goes from ministerial authorities to teachers in schools. In this line, it was indicated that 9 schools

have been selected for a pilot (schools have internet and teachers have devices provided by the government) with the main objective of collecting data on students and attendance.

However, the importance of having a **person pushing these processes in each location** was emphasized, and the HR needed goes beyond just IT and planning, it also requires a robust team to plan and train.

Based on Grenada's experience, another point that was emphasized was that **schools should not be allowed to enter data** due to the large number of errors they make when making the records. This should be done by the ministries. In addition, workflows should be made as simple as possible, so that the information reaches teachers in a timely manner.

Finally, and in a transversal manner in the presentation, the relevance of **knowledge exchange** on the subject was mentioned, both the success strategies and the challenges regarding the processes involved in the development of a EMIS.

To see the complete presentation click on this **link** (time 1:56 to time 2:03)

***Educational Management in Honduras: Student Registration and the SART Module for Vulnerable Populations* | Javier Donaire, General Coordinator of the National Educational Information System Unit of Honduras (USINIEH), Ministry of Education of Honduras**

The presentation focused on the single registry and SACE/SART system (School Administration System and Early Warning and Response System).

- SACE: Manages all the country's educational indicators, e.g. coverage, performance, enrollment, etc.
- SART: Aims to identify children at risk of dropping out of school due to conditions and vulnerability profiles.

The operation of both s[illegible] information, taking data and identifying vulnerable children, giving alerts and providing tools to be used to work on it. Mentioning that these educational management systems are not only data, but they must also create strategies of attention for students (for example, bonuses and scholarships related to enrollment), so there is a high interoperability of the systems in the country.

It was emphasized that a high-impact EMIS consists of educational management processes, framed in a legal, institutional and technological infrastructure, accepted by the entire educational community and having credibility from all sectors involved.

Finally, the main challenges and some recommendations for the development and implementation of EMIS were presented.

Challenges

- **Financing and sustainability: Both SACE and SART were born without initial investment.**
- **Organizational culture and training: Due to resistance to change**
- **Rules and regulations: SART flexible process, systems available year-round, students can be enrolled at any time of the year.**
- **Interoperability and standards: The system is interoperable with other systems.**
- **Equitable digital access: Digital divide in the country; not everyone has access to the Internet, but it has been ensured that all teachers have access to SACE.**
- **Information security: not all nominal records held are public.**

Recommendations:

- **Integration of all systems into a single interface. It is necessary not to have all the data in a single system, but they must all interoperate with each other.**
- **In terms of sustainability**
    - **Economic: Priority has been given to open source tools that are widely accepted at the national level and that do not require licenses or additional costs to maintain the systems and are very secure.**
    - **Operation: Teachers must take ownership of the system (SACE for Honduras). In other words, empowerment of end users in their own management systems.**

To see the complete presentation click on this **link** (time 2:09 to time 2:27)

Presentation Knut Staring, product manager for DHIS2 for Education at the HISP Centre, University of Oslo

During this presentation it was presented the work that the center is doing in Africa (at continental level) with respect to education data (SDG and more indicators), which has a lot of potential as aggregate data of schools and number of students, however, it is highlighted that they have not been exploited to the level that they could, along with this is that the data are not of very good quality and are concentrated at the level.

The results are not shared at the subnational and school level where they could generate the greatest benefits if people had the access and capabilities.

Along the same lines, EMIS are becoming more and more complex, but those who use them **do not need to know all the data that exist, but it will depend on the actor** who uses them. Under this premise, it is necessary to know which of all the data that exist are really useful to collect. For example, at the ministry level, you do not need to know every detail about every student, but you do as a teacher. However, the community must know what is feasible to collect without overexerting students and teachers, as well as making it available at scale and sustainable in the processes within the daily work of the latter.

On the other hand, special emphasis was placed on the importance of **collaboration between countries and data integration**. Regarding the first point, while it is good for countries to develop their own solutions to build local capacities, it should also be kept in mind that there is plenty of room for collaboration (at local, regional and global levels) in order to share and learn from the lessons learned by others, also considering the low investment that is usually made in EMIS.

In the case of the latter, the benefits of **data integration** is that it does not "put all the eggs in one basket", but it does require a strong system where these resources are centralized. Another key element is the integration of data **between different areas**, such as health-education (cross-sector). However, integration is an underdeveloped area in most countries, so there is a lot of work to be done.

Finally, the three pillars on which an EMIS should work were mentioned:

1. **Community/Collaborative Networking** (As the most important element)
2. **Capacity building**
3. **Flexible digital architecture**: To have a flexible system that can change when the situation requires it.

Based on the second point, the following recommendations for capacity building were made

- Development of academic training and research networks
- Establishment of partnerships between universities
- Large-scale global and regional academic training
- Establishment of an HISP doctoral program catering primarily to students from the Global South and a practice-based approach to research.

Other key messages:

- Try easy and inexpensive solutions for the development of the EMIS. For example, the use of open sources is very good because it does not involve the difficult and costly management of licenses.

- Having local people involved, who know and see that the data is available and can be used. Using the data locally is crucial and so is the ownership of the data systems.

To see the complete presentation click on this **link** (time 2:28 to time 2:47)